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The information contained herein is subject to change without notice.
Miami Dade College is committed to providing equal access to education and employment opportunities to students, employees, applicants for admission and employment, and to its activities for the general community, in an environment free from harassment or other discriminatory practices based upon sex, race, color, marital status, pregnancy, age, religion, national origin, ethnicity, veteran’s status, disability, sexual orientation or genetic information. The College’s commitment to equal access and equal opportunity is contained in the District Board of Trustees policies and procedures based on the nondiscrimination provisions of federal and state laws and regulations, including the Civil Rights Acts of 1964, as amended, and 1991; Title IX of the Education Amendments of 1972; Section 504 of the Rehabilitation Act of 1973; the Americans with Disabilities Act Amendments Act of 2008; and the Florida Educational Equity Act (§ 1000.05, F.S.); The Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act (The Clery Act) as amended in 2008; and The Violence Against Women.

In accord with these protections, Miami Dade College provides equal access/equal opportunity in admissions, recruitment, financial assistance, access to course offerings, participation in extracurricular programs and activities, access to and use of facilities, counseling, housing referral, guidance, advising, health services, athletics, employment and retention of personnel and students.

Responsibility for the implementation of the College’s commitment to equal access and equal opportunity rests with the College president.

Consult the offices below for assistance or to obtain detailed information on equal access/equal opportunity:

**District Administration**
Joy C. Ruff
Office of Equal Opportunity Programs/Americans with Disabilities Act (ADA) Coordinator/Title IX Coordinator
Miami Dade College
11011 S.W. 104th St.
Miami, FL 33176-3393
Phone: 305-237-0278; Fax: 305-237-0943

**North Campus**
Office of the Campus President
11380 N.W. 27th Ave.
Miami, FL 33167-3495

**Kendall Campus**
Office of the Campus President
11011 S.W. 104th St.
Miami, FL 33176-3393

**Wolfson Campus**
Office of the Campus President
300 N.E. Second Ave.
Miami, FL 33132-2296

**Medical Campus**
Office of the Campus President
950 N.W. 20th St.
Miami, FL 33127-4693

**Homestead Campus**
Office of the Campus President
500 College Terrace
Homestead, FL 33030-6009

**Padrón Campus**
Office of the Campus President
627 S.W. 27th Ave.
Miami, FL 33135

**Hialeah Campus**
Office of the Campus President
1780 W. 49th St.
Hialeah, FL 33012-2918

**West Campus**
Office of the West Campus President
3800 N.W. 115th Ave.
Doral, FL 33178-4856

To obtain additional information about the College, including an Application for Admission/Readmission, contact any campus Admissions and Registration Office or visit the College’s website at [www.mdc.edu](http://www.mdc.edu).
Purpose of the Catalog
This Catalog provides information about Miami Dade College's academic programs and student support services. The Catalog contains summaries of College policies for academic areas, degree and certificate requirements, descriptions of support services and course listings. Because the Catalog is produced for a two-year period, it does not necessarily contain all of the current policies and requirements. Prospective students and current students may verify these policies and requirements with an academic advisor.

Faculty and academic advisors provide academic advisement; however, students are responsible for fulfilling graduation requirements. The certificate or degree will be awarded only if all requirements have been met. It is important that students know the policies, requirements and procedures that they are expected to follow during their college career.

Accreditations
Miami Dade College is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award associate and baccalaureate degrees. Contact the Southern Association of Colleges and Schools Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097 or call 404-679-4500 for questions about the accreditation of Miami Dade College.

Additional accreditations include:
- Accreditation Commission for Education in Nursing (ACEN)
- Accreditation Review Commission on Education for the Physician Assistant (ARC-PA)
- American Bar Association, Standing Committee on Paralegals
- American Board of Funeral Service Education, Committee on Accreditation (ABFSE)
- American Dental Association , Commission on Dental Accreditation (CODA)
- American Veterinary Medical Association, Committee on Veterinary Technician Education and Activities (CVTEA)
- Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM)
- Commission on Accreditation for Respiratory Care (CoARC)
- Commission on Accreditation in Physical Therapy Education (CAPTE)
- Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP)
- Commission on Collegiate Nursing Education (CCNE)
- Commission on Opticianry Accreditation (COA) Federal Aviation Administration (FAA)
- Joint Review Committee on Education in Diagnostic Medical Sonography (JRC-DMS)
- Joint Review Committee on Education in Radiologic Technology (JRCERT)
- Joint Review Committee on Educational Programs in Nuclear Medicine Technology (JRCNMT)
- National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)
- National Association for the Education of Young Children (NAEYC)

Additional approvals include:
- Commission on Accreditation of Allied Health Education Programs (CAAHEP)
- Florida Board of Nursing
- Florida Department of Health, Bureau of Emergency Medical Services
- Florida Department of Law Enforcement, Criminal Justice Standards and Training Commission (CJSTC)
- Florida Real Estate Commission, Department of Business and Professional Regulation - Division of Real Estate

Professional Organizations and Association Memberships
American Association of Collegiate Registrars and Admissions Officers (AACRAO)
American Association of Community Colleges (AACC)
American Association of Hispanics in Higher Education, Inc. (ACCHHE)
American Association of State Colleges and Universities (AASCU)
American Council on Education (ACE)
Association of American Colleges and Universities (AAC&U)
Association of Community College Trustees (ACCT)
Association of Florida Colleges (AFC)
Association of Governing Boards of Universities and Colleges (AGB)
Business-Higher Education Forum (BHEF)
College Consortium for International Studies (CCIS)
Council for Higher Education Accreditation (CHEA)
Council of Foreign Relations (CFR)
EDUCAUSE - Association of Managing and Using Information Technology in Higher Education
Florida Association of College Test Administrators (FACTA)
Florida Association of Colleges and Universities (FACU)
Florida Campus Compact
Florida College System Activities Association (FCSAA)
Florida Consortium for International Education (FCIE)
Fulbright Association
Global Community College Leadership Network
Greater Miami Chamber of Commerce (GMCC)
Hispanic Association of Colleges & Universities (HACU)
National Association for Community College Entrepreneurship (NACCE)
National Association of College and University Attorneys (NACUA)
National Association of College and University Business Officers (NACUBO)
National Association of Cuban American Educators (NACAE)
National Association of Student Financial Aid Administrators (NASFAA)
National College Testing Association (NCTA)
National Collegiate Honors Council (NCHC)
National Community College Hispanic Council (NCCHC)
National Institute for Staff and Organizational Development (NISOD)
South Florida Manufactures Association (SFMA)
Southern Association of Colleges and Schools Commission on Colleges (SACSCOC)
Southern Association of Collegiate Registrars and Admissions Officers (SACRAO)
The College Board

Requests for review of letters of accreditation may be forwarded to the Office of the Vice Provost for Academic Affairs or Associate Provost for Academic Affairs.

Note: In addition to the above, Miami Dade College administrators, faculty and staff members participate in numerous other international, national, state and regional organizations. Additional information regarding professional associations may be obtained from the College.
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Academic Calendar 2020 - 2022

The Office of the College Registrar Office maintains several calendars, each of which provides details for a separate category of information. The Academic Calendar is published once each semester. It contains important dates for registration, fees, graduation, and other academic deadlines. For more information, please visit Miami Dade College’s Academic Calendar at http://www.mdc.edu/academics/calendar/.
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ABOUT MIAMI DADE COLLEGE

Miami Dade College (MDC) offers a wide range of programs designed to meet the needs of Greater Miami. The College offers associate and baccalaureate degree options and a wide range of career and technical certificate and specialized programs. MDC currently offers five Bachelor of Applied Science (BAS) degrees and 12 Bachelor of Science (BS) degrees which are academically rigorous and innovative in Business, Education, Entertainment, Health Science, Nursing, Public Safety, and STEM related fields. The Associate in Arts (AA) degree, designed to prepare students for further study at four-year institutions, includes more than 70 pathways leading to the baccalaureate degree. The College also maintains more than 60 transfer agreements with colleges and universities across the state and country, guaranteeing entry for MDC students who meet the entry criteria. With more than 60 areas of study, the Associate in Science (AS) degree, prepares students for direct entry into the workforce. Our graduates take advantage of the College’s numerous partnerships with innovative businesses throughout South Florida. In addition to these degrees, the College offers numerous short term career and technical certificate programs which are stackable career ladders towards and associate in science degree as well as courses of study to enhance career knowledge through continuing education.

The Open-Door Policy

Miami Dade College’s open-door admissions policy provides educational opportunities to community residents and to national and international applicants. Anyone seeking to benefit from the degree or short-term certificate programs, or from the College’s student and community services, is encouraged to enroll. The College welcomes all students regardless of gender, race, color, marital status, age, religion, national origin, disability, veteran’s status, sexual orientation or genetic information.

Admission is a simple process, requiring a completed application, admission application fee and official transcripts of high school or college studies. International applicants have additional entrance requirements based on U.S. immigration rules and baccalaureate degree-seeking applicants
may have additional entrance requirements. Transfer students may receive credit for courses that equate to Miami Dade College courses.

**Mission Statement**

As democracy’s college, Miami Dade College changes lives through accessible, high-quality teaching and learning experiences. The College embraces its responsibility to serve as an economic, cultural and civic leader for the advancement of our diverse global community.

**Vision Statement**

To be the recognized leader in student learning, achievement and success while enriching our community

**Core Values**

- An exceptional learning environment that challenges students and empowers them to attain their academic goals
- An international perspective that makes our students civically engaged and globally competitive
- A commitment to evidence-informed decision making and accountability
- Innovation and efficiency that ensure affordability while optimizing educational quality
- An exceptional work environment that engages an exemplary and diverse workforce
- Quality community partnerships that serve as the foundation for the development of relevant workforce, cultural and civic programs
- Cultural initiatives that capture the richness of Miami-Dade County’s multicultural fabric
- Environmental awareness that results in intentional sustainability practices

**MDC History**

**The ’60s: Opening Education’s Doors**

Miami Dade College opened its doors as Dade County Junior College in 1960 amid desegregation and the influx of thousands of Cuban refugees. In year one, 1,428 students entered “Chicken Coop College,” nicknamed for the original buildings that were transformed into classrooms. The College was open to any county resident who had graduated from high school. The student body included the seven black students who made Dade County Junior the first integrated junior college in Florida. These students, along with the many Cuban refugees seeking to better their lives, paid a $5 application fee, but tuition was free to all county residents.

By the mid-’60s, the College was already thinking long range. With nearly 15,000 students attending, the original
North Campus buildings were bursting at the seams. New construction was under way, with an eye toward not only a second campus in Kendall, but a third in downtown Miami. By 1967, the College was the largest institution of higher education in the state of Florida, enrolling 23,341 students. Dade Junior had become the fastest-growing junior college in the nation. It enrolled more freshmen than the University of Florida, Florida State University and the University of South Florida combined.

**The ’70s: Setting the Standard**

In the mid-’70s, the College’s guiding philosophy of “access with excellence” was clearly defined. A bold education review reaffirmed the College’s open-door policy and toughened academic standards. The project and its goals became the standard for community colleges across the country. K. Patricia Cross, visiting professor at Harvard University’s Graduate School of Education, called the College “the most exciting institution of higher education in the country.”

The excitement spread to every corner of this changing community. The downtown campus, later to be re-named for one of the College’s founders, Mitchell Wolfson, was born in 1970. The Medical Campus was founded in 1977, and bilingual studies became a full-fledged division in 1979, with more than 2,000 students enrolled in outreach centers in the Little Havana area. These centers would soon become the InterAmerican Center, the largest bilingual facility in all of higher education.

**The ’80s: Maturity and Recognition**

By the 1983-84 academic year, the effects of a changing community were reflected at the community college. Thirty percent (nearly 18,000 students) were immigrants, and 46 percent reported that English was not their native language. Almost two-thirds of students enrolled in the College were minorities, and 56 percent were women. Part-time students were common.

In 1984, the New World School of the Arts (NWSA) was conceived. Designed to train future performing and visual artists from high school through the baccalaureate, the school became an educational partnership of Miami Dade College, Miami-Dade County Public Schools and Florida International University, with FIU handing the baton to the University of Florida in 1997. Today, NWSA is recognized as one of the premier arts conservatories in the country, with the work of its graduates gracing venues from New York to Los Angeles.

1984 was also witness to a modest College-sponsored bookfest on Kyriakides Plaza at Wolfson Campus. “Books by the Bay” drew a surprising crowd of 25,000 people over two days. Today, Miami Book Fair is a cultural and academic initiative that promotes reading and writing throughout the year by consistently presenting high quality literary activities open to all in South Florida. Housed at the Wolfson Campus, Miami Book Fair serves MDC and K-12 students, as well as the larger South Florida community.

Year round programs include many reading and writing initiatives, in addition to the renowned Miami Book Fair, the largest literary gathering in the U.S.

The College’s fifth campus, in Homestead, opened in 1985 at the First Baptist Church with 350 students. By 1991, a modern campus facility had been built for South Dade’s ever-growing student population.

By the close of the decade, the College’s place in education was nationally recognized: The prestigious University of Texas Community College Leadership Program identified the College as the No. 1 community college in America.

**The ’90s: Ready for the New Economy**

College personnel challenged the mindset of the past by initiating comprehensive reforms in academic programs and administrative operations. The College’s Education Review revamped the academic core and electives by modernizing the curriculum to meet the needs of a changing society. Progressiveness was not limited to education, as the re-engineering process also brought improved strategies to human resources, maintenance operations and budget formulation. The College’s effort to streamline its bureaucracy and contain costs brought a new financial stability, freeing resources for new staff and program development.

The College’s Technology Master Plan put the College on the fast-track in academic and administrative computing throughout the 1990s. The College sought to keep pace with the changing economy and workforce, developing strong partnerships throughout business and industry. More than 50 new degree and short-term certificate training programs were developed, all aimed at emerging industries and South Florida’s job market. The College developed multimedia classrooms and the Virtual College placed the College on the Internet map, allowing students to take classes online. Recognition soon followed: Yahoo! Internet Life proclaimed MDC “WIRED” and voted the College “second best of all colleges and universities.” The College’s information technology efforts also gained residence in the Smithsonian’s permanent collection with a nomination for the Smithsonian Innovation Award.

The College’s sixth campus became a reality in the mid-’90s when InterAmerican Center was granted campus status by the District Board of Trustees and was accredited by the Southern Association of Colleges and Schools.

**2000: A New Learning Agenda**

The new millennium dawned and MDC breezed through
the Y2K jitters safe and sound in its mission to serve students. The College's “Learning Agenda” laid out the next phase of growth, exploring new learning models and student support programs, as well as campus, faculty and leadership development efforts. As always, students stand at the center of this vision: Their success is the ongoing, top priority of Miami Dade College.

The Honors College offers a scholarly environment that challenges academically gifted and intellectually curious students. In addition to expert teachers and a rich comprehensive curriculum, The Honors College offers students a generous scholarship award, college-wide support services and enrichment opportunities that include attendance and participation at national and regional conferences, internships, corporate coaches, travel study tours, university transfer counseling and an individual educational plan. The successful Honors College graduate will be prepared to transfer to many of the most prestigious colleges and universities in the nation.

The Emerging Technologies Center of the Americas (ETCOTA) is the College's response to the need for a qualified workforce to fill the thousands of new jobs in Information Technology and Telecommunications. ETCOTA is a dynamic, state-of-the-art 40,000 square-foot facility housing 19 multimedia classrooms and labs equipped with high-end computers, specialized instrumentation equipment and simulation work-stations. Located at Wolfson Campus, the Center also has a 120-seat auditorium and offices for faculty and staff.

With the addition of four-year degrees in 2003, the institution changed its name to Miami Dade College. While the word “community” is no longer in the title, the College remains the “Community’s College,” committed to the educational needs of individuals and industries throughout South Florida. Baccalaureate degrees are offered in education; public safety management; nursing; electronics engineering; supervision and management; film, television and digital production; and health sciences.

In 2005, MDC received official reaccreditation from the Southern Association of Colleges and Schools (SACS), the regional accreditation body. At 10-year intervals, SACS places higher education institutions under the microscope, and MDC passed the review with flying colors. During the review, MDC introduced “The Math Connection,” a five-year program of continuous improvement for math students, and Learning Agenda II, with special emphasis on learning outcomes, assessment and competencies.

In 2006, MDC reached an astonishing milestone, welcoming its 1.5 millionth student. In a community of 2.3 million, MDC’s role remains central to educational,
social, cultural and economic growth.

MDC welcomed President George W. Bush for commencement exercises at Kendall Campus. President Bush applauded MDC as “democracy’s college.” Since then, President William Jefferson Clinton and President Barack Obama have delivered commencement addresses at the College. MDC also became the proud steward of the historic Freedom Tower, where many immigrants arrived in the 1960s and 1970s. The building hosted the first U.S. exhibition of the complete etchings of Francisco de Goya and a covenant signing for the College’s 10 Learning Outcomes, attended by Sara Martinez Tucker, the U.S. Under Secretary of Education. These general education outcomes and assessment methods drew national praise and represented MDC’s unique contribution to a new era of liberal learning and the need to assess student learning effectively.

The College continues to contribute to the region’s cultural landscape via world-class programs, including those offered by The Center @ MDC (formerly known as the Florida Center for the Literary Arts) and Art Gallery System, New World School of the Arts and Cultural Affairs Department. The year 2008 celebrated the 25th anniversaries of both Miami International Film Festival and Miami Book Fair International. The New York Times named MDC’s cultural programming among the best in academia. In 2010, Miami Dade College celebrated its 50th anniversary.

**Campuses & Outreach Centers**

MDC enrolls more than 170,000 students at its eight campuses and multiple outreach centers throughout Miami-Dade County. While each campus has developed its own distinct identity, the entire College is united around a fundamental mission: providing access to high-quality educational opportunities for all residents of the community.

**North**

Located on 245 acres in northern Miami-Dade County, this beautifully landscaped campus was the College’s first. It was built in 1960 on land that once hosted a World War II Naval air station. The main academic buildings of the Campus surround a serene lake and lush walking paths. North Campus is a major gateway for students wishing to upgrade skills, complete one-year certificate programs, prepare for licensing exams or complete a bachelor’s degree. North Campus is also recognized for its unique programs. The School of Justice, Public Safety, and Law Studies offers the Bachelor of Applied Science with a major in public safety management and provides
basic training for all police and correctional officers in Miami-Dade County as well as more than half the private security personnel. The Fire Science Program trains all Miami-Dade County firefighters and provides continuing education for municipalities throughout the county and the East Coast. A live fire training facility is the only one of its kind in South Florida.

Additionally, the School offers programs in chemical and watershed management. North Campus also houses the Funeral Services program that trains morticians and funeral service directors, the only program of its kind in southeastern Florida. Those students wishing to pursue careers in film and digital imaging, television, and sound engineering, or in the radio and music business take advantage of the School of Entertainment Technologies. This School operates the cable station MDC-TV, and in 2008 it inaugurated the Televisa Centre for Film and Television Production, a hub for Latin American and Caribbean entertainment industries. North Campus also administers the Carrie P. Meek Entrepreneurial Education Center, which promotes excellence in education, entrepreneurship, and workforce preparation.

In January 2010, MDC celebrated the official opening of the College's state-of-the-art science complex at North Campus. The first of its kind in north Miami-Dade County, the facility will create new educational and career-training opportunities for area residents and beyond. The 90,000 square foot complex features 21 laboratories with media stations, a Palmetum, a rooftop observatory, classrooms, lecture hall, faculty and administrative offices, botanical garden, greenhouse, an outdoor plaza and café.

The new science complex is an invaluable tool for all MDC students who must meet science requirements to graduate. In particular, it will serve as a hands-on training venue for students interested in biotechnology, chemical technology, green and environmental sciences, and advanced manufacturing careers, among many other science, technology, engineering and mathematics (STEM) professions. Training in these areas can lead to an array of jobs, from research technologist to environmental scientist. Another goal is for the complex to become a top regional research facility.

The School of Engineering, Technology, and Design at North Campus launched a Bachelor of Applied Science (B.A.S.) with a major in Film, Television and Digital Production in 2010. Designed to provide students with a seamless, workforce driven baccalaureate degree that will enable them to obtain immediate employment in the field of digital production, thereby meeting South Florida’s workforce needs, the B.A.S. also serves those currently in the production workforce who need to update their skills to increase their career opportunities and wages.

**Kendall**

Kendall Campus, situated on a 185-acre tract of trees and lakes, opened in 1967, and has become home to a wide variety of academic programs and specialized institutes. The campus features 14 buildings equipped with the latest technologies, a wellness center with an Olympic-sized pool and several athletic fields.

Kendall Campus offers a comprehensive range of learning opportunities. Kendall provides students with transfer programs designed to facilitate the move to four-year institutions, programs that enhance and modernize professional and technical skills, and preparatory programs for licensing or certification.

Kendall Campus provides students with academic support services focused on enhancing student learning in science, mathematics and engineering. The Environmental Center is a 10-acre facility on campus that hosts Eco Tours for more than 10,000 schoolchildren each year. The Gourmet Academy is the culinary showpiece of Kendall Campus and offers a variety of noncredit programs and courses to the community. Located west of the main campus, the Landscape Technology Program maintains a large nursery and several greenhouses. One of the additions to the campus is the Earth Sciences Museum and Demonstration Center, which boasts one of the largest collections of geological specimens in the southeastern United States. The Kendall Campus art gallery provides the campus and surrounding community with several exhibitions each year and houses a permanent collection of more than 700 works. Also, award-winning publications such as *Miambiance*, Kendall’s literary magazine, highlight students’ literary excellence.

Kendall Campus recently introduced a Bachelor of Applied Science (B.A.S.) in Supervision and Management to prepare graduates for leadership roles and positions in a variety of industries. The upper-level coursework includes applied management practices, prepares students for supervisory and management opportunities within their technical field, and affords students the opportunity to demonstrate the application of acquired knowledge, skills and competencies through internships and capstone experiences.

After graduation, students will be prepared to advance to supervisory and managerial positions in a wide variety of industries, including financial services, retail, hospitality, marketing, aviation management, food service, insurance, real estate, office and administration, and sales.

**Wolfson**

Wolfson Campus opened in 1970 by holding classes in the storefronts of downtown Miami. With the completion of the campus’ first permanent facility in 1973, Wolfson Campus catalyzed a downtown renaissance by hosting all
manner of civic and cultural discourse. It is the only comprehensive urban campus in the city. Located within the city's financial, governmental, technological and cultural hubs, Wolfson Campus capitalizes on its unique geographic resource by offering programs in banking/financial services, business, computer technology, paralegal studies, architecture, economics, hospitality management, engineering, the arts, humanities and social sciences.

Wolfson Campus is home to the Emerging Technologies Center of the Americas (ETCOTA), a state-of-the-art, 40,000-square-foot high-tech training facility. It has fast become the leading provider of skilled professionals for the region's emerging technology industries. The campus also houses the New World School of the Arts, a comprehensive high school and college program, recognized as one of the best performing and visual arts schools in the country.

Each year Wolfson Campus hosts Miami Book Fair. This is the nation's largest and finest literary festival, bringing hundreds of renowned authors, publishing houses and hundreds of thousands of fairgoers to the Campus. The New York Times calls this Wolfson Campus event the model for all other book fairs.

The School of Computer and Engineering Technologies at Wolfson Campus now offers a Bachelor of Science in Electrical Engineering Technologies. This degree addresses the local workforce need for baccalaureate-level engineers, providing job opportunities for MDC's Associate in Science graduates to earn, at a local institution, a degree that will support higher-paying careers.

In the spring of 2011, MDC inaugurated the Miami Culinary Institute at its new, state-of-the-art, green facilities, training students in the latest sustainable food and energy technologies with unparalleled nutrition and culinary knowledge.

Medical
In 1977, Miami Dade College opened its Medical Campus on 4.3 acres within the city's medical/civic center complex. Along with the other members of this complex (the University of Miami Miller School of Medicine, UM/Jackson Memorial Hospital, Veterans Administration Hospital and Miami-Dade County Public Health Service), Medical Campus forms the backbone of Miami's health care community. The campus offers specialty disciplines in nursing and allied health, and state-of-the-art technologies that help to ensure that students are prepared in these and other challenging medical careers. The Medical Campus continues to be one of the top producers of nurses in the South Florida area. The Bachelor of Science in Nursing was launched in 2008. More than 20 Allied Health programs are offered, including Physician's Assistant, Opticianry, Emergency Medical Technician, Veterinary Technology, Physical Therapist Assistant, Dental Hygiene and more. Quality medical faculty guide students with support from tutors, labs and the Student Success Center.

Medical Campus launched a Bachelor of Applied Science (B.A.S.) in Health Sciences in 2010. Designed to provide students with entry-level skills specific to the allied health professions and to supplement the workforce-specific skills that are inherent in Miami Dade College's associate degree program, the B.A.S. in Health Sciences also offers students a Physician Assistant Studies option. The B.A.S. curriculum provides an interdisciplinary approach to health care by equipping practitioners with specialized health delivery system and patient management strategies, including medical knowledge and skills, the teaching of multicultural health care clients, leadership and management strategies, and research approaches that address health care issues, and alternative medicine.

Homestead
In 1990, Homestead became the fifth campus of Miami Dade College. It was opened in the historic downtown district of the city of Homestead with the mission to deliver a full range of higher education programs for the Homestead/Florida City communities. In fulfilling its mission, the campus enhances the community's capacity to meet cultural and social needs, in turn fostering a stronger sense of community. This togetherness was very important following the devastation of Hurricane Andrew and the closing of the Homestead Air Force
Base. After Hurricane Andrew, the campus, like the city of Homestead, began to rebuild, adding four new facilities by 1996. In January of 2002, the College opened its Aviation Building, housing a simulator of an airport control tower and runways, as well as classrooms and avionics equipment to support the aviation program. The aviation program also extends to facilities at Miami International Airport and Miami Executive Airport.

Today, Homestead Campus is a modern, six-building complex offering an array of academic programs, including aviation, entertainment technologies, arts and sciences, and nursing. The campus’ award-winning structures include a computer courtyard, student learning lab, career center and specialized assessment facility. As the community continues to grow, Homestead Campus will also grow, expanding its horizons to meet the needs of the South Dade community.

Padrón
Padrón Campus is located in the heart of Little Havana, a colorful and lively neighborhood in Miami’s historic Latin Quarter. The seed for Padrón Campus was planted in 1972 when the College offered two night courses at the Belen Jesuit Prep School. Sixty students enrolled. By 1979, the program had blossomed into the Wolfson Campus’ Division of Bilingual Studies, enrolling 2,000 students.

In the early 1980s, an influx of students from Latin America and the Caribbean led to the addition of day classes and full-time faculty. By 1986, the division had grown to “center” designation, and it moved into a building in Little Havana purchased by the College Foundation. What was then called InterAmerican Center became the largest bilingual learning environment in all of higher education.

With enrollment at 5,500, the College District Board of Trustees petitioned the state of Florida for “campus” status. The request was approved and on March 27, 2001, InterAmerican Campus – its original name – was born. The District Board of Trustees pronounced InterAmerican Campus a full-fledged, full-service campus, the sixth of Miami Dade College.

In May 2019, the campus was renamed the Padrón Campus in honor of the longtime College president, who announced he was stepping down effective August 2019. Today, the campus provides service to students in more than 200 programs. It is also home to the College’s School of Education, which offers bachelor’s degree programs in secondary mathematics education, exceptional student education, and secondary science education in the areas of biology, chemistry, physics and earth/space science.

Hialeah
Hialeah Campus became MDC’s seventh campus, accorded official campus status by the Florida State Board of Education in 2005. The campus serves the Greater Hialeah-Miami Lakes area, offering day and evening classes six days a week. Courses leading to the Associate in Arts and Associate in Science degrees are offered. Educational opportunities are also available through career technical education programs, as well as through courses providing career entry in computer technology, office technology, electronics and early childhood development. Hialeah Campus houses a large and comprehensive English-language training program for speakers of other languages in various instructional formats.

West
The West Campus was approved by the Florida State Board of Education in 2005 and became a designed branch campus of Miami Dade College in July 2017, with the approval of the Southern Association of Colleges and Schools Commission on Colleges. Serving one of the fastest-growing locales in Miami-Dade County, including Doral and surrounding areas, the West Campus offers courses toward the Associate in Arts and Associate in Science degrees. Corporate training programs are also offered at the campus, which opened for classes on March 1, 2006, and promises to be the next exciting learning environment for the greater Miami community.

The Carrie P. Meek Entrepreneurial Education Center
The Carrie P. Meek Entrepreneurial Education Center is an outreach program of the North Campus. It opened its doors on Oct. 4, 1989, in the heart of Liberty City, a predominantly African-American community within the City of Miami. The mission of the Entrepreneurial Education Center is to implement the broader mission of the College while promoting entrepreneurship, business growth and economic revitalization for the local residents of Liberty City and the surrounding communities.

The Entrepreneurial Education Center offers a vast array of college credit and noncredit courses. Students pursue certificate and vocational programs in a number of fields; they participate in seminars and conferences that promote workforce training and business skills and facilitate entrepreneurship and entry into the labor market.
# Admissions & Financial Aid

## Admissions

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Admissions Information

In accordance with Manual of Procedure 4000 – Admission Criteria and Guidelines https://www.mdc.edu/procedures/Chapter4/4000.pdf and section 1007.263 Florida Statutes, the following requirements have been established for college credit and vocational credit admission to Miami Dade College (MDC).

Apply & Get Admitted by completing the MDC admission application (http://www.mdc.edu/admissions/) and paying the $30 non-refundable application fee. Returning students do not pay the application fee. High school graduates who attended as dual enrollment students need to complete a new application. Get additional details if you’re a veteran or international student. Make sure to select a major from our Academic Programs. Your admission to the college remains incomplete until all required official transcripts are submitted.

A. College Readiness and Developmental Education

MDC annually reviews and publishes the Placement Criteria document, which adheres to section 1008.30, Florida Statutes, on common placement testing for public postsecondary education. The Placement Criteria document details all placement testing and related requirements for first time in college, degree seeking students.

B. Admission Application Fees and Waivers

There is a $50 non-refundable application fee for all new students applying to MDC, except for Dual Enrollment/Early Admission and US active duty members. For International students there is a $50 non-refundable application fee and Baccalaureate and Health Science Program applicants must pay a $25 non-refundable application fee. Students who demonstrate financial hardship or fall into one of the categories listed below may request fee waivers. Supporting documentation must be provided for the following:

1. US Veteran or active duty member (appropriate supporting forms must be submitted);
2. Student or family is receiving public assistance (Department of Children and Families (DCF) form must be submitted)
3. Student is living in federally subsidized public housing, a foster home, or experiencing homelessness (Miami Dade County Public School (MDCPS) Project Upstart Participation Letter or City of Miami Homeless Assistance Program Participation Letter must be submitted)
4. Student is a ward of the state or an orphan (Department of Children and Families form must be submitted)

C. Admissions to College Credit Programs for the Associate in Arts, Associate in Science, Associate of Applied Science and College Credit Certificate Programs

Applicants who meet any of the following criteria are admissible to the above academic programs:

1. Graduates from any public high school in the United States or territories with a standard diploma, per Section 1007.263 Florida Statute.
2. High school seniors with previously demonstrated competency in college credit postsecondary coursework pursuant to Sections 1007.263 and 1007.271, Florida Statutes. Demonstrated competency will be evaluated on completion of a minimum of twelve college-level credits and a cumulative postsecondary Grade Point Average of 3.0 or higher.
3. Applicants with a Florida public high school withdrawal (completion) code eligible for college credit admission, as defined by the Florida Department of Education.
4. Graduates from nonpublic high schools in the United States and its territories that do not require validation.
5. Anyone awarded a high school equivalency diploma (GED) in the United States and its territories.
6. Homeschooled students with a signed affidavit from their parent or legal guardian stating that the homeschooler completed a Florida home education program, per section 1002.41 Florida Statute.
7. Graduates with the foreign equivalency of a United States high school diploma that meets the admission requirements to a recognized institution of higher education in their home country with original documentation that shows all the requisite seals and apostilles. The College reserves the right to require a certified official English translation if the language used in the documents is not English. Students who do not have the requisite seals and apostilles on the original foreign high school documentation may opt to obtain an official evaluation of their credentials from a National Association of Credential Evaluation Services (NACES) member organization. The list of member organizations may
be found at www.naces.org. Students must present this official evaluation to their campus Admissions and Registration Office. MDC reserves the right to require NACES evaluations for any transcripts in which we are unable to verify the authenticity or legitimacy of the documents provided.

8. International students who meet the admission requirements and require a college credit student visa (F1) must also provide all of the following supplementary admission documents to the International Students Office 90 days prior to the beginning of the term for which the students seek admission:
   a. Statement of financial resources available to support their educational expenses
   b. Certificate of health and accident insurance
   c. Cases that Require Additional Validation

**D. Cases that Require Additional Validation**

Additional validation is mandatory for applicants whose diploma does not meet the criteria above, and in cases where MDC has reason to believe that the diploma is not valid or was not earned from an entity that provides secondary school education.

In compliance with 34 CFR 668.16 (p), reasons that the high school diploma may not be accepted or may require additional validation include:

1. The issuance of the high school diploma was based only on a test and/or payment of fees.
2. The curriculum consisted exclusively of online/distance education instruction, and the high school is not listed as an accredited institution by the Distance Education Accrediting Commission (DEAC). MDC will accept diplomas from online high schools only if they are accredited by the DEAC. The DEAC maintains a list of accredited institutions that offer high school via distance education; this list is accessible at https://www.deac.org/Student-Center/Directory-Of-Accredited-Institutions.aspx.
3. There is conflicting high school information.
4. The high school was previously questioned as being a diploma mill by MDC or other accredited higher education institution.
5. The high school is not listed in the U.S. Department of Education’s National Center for Education Statistics (NCES). The list of public high schools is accessible at http://nces.ed.gov/ccd/schoolsearch/ and the list of private high schools is at http://nces.ed.gov/surveys/pss/privateschoolsearch/.
6. The private high school is not listed in the Florida Department of Education’s Office of Independent Education and Parental Choice. The list is accessible at http://www.floridaschoolchoice.org/Information/PrivateSchoolDirectory/. Inclusion in this database does not imply approval or accreditation by the Florida Department of Education.
7. The issuance of the high school diploma was not valid or was not earned from an entity that provides secondary school education.

*Once MDC renders a decision on the validity of a high school diploma, the decision is final and not subject to appeal.

**E. Transfer Students**

Applicants who are admissible under section II.C and transfer to MDC from other postsecondary institutions must request final, official transcripts from all of those institutions to be sent directly to MDC. Additional requirements are as follows:

1. Students who transfer from U.S. regionally accredited postsecondary institution(s) with fewer than 12 college-level credits earned with “C” or higher grades must submit proof of valid high school graduation.
2. Students who transfer from U.S. nonregionally accredited postsecondary institution(s) may be admitted based on the high school graduation according to section II.C. Courses taken at nonregionally accredited institutions that adhere to the Florida Statewide Course Numbering System may be accepted.
3. Students who transfer from foreign postsecondary institution(s) approved by the country’s Ministry of Education who provide original documentation showing all the requisite seals and apostilles must provide a certified official English translation if the language used in the documents is not English. Students with fewer than 12 college-level credits earned with “C” or higher grades must submit proof of valid high school graduation. MDC reserves the right to require NACES evaluations for any transcripts in which we are unable to verify the authenticity or legitimacy of the documents provided.

*International students who require a college credit student visa (F-1) must also provide supplementary admission documents as noted in II.C.*

**F. Dual Enrollment and Early Admission**

Students’ access to dual enrollment and early admission is authorized pursuant to Section 1007.263, Florida
G. Admissions to Baccalaureate Degree Programs

Baccalaureate degree applicants must meet all general and program specific admission requirements and pay a non-refundable $25 application fee.

H. Admission to Career and Technical Education Certificate Programs

Anyone who meets the requirements under II.C. of this Procedure may be admitted to Career and Technical Education programs as well as the following:

1. Applicants who are at least 16 years of age and have left high school prior to completion.
2. Applicants who have been awarded a special diploma, as defined in section 1003.438 Florida Statute or a certificate of completion, as defined in section 1003.428 Florida Statute.
3. International students with a vocational credit student visa (M1) and the supplementary admission documents indicated in II.C.7 above.

I. Recruitment of Students

1. Student recruitment promotes enrollment by presenting the learning options available at MDC. The recruitment team develops and implements activities consistent with the mission of the College. Activities include providing prospective students, parents, and other members of the community the current and accurate information regarding admission and registration, testing requirements, and program offerings, as well as other resources and related opportunities available at the College.

2. MDC refrains from unfair, deceptive and abusive marketing tactics in the recruitment of all students. In addition, MDC will refrain from using third party lead generators or marketing firms aimed at service members (veterans/military students). MDC will:
   a. Refrain from providing any commission, bonus, or other incentive payment based directly or indirectly on securing enrollments or federal financial aid, including tuition assistance (TA) for members, to any persons or entities engaged in any student recruiting admission activities, or making decision regarding the award of student financial assistance.
   b. Ban inducements such as gratuity, favor, discount, entertainment, hospitality, transportation, lodging, meals or other item of monetary value to any individual or entity, or its agents, including third party lead generators or marketing firms. Only salaries paid to employees or
fees paid to contractors in conformity with the applicable laws are allowable for the purpose of securing enrollments of service members (veterans/military students) or obtaining access to TA funds.

J. Other Considerations
1. Certain academic programs have additional program admission requirements. Students need to check with the department that manages the program for more information. A student who is projected to graduate from high school before the scheduled completion date of a postsecondary course may apply, register and pay the required registration, tuition, and fees provided the student meets the provisions in subsection (II)(C)(2) of this procedure.

2. Applicants who have been convicted of a felony or are the subject of an arrest pertaining to a controlled substance and who wish to apply for a program that leads to licensure should confer with the regulatory/licensing agency to determine eligibility for future credentialing and practice. Applicants who are determined to be not eligible for licensing for any reason may apply for admission to that program, but must recognize that program completion may not result in licensure or employment.

3. Miami Dade College has determined that the presence of students officially designated as Sexual Offenders/ Sexual Predators on campus may be disruptive to the College's programs and/or would interfere with the rights and privileges of other students. In accordance with section 1001.64(8) (a) Florida Statute, the College may consider the past actions of any person applying for admission or enrollment and may deny admission or enrollment because of misconduct if determined to be in the best interest of the College. Therefore, MDC reserves the right to deny admission/enrollment to students who are officially designated as Sexual Offenders/ Sexual Predators.

4. MDC reserves the right to deny admission to applicants who have been incarcerated, convicted of a felony, experienced disciplinary problems at another educational institution, or who may pose a threat to the life and/or safety of its students, faculty, staff, community, or guests, as determined by the College administration. In accordance with section 1001.64(8)(a) Florida Statute, the College may consider the past actions of any person applying for admission or enrollment and may deny admission or enrollment because of misconduct if determined to be in the best interest of the College.

5. For cases that require additional validation, this procedure is applicable to all students applying for admission on or after the revision date of November 8, 2011, regardless of the issue date of the high school diploma.

Admission to Career & Technical Education (CTE) Programs
A. The following persons are eligible for admission to the CTE programs of Miami Dade College: Graduates from accredited high schools, persons holding a high school equivalency diploma (GED), students who have completed a home education program evidenced by a signed affidavit from their parents or legal guardian stating that the student completed a home education program, or persons at least 16 years of age or older who have left high school prior to completion. Some programs may require high school completion or equivalent as a requirement of admission (consult campus admissions office).

B. Students enrolling in a CTE program of 450 or more contact hours are required to be tested for basic skills. All those who complete the program must meet basic skills competencies before the CTE is awarded.

C. A limited number of programs have supplementary admission requirements (consult campus admissions office).

D. Foreign students who require a student visa (F1) must also provide the supplementary admission documents indicated in 3 above.

How to Apply

Admissions Procedures and Supporting Credentials
A. The admission application is accessible online at www.mdc.edu/admissions. A $30 non refundable application fee is charged for processing a student’s first application. The application must be submitted prior to enrollment in classes.

B. International students must submit the application by the published deadlines. See deadlines at: https://www.mdc.edu/internationalstudents/admission/default.aspx. The International Student admission application fee is $50. C. All final, complete, and official domestic transcript(s) must be sent directly to the Transcript Processing Services office at MDC.

C. High school equivalency diploma or certificate holders should provide the original document and score report to a Campus Admissions and Registration Office if earned prior to 2013; diplomas earned after 2013 must be submitted to the Transcript Processing Services office. In Florida, this certificate is the
General Educational Development Diploma (GED). See the GED section for additional information.

D. Students with foreign high school and/or college/university transcripts must bring all final, official and complete academic documents with the appropriate seals and apostilles to a campus Admissions and Registration Office.

E. Failure to submit all necessary admissions documents, transcripts or certifications will prevent registration, release of grades, transcripts, and enrollment certification.

Transfer Student Information

A transfer student’s transcripts become part of the official student permanent record. Transfer credits are accepted only from regionally accredited colleges and universities or nationally accredited institutions that participate in the Florida Statewide Course Numbering System unless a written agreement between MDC and a specific postsecondary institution has been previously approved. Courses from previous college(s) will be evaluated after the student is admitted to MDC. MDC will determine how many credits, if any, will apply toward a degree. Credit may be granted only for courses in which grades of “D” or better have been earned. The grade of “D” shall transfer and count toward the associate and baccalaureate degrees in the same way as “D” grades obtained by MDC students. See the Standards of Academic Progress in the “Academic Regulations” section of this catalog.

A high school transcript indicating date of graduation may be required of applicants who transfer with fewer than 12 acceptable college credits.

Students with foreign transcripts that are not in English must have an official certified translation made of their credits and submit this translation to the Admissions and Registration Office.

Transient Student Information

Transient students are enrolled at their “home institution” and are enrolled at MDC for a term. MDC prerequisite and/or corequisite course requirements may apply to course selections. Transient students at Miami Dade College may be required to have official transcript(s) sent directly to Miami Dade College from their previous college(s). Transient students are advised to use Florida’s official online student advising system at www.floridashines.org

Non-Degree Applicants

Nondegree applicants are students who wish to take selected college courses without the intent of completing a college credit certificate, associate or baccalaureate degree program. These students must fill out an application for admission and are not required to provide evidence of high school graduation. Many students attend the College...
to upgrade their job skills, for transfer credit purposes or for their own personal interest and enjoyment. Nondegree students who wish to enroll in a math or English course or who have earned more than 12 credits as a non-degree student are required to complete the Postsecondary Education Readiness Test (PERT), or provide valid Grade 10 FCAT 2.0 (reading only), ACCUPLACER (CPT), ACT or SAT scores. If, at a later time, these students become associate or baccalaureate degree candidates, regular admissions procedures regarding all transcript(s) requirements will apply.

Special Admissions Categories
In each of the following categories, the regular admissions procedures apply:

A. Dual Enrollment – The Dual Enrollment program allows eligible high school, middle school, and home education students in grades 6-12 to simultaneously earn college credit and credit toward a high school diploma. The college credit may be applied toward a postsecondary certificate or degree at a Florida public institution. The Dual Enrollment program provides an opportunity to take challenging courses and accelerate education opportunities. Students who successfully complete dual enrollment courses will save time in obtaining their college degree. They will also save money, as these students are exempt from the payment of registration, tuition and laboratory fees. To enroll in courses through the dual enrollment program, students must demonstrate readiness for college level coursework. Eligibility criteria include both a GPA requirement and passing scores on the appropriate sections of the college placement test. The student’s school must grant permission for the student to enroll in these courses, thereby agreeing to accept these college courses to meet high school graduation requirements. Students participating in dual enrollment may begin their studies in any term, provided that they complete the regular admission, advisement and registration procedures. Early admission is a form of dual enrollment through which eligible high school seniors enroll at the college on a full-time basis. The courses these students take are creditable toward a postsecondary certificate or associate degree and meet the requirements for the student’s senior year and high school graduation. Early admission students are required to enroll in a minimum of 24 college credits (12 credits per semester) during their senior year.

B. Early Admission – Academically superior high school students may attend Miami Dade College in lieu of their senior year in high school. In addition to the requirements for Dual Enrollment above, the applicant for early admission must prepare and present to a high school counselor a comprehensive educational plan justifying early admission. The College will accept for screening only those applicants who have received approval from their principal to apply for early admission. The applicant also must have advance approval from the high school principal to apply college credits toward high school graduation. Normally, a minimum of 24 college credits meets the requirements for the student’s senior year and high school graduation.

Readmission to the College
Submit an application for readmission and a new residency statement if any of the following apply:

A. The student did not enroll during any one of the three preceding terms but was previously enrolled.
B. The student attended other colleges or universities since the last time enrolled at MDC. In this case, official transcripts from those institutions will be required for degree-seeking
C. The student attended other colleges or universities
D. The Florida student residency was completed more than 12 months ago. To be readmitted to the College go to www.mdc.edu/admissions

Developmental Education Courses
With the exception of students who meet the criteria for an exemption from common placement testing and developmental education instruction, the State of Florida requires entry level testing for first time in college (FTIC) degree seeking students and students who have not met college level competency either through the completion of developmental education requirements in the Florida College System or have not been awarded credit for college level course work in the area of deficiency. Students will be placed into developmental education courses in the subjects where scores indicate a need for this instruction, along with a Student Life Skills course (SLS). Enrollment in certain other courses may be restricted until all developmental education courses have been completed.

Students may use adult basic education, adult secondary education or private provider instruction as an alternative to traditional developmental education instruction. A student who elects an alternative is prohibited from enrolling in college level courses until the student scores college ready on all sections of the Common Placement Test. If scores on one or more of the subtests require developmental education placement, students must enroll in at least one developmental education course during their first term.

Students who test into developmental education instruction and subsequently enroll in developmental education instruction must successfully complete the required developmental education studies by the time they have accumulated twelve (12) credits of college
credit coursework or they must maintain continuous enrollment in developmental education course work each semester until the requirements are completed while performing satisfactorily in the degree.

Florida Board of Education rules limit the number of times a student can take a developmental education or credit courses. Enrollment beyond the 100 percent refund deadline is considered an “attempt,” and students can attempt a course only three times.

*Contact Academic Advisement for additional information.*

Admissions to Select College Programs and Programs Leading to Licensure

Admissions to specialized programs, such as those offered by Medical Campus, have specific eligibility requirements due to enrollment limitations imposed by physical facilities, state licensure regulations or other criteria.

Students requesting admissions to such programs will receive specific eligibility requirements from the program. A selection committee determines final approval for placement into these specific programs. The department chair provides notification of admissions into these programs to each individual candidate.

Students who are not selected for a specific program are encouraged to continue their studies in other courses and programs at the College. Advisement offices will assist all such students to determine alternative educational objectives.

A limited number of programs have supplementary admissions requirements. Applicants who have been convicted of a felony and/or subjected to an arrest pertaining to a controlled substance and are applying to a program that leads to licensure may be ineligible for that license. Applicants in this situation should check with the appropriate regulatory/licensing agency to determine whether this would be the case. These students still can be admitted to the program, but need to understand that program completion may not result in licensure or employment. Additionally, there are usually other requirements for licensure, such as physical and psychological criteria, completion of unpaid internships, criminal history verification and other background checks. It is the student’s responsibility to understand and meet these requirements.

General Educational Development (GED) Tests and Diploma

An equivalent to a Florida high school diploma may be obtained by successfully completing the General Educational Development (GED) test. A GED holder is eligible for admission to associate degree programs at the College.

To qualify to take the Florida GED test, individuals must be at least 16 years old and reside in the state. A 16 or 17 year-old must meet College criteria to be eligible to prepare for and take the GED test.

Preparation for the GED test is available at all MDC campuses. Individuals should contact campus Continuing Education and Professional Development departments for assistance and further information. The GED test covers writing skills, reading skills, social studies, science and mathematics. A fee is charged to take the test battery, and there is an additional charge, although nominal, to retake subtests.

Teacher Certification Information

Before taking courses to meet Teacher Certification requirements, teachers should confirm from their public school district’s certification office or the Florida Department of Education’s Office of Teacher Education, Certification and Staff Development, that the courses in which they wish to enroll meet specific certification requirements.

College credit courses offered by Miami Dade College, may be used for extension, reissuing, other vocational certificates, reinstatement of certificates and for recency of credit. Additionally, information about courses required for general and professional preparation certification is available at the School of Education or campus Academic Advisement offices.

Florida Residency for Tuition Purposes

Miami Dade College policy concerning Florida residency requirements complies with the laws of Florida s. 1009.21, F.S., and Rule 6A10.044, F.A.C., which are reprinted as follows: s. 1009.21, F.S., determination of resident status for tuition purposes (http://www.mdc.
Determination of resident status for tuition purposes:
Students shall be classified as residents or nonresidents for the purpose of assessing tuition in post-secondary educational programs offered by charter technical career centers or career centers operated by school districts, in Florida College System institutions, and in state universities.

A. As used in this section, the term:
1. “Dependent child” means any person, whether or not living with his or her parent, who is eligible to be claimed by his or her parent as a dependent under the federal income tax code.
2. “Initial enrollment” means the first day of class at an institution of higher education.
3. “Institution of higher education” means any charter technical career center as defined in s. 1002.34, career center operated by a school district as defined in 1001.44, Florida College System institutions as defined in s. 1000.21(3), or state university as defined in s. 1000.21(4).
4. “Legal resident” or “resident” means a person who has maintained his or her residence in this state for the preceding year, has purchased a home which is occupied by him or her as his or her residence, or has established a domicile in this state pursuant to s. 222.1(5).
5. “Nonresident for tuition purposes” means a person who does not qualify for the instate tuition rate.
6. “Parent” means either or both parents of a student, any guardian of a student, or any person in a parental relationship to a student.
7. “Resident for tuition purposes” means a person who qualifies as provided in this section for the instate tuition rate.

B. To qualify as a resident for tuition purposes:
1. A person or, if that person is a dependent child, his or her parent or parents must have established legal residence in this state and must have maintained legal residence in this state for at least 12 consecutive months immediately prior to his or her initial enrollment in an institution of higher education.
2. Every applicant for admission to an institution of higher education shall be required to make a statement as to his or her length of residence in the state and, further, shall establish that his or her presence, or, if the applicant is a dependent child, the presence of his or her parent or parents in the state currently is, and during the requisite 12-month qualifying period was, for the purpose of maintaining a bona fide domicile, rather than for the purpose of maintaining a mere temporary residence or abode incident to enrollment in an
instituion of higher education
2a. However, with respect to a dependent child living with an adult relative other than the child’s parent, such child may qualify as a resident for tuition purposes if the adult relative is a legal resident who has maintained legal residence in this state for at least 12 consecutive months immediately before the child’s initial enrollment in an institution of higher education, provided the child has resided continuously with such relative for the 3 years immediately before the child’s initial enrollment in an institution of higher education, during which time the adult relative has exercised day-to-day care, supervision, and control of the child.

2b. The legal residence of a dependent child whose parents are divorced, separated, or otherwise living apart will be deemed to be this state if either parent is a legal resident of this state, regardless of which parent is entitled to claim, and does in fact claim, the minor as a dependent pursuant to federal individual income tax provisions.

3. A dependent child who is a United States citizen may not be denied classification as a resident for tuition purposes based solely upon the immigration status of his or her parent.

3a. An individual shall not be classified as a resident for tuition purposes and, thus, shall not be eligible to receive the in-state tuition rate until he or she has provided such evidence related to legal residence and its duration or, if that individual is a dependent child, evidence of his or her parent’s legal residence and its duration, as may be required by law and by officials of the institution of higher education from which he or she seeks the in-state tuition rate.

3b. Except as otherwise provided in this section, evidence of legal residence and its duration shall include clear and convincing documentation that residency in this state was for a minimum of 12 consecutive months prior to a student’s initial enrollment in an institution of higher education.

3c. Each institution of higher education shall affirmatively determine that an applicant who has been granted admission to that institution as a Florida resident meets the residency requirements of this section at the time of initial enrollment. The residency determination must be documented by the submission of written or electronic verification that includes two or more of the documents identified in this paragraph. No single piece of evidence shall be conclusive.

4. The documents must include at least one of the following:
4a. A Florida voter’s registration card;
4b. A Florida driver’s license;
4c. A State of Florida identification card;
4d. A Florida vehicle registration;
4e. Proof of a permanent home in Florida which is occupied as a primary residence by the individual or by the individual’s parent if the individual is a dependent child;
4f. Proof of a homestead exemption in Florida;
4g. Transcripts from a Florida high school for multiple years if the Florida high school diploma or high school equivalency diploma was earned within the last 12 months;
4h. Proof of permanent full-time employment in Florida for at least 30 hours per week for a 12-month period.

5. The documents may include one or more of the following:
5a. A declaration of domicile in Florida;
5b. A Florida professional or occupational license;
5c. Florida incorporation;
5d. A document evidencing family ties in Florida;
5e. Proof of membership in a Florida-based charitable or professional organization;
5f. Any other documentation that supports the student’s request for resident status, including, but not limited to, utility bills and proof of 12 consecutive months of payments; a lease agreement and proof of 12 consecutive months of payments; or an official state, federal, or court document evidencing legal ties to Florida.

5g. With respect to a dependent child, the legal residence of the dependent child’s parent or parents is prima facie evidence of the dependent child’s legal residence, which evidence may be reinforced or rebutted, relative to the age and general circumstances of the dependent child, by the other evidence of legal residence required or presented by the dependent child. However, the legal residence of a dependent child’s parent or parents who are domiciled outside this state is not prima facie evidence of the dependent child’s legal residence if that dependent child has lived in this state for 5 consecutive years prior to enrolling or re-registering at the institution of higher education at which resident status for tuition purposes is sought.

6. A person who physically resides in this state may
be classified as a resident for tuition purposes if he or she marries a person who meets the 12-month residency requirement under subsection (2) and who is a legal resident of this state.

6a. Except as otherwise provided in this section, a person who is classified as a nonresident for tuition purposes may become eligible for reclassification as a resident for tuition purposes if that person or, if that person is a dependent child, his or her parent presents clear and convincing documentation that supports permanent legal residency in this state for at least 12 consecutive months rather than temporary residency for the purpose of pursuing an education, such as documentation of full-time permanent employment for the prior 12 months or the purchase of a home in this state and residence therein for the prior 12 months while not enrolled in an institution of higher education.

6b. If a person who is a dependent child and his or her parent move to this state while such child is a high school student and the child graduates from a high school in this state, the child may become eligible for reclassification as a resident for tuition purposes when the parent submits evidence that the parent qualifies for permanent residency.

6c. If a person who is a dependent child and his or her parent move to this state after such child graduates from high school, the child may become eligible for reclassification as a resident for tuition purposes after the parent submits evidence that he or she has established legal residence in the state and has maintained legal residence in the state for at least 12 consecutive months.

6d. A person who is classified as a nonresident for tuition purposes and who marries a legal resident of the state or marries a person who becomes a legal resident of the state may, upon becoming a legal resident of the state, become eligible for reclassification as a resident for tuition purposes upon submitting evidence of his or her own legal residency in the state, evidence of his or her marriage to a person who is a legal resident of the state, and evidence of the spouse’s legal residence in the state for at least 12 consecutive months immediately preceding the application for reclassification.

7. A person shall not lose his or her resident status for tuition purposes solely by reason of serving, or, if such person is a dependent child, by reason of his or her parent’s or parents’ serving, in the Armed Forces outside this state.

8. A person who has been properly classified as a resident for tuition purposes but who, while enrolled in an institution of higher education in this state, loses his or her resident tuition status because the person or, if he or she is a dependent child, the person’s parent or parents establish domicile or legal residence elsewhere shall continue to enjoy the in-state tuition rate for a statutory grace period, which period shall be measured from the date on which the circumstances arose that culminated in the loss of resident tuition status and shall continue for 12 months. However, if the 12 month grace period ends during a semester or academic term for which such former resident is enrolled, such grace period shall be extended to the end of that semester or academic term.

9. Any person who ceases to be enrolled at or who graduates from an institution of higher education while classified as a resident for tuition purposes and who subsequently abandons his or her domicile in this state shall be permitted to reenroll at an institution of higher education in this state as a resident for tuition purposes without the necessity of meeting the 12 month durational requirement of this section if that person has reestablished his or her domicile in this state within 12 months of such abandonment and continuously maintains the reestablished domicile during the period of enrollment. The benefit of this subsection shall not be accorded more than once to any one person.

10. The following persons shall be classified as residents for tuition purposes:

10a. Active duty members of the Armed Services of the United States residing or stationed in this state, their spouses, and dependent children, and active drilling members of the Florida National Guard;

10b. Active duty members of the Armed Services of the United States and their spouses and dependents attending a Florida College System institution or state university within 50 miles of the military establishment where they are stationed, if such military establishment is within a county contiguous to Florida;

10c. United States citizens living on the Isthmus of Panama, who have completed 12 consecutive months of college work at the Florida State University Panama Canal Branch, and their spouses and dependent children;

10d. Fulltime instructional and administrative personnel employed by state public schools and institutions of higher education and their-
spouses and dependent children;
10e. Students from Latin America and the Caribbean
who receive scholarships from the federal
or state government. Any student classified
pursuant to this paragraph shall attend, on a
fulltime basis, a Florida institution of higher
education;
10f. Southern Regional Education Board’s
Academic Common Market graduate students
attending Florida’s state universities;
10g. Fulltime employees of state agencies or politi-
cal subdivisions of the state when the student
fees are paid by the state agency or political
subdivision for the purpose of job-related law
enforcement or corrections training;
10h. McKnight Doctoral Fellows and Finalists who
are United States citizens;
10i. United States citizens living outside the United
States who are teaching at a Department of
Defense Dependent School or in an American
International School and who enroll in a
graduate level education program which leads
to a Florida teaching certificate;
10j. Active duty members of the Canadian mili-
tary residing or stationed in this state under
the North American Air Defense (NORAD)
agreement, and their spouses and dependent
children, attending a Florida College System
institution or state university within 50 miles
of the military establishment where they are
stationed;
10k. Active duty members of a foreign nation’s
military who are serving as liaison officers
and are residing or stationed in this state, and
their spouses and dependent children, attend-
ing a Florida College System institution or
state university within 50 miles of the military
establishment where the foreign liaison officer
is stationed.
11. Once a student has been classified as a resident
for tuition purposes, an institution of higher educa-
tion to which the student transfers is not required
to reevaluate the classification unless inconsistent
information suggests that an erroneous classifi-
cation was made or the student’s situation has
changed. However, the student must have attend-
ed the institution making the initial classification
within the prior 12 months, and the residency classi-
fication must be noted on the student’s transcript.
The Higher Education Coordinating Council shall
consider issues related to residency determinations
and make recommendations relating to efficiency
and effectiveness of current law.
12. Each institution of higher education shall establish
a residency appeal committee comprised of at
least three members to consider student appeals of
residency determinations, in accordance with the
institution’s official appeal process. The residency
appeal committee must render to the student the
final residency determination in writing. The insti-
tution must advise the student of the reasons for
the determination.
13. The State Board of Education and the Board of
Governors shall adopt rules to implement this
section.

6A - 10.044 Residency for Tuition Purposes
The purpose of this rule is to establish consistent policies
for the classification of students as residents for tuition
purposes in accordance with criteria set forth in Section
1009.21, F.S.
A. For Initial Determination of Residency: Each stu-
dent shall submit Form FRD1 (https://adfs.mdc.edu/
adfs/ls/), Florida Residency Declaration for Tuition
Purposes to the institution making a residency deter-
mination for tuition purposes, electronically or in any
other format required or authorized by the institution,
and the documentation required by the institution
to establish Florida residency for tuition purposes.
Verification of whether the student is a dependent
child as defined in Section 1009.21(1)(a), F.S., shall
be satisfied if the parent declares on the Florida
Residency Declaration that the student is eligible to
be claimed as a dependent by the parent under the
federal income tax code. Form FRD1 is incorporated
by reference and made a part of this rule to become effective December 2015. A copy of Form FRD1 may be obtained by contacting the Division of Florida Colleges, 325 West Gaines Street, Tallahassee, Florida 32399.

1. A dependent student who attended a Florida high school for a minimum of three (3) consecutive academic years immediately preceding his or her initial enrollment in an institution of higher education and graduated from a Florida high school or earned a State of Florida High School Diploma as authorized under Rule 6A6.0201, F.A.C., within the last twelve (12) months may use their high school transcript or the official transcript for the State of Florida High School Diplomas evidence of Florida residency. At least one (1) additional document identified in Section 1009.21(3)(c)2., F.S., must be presented evidencing parental legal residence.

2. If a declaration of domicile, pursuant to Section 222.17, F.S., is being used as one of the documents to establish residency for tuition purposes, the date that an applicant shall be deemed as establishing residency for tuition purposes shall be twelve (12) months hence from the date that the Clerk of Circuit Court notes the declaration was sworn and subscribed to them. Nothing in this subsection shall prevent the use of additional documentation as evidence that legal residency was established by other means pursuant to Section 1009.21(3)(c), F.S., as of a date earlier than that established by the Declaration of Domicile.

B. For Residency Reclassification Determination: A student who is classified as a nonresident for tuition purposes may become eligible for reclassification as a resident for tuition purposes by presenting a minimum of three (3) documents identified in Section 1009.21(3)(c)2., F.S., that convincingly demonstrate the establishment of permanent legal residence in Florida other than for the sole purpose of pursuing a postsecondary education. Documentation must demonstrate that the student or, if the student is a dependent, his or her parent, has maintained legal residence in Florida for at least twelve (12) consecutive months immediately prior to the first day of classes for the term for which residency reclassification is sought, except as otherwise provided in Section 1009.21, F.S.

C. The burden of providing clear and convincing documentation that justifies the institution's classification of a student as a resident for tuition purposes rests with the student or, if the student is a dependent, his or her parent. For documentation to be “clear and convincing,” it must be credible, trustworthy, and sufficient to persuade the institution that the student or, if that student is a dependent, his or her parent has established legal residency in Florida that is not solely for the purpose of pursuing an education and has relinquished residency in any other state for at least twelve (12) consecutive months prior to classification. Each institution of higher education may establish submission deadlines for all documentation that will be used to determine residency for tuition purposes.

D. A nonUnited States citizen may be eligible to establish residency for tuition purposes if evidence is presented verifying that he or she has legal status in the United States, has met the residency requirements of Section 1009.21, F.S., and the person is one of the following:

1. A foreign national in a nonimmigrant visa classification that grants the person the legal ability to establish and maintain a bona fide domicile in the United States.
   a. The following visa categories grant the person the legal ability to establish and maintain a bona fide domicile in the United States: A, E, G, H1B, H1C, I, K, L, N, NATO 17, O1, R, S, T, U, and V.
   b. The following visa categories do not grant the person the legal ability to establish and maintain a bona fide domicile in the United States: B,
C, D, F, H2, H3, M, P, Q, and TN. J visa holders are not eligible to establish residency for tuition purposes except as provided in Section 1009.21(10), F.S.

2. A permanent resident alien, parolee, asylee, Cuban/Haitian entrant, or other qualified alien.

3. Pursuant to Section 1009.21(2) (d), F.S., a dependent student who is a U.S. citizen may not be denied classification as a resident for tuition purposes based solely upon the immigration status of the parent.

E. Each institution’s official residency appeal process established pursuant to Section 1009.21(12), F.S., shall be in writing and prominently displayed on the institution’s website.

International Student Admissions

Admission – Miami Dade College is authorized under United States Federal Law, Immigration and Nationality Act, §(101)(a)(15) (F or M) to enroll nonimmigrant alien United States Federal Law, Immigration and Nationality Miami Dade College is authorized under Admission –

International Student Admissions

TOEFL, Box 899, Princeton, NJ 08541, USA, or by visiting may be obtained from international centers, by writing to several times each year at centers in most countries of which the applicant plans to enroll. The Test of English as a Foreign Language (TOEFL) is usually administered as TOEFL if a non-native speaker, proof of mandatory health insurance coverage, and official bank letter of financial resources to support education costs.

Registration and placement into available courses and programs is dependent on English language proficiency, advisement and counseling, assessment/placement testing and course or program requirements. Academic transcript(s) of secondary school, college, university, technical and other post-secondary schools attended must be certified as official. Transcript(s) in languages other than English must include official certified English translations, authentic verifying statements and signatures.

Deadlines – International applicants should apply at least three months prior to enrollment at the College. International mail, transcript verifications, international money transfers, consular appointments, travel and housing arrangements and advisement/testing requirements all take a great deal of time and may cause delays.

Applications for admission, including all admissions credentials and TOEFL test scores (if available), must be received at least 90 days prior to the start of the term in which the applicant plans to enroll. The Test of English as a Foreign Language (TOEFL) is usually administered several times each year at centers in most countries of the world. Information and application forms for TOEFL may be obtained from international centers, by writing to TOEFL, Box 899, Princeton, NJ 08541, USA, or by visiting their website at www.toefl.org.

Deadlines for International Student Admissions

Spring Term.................Oct. 2
Summer Term.............Feb. 15

Fall Term.................May 26

Readmission – Readmission to the College for the international student requires submitting a new application for admission, new official transcripts of post-secondary education attempted since last attendance at Miami Dade College, official bank letter of financial resources to support education costs and a letter explaining the circumstances requiring readmission. Transcript(s) in languages other than English shall include official certified English translations, authentic verifying statements and signatures provided by members of the National Association of Credential Evaluation Services (NACES) http://www.naces.org.

English Language Requirements – Miami Dade College courses are taught in the English language. The College will provide English-language training for students who have insufficient English language skills.

English-language test scores determine placement into college courses. Students with TOEFL scores (or an equivalent score on other standardized tests) of 550 (213 on the computerized version or 79-80 on the Internet-based version) or higher are eligible to take the Basic Skills Assessment Test to determine placement in courses leading to an associate degree. Alternative placement tests will be administered to students without TOEFL scores or with scores below 550 (213 on the computerized version or 79-80 on the Internet-based version). Students requiring English-language training may need to attend additional semesters at the College in order to complete all associate degree requirements.

Financial Requirements – All international students must have sufficient funds to pay full college matriculation and nonresident fees, textbooks, living expenses, transportation expenses, health insurance coverage and other incidental expenses while attending college in the United States.

Financial requirements are included with the application for admissions form. Documentary evidence of means of financial support must be provided to the College to be issued a Certificate of Eligibility (SEVIS I-20). This evidence is also required by the American Embassy or Consulate when applying for a student visa to enter the United States. Students must have these funds available when they register for classes each term. College financial aid is not available to students on visa. See the “Fees” section in this catalog for details concerning matriculation, non-resident and other fee requirements.

Employment – Visa students in the United States are not allowed to be employed outside the College, unless permission has been granted by the United States Citizenship and Immigration Services (USCIS). On-campus employment may be authorized by the International Student Services advisors.

Health and Accident Insurance Certificate – Prior to registration, international students must purchase the
mandatory health insurance policy available courses in the International Student Services Office. This insurance coverage must continue for the entire period of enrollment at the College.

**Duration of Status** – International students on a visa are admitted to the United States for the entire time estimated for them to complete their approved program of study as indicated on the SEVIS I-20. Students must fulfill the following conditions to maintain Duration of Status: pursue a full course of study at the educational institution they are authorized to attend, make normal progress, keep a current passport that is valid for at least six months, maintain a valid SEVIS I-20 and not accept off-campus employment without USCIS approval.

**Arrival in Miami** – International students should arrive in Miami approximately 30 days before the beginning of the first term of enrollment based upon the program start date on the I-20. Students need the time to obtain housing, provide a local address to the College, participate in new student orientation, take English-language and placement assessment tests, obtain advisement and counseling and register for courses.

**Housing in the Community** – Miami Dade College does not provide or supervise student housing. Each college campus has an International Student Advisor to assist students to locate housing. International students must bring sufficient funds to pay three months’ rent in advance (first and last month’s rent, plus a security deposit equal to one month’s rent). The estimated expense information provided with the application for admission form provides important details.

**Transportation** – International students must provide their own transportation or use public transportation (buses or rail) to travel between home and the campus(es).

**School Transfer** – Completion of a degree program at the designated educational institution is recommended. International students who wish to transfer to another school must officially do so by requesting a release of their SEVIS record to the school they wish to transfer to and by providing an admission letter. That institution will notify Immigration of the student’s school transfer. A student who transfers to a different school without completing this process is considered to be out of status.

**Passport Validity** – International students on a visa must have and maintain a current passport valid for a period of not less than six (6) months into the future. It is the student’s responsibility to meet this requirement.

**Full-Time Enrollment** – International students are required by USCIS regulations to be enrolled full-time. Students should make satisfactory progress in their approved program each term, otherwise the continuation of study on an International Student Visa may be jeopardized and the Certificate of Eligibility (SEVIS I-20) rescinded. See Standards of Academic Progress in “Academic Regulations” section.

**United States Department of Homeland Security Laws and Regulations** – It is the student’s responsibility to comply with all non-immigrant alien requirements as stated under the United States statutes I.N.A. 101(a) (15) (F); I.N.A. 214(m); IIRIRA 641. The College is required to report to the Department of Homeland Security international students who:

1. Do not register at the College by the first day of the semester.
2. Do not carry a full course of studies.
3. Do not attend classes to the extent normally required.
4. Become employed without authorization.
5. Terminate their attendance at the College.

**Visa Student Advisement** – Advisors are available at each campus to advise international students concerning academic programs and course objectives. Students on an International Visa should contact the International Student Services advisor each term for a review of the student’s progress and for the updates and compliance of immigration regulations.

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**Admission to Continuing Education (Non-College Credit) Programs and Courses**

Miami Dade College, through its Continuing Education Program, offers students opportunities for enrollment in Continuing Workforce Education Training and recreation and leisure courses.

Admission requirements are established by the nature of the particular program or course. A student who plans to register only for continuing education non-college credit courses need not apply for regular College admission.

**A. Continuing Workforce Education Courses** – These courses are for those students who have had prior employment in jobs related to the enrolled course or are presently employed in a career related to the Continuing Workforce Education course. Students enroll in the courses to upgrade their current skills, for re-employment purposes or to enhance their current employability. For purposes of state certification or registration and updating to meet various professional organization requirements, the College student registration system allows for the award of Continuing Education Units (CEUs) on the student’s transcript. These units may be awarded when a Continuing Workforce Education course is completed and the course has been designated for the award of CEUs. Ten contact hours of classroom instruction equal one CEU.

**B. Recreation and Leisure Courses** – These non-credit courses are self-supporting with the total program
costs being paid by the students who are enrolled. There are no state or College funds provided to support these activities. The College offers these courses on demand from students and the community, as space is available. The range of activities and courses are unlimited and are determined by the students enrolled. For further information please consult the Web site at www.mdc.edu/ce

**Fees and Refunds**

Fees are contingent upon approval of the District Board of Trustees and are subject to change. Special fees may also apply. Important note: Tuition and fee rates are determined annually by state and Board of Trustee processes. The best way to determine current tuition and fee rates is to check on the Miami Dade College Web site, [www.mdc.edu](http://www.mdc.edu), or to check at the Admissions & Registration Office at any MDC campus. The fees listed below are an example – for planning purposes only – of rates for the 2020-21 year only.

### A. Registration Fees 2020-21 – College Credit Courses

1. Florida Residents* Matriculation  
   Total: $118.22 per credit  
2. Non-Florida Residents* Matriculation  
   Total: $402.51 per credit

### B. Registration Fees 2020-21 – Baccalaureate Courses

1. Florida Residents*  
   Total: $128.89 per credit  
2. Non-Florida Residents*  
   Total: $535.97 per credit

### C. Registration Fees 2020-21 – Career and Technical Education Courses

1. Florida Residents* Matriculation  
   Total: $91.08 per vocational credit (Special fees may also apply)  
2. Non-Florida Residents*  
   Total: $355.31 per vocational credit

*See Florida Residency for Tuition Purposes section for definitions. Note: Fees are subject to change.

### D. Special Fees and Charges

#### Special Registration Fees:

Some courses carry special fees in addition to the regular registration fees. Special fees in music courses that offer private lessons range from $60 to $300.

1. **$30 Admission Application Processing Fee:** All new college credit students are assessed a $30 non-refundable admission application processing fee. This fee must be paid when you submit the application.
2. **$25 Bachelor’s Degree In-Program Admission Application Processing Fee:** All students admitted to an in-program Bachelor’s degree are assessed a $25 non-refundable application processing fee.
3. **$50 International Student Admission Application Processing Fee:** All new international students are assessed a $50 non-refundable admission application processing fee.
4. **$15 Per Credit - MDC Online Fee:** MDC Online classes have a distance learning fee of $15 per credit. (i.e. $45 for a 3-credit course). To comply with federal requirements, the MDC Online uses secure login and password to verify the identity of online students. There are no additional student charges associated with verification of student identification.
5. **Resident Students / Non-Resident Students:** Review information about Florida Residency for Tuition Purposes online ([https://www.mdc.edu/admissions/tuition/florida-residency.aspx](http://www.mdc.edu/admissions/tuition/florida-residency.aspx)).
6. **Full Cost of Instruction:** Out-of-State fee charged for students repeating courses more than allowed by state law (This is on a third or subsequent attempt).
7. **Examination Fee:** A $30 per credit nonrefundable fee is charged for institutional credit by exam.

### E. Registration Fees – Continuing Education & Professional Development and Non-Credit Courses

1. Continuing Workforce Education (CWE) – Fees are variable and calculated to cover the cost of the course.
2. Recreation and Leisure Courses – Fees are charged to cover all expenses for providing the course.
3. Adult Education Courses, which are considered
Adult Basic Ed, Adult High School, GED and VPI course fees:
- $31.50 per term for In-State Residency
- $126 per term for Out-of-State Residency

Note: All fees are subject to change without notice.

Refunds of matriculation and tuition fees are made only if official drop or withdrawal cards are turned in at the campus Admissions and Registration Office by the published deadlines (see Academic Calendar), or if you drop via the web (and the drop is confirmed) by the deadline. If the student withdraws from the College as a result of administrative action or for the convenience of the College, except for disciplinary reasons, the student is entitled to a full refund of matriculation and tuition fees. If the student is dropped from a class due to cancellation of that class, the student is entitled to a full refund of matriculation and tuition fees.

If the student is withdrawn from a course or courses for disciplinary reasons, the student is not entitled to a refund of matriculation, tuition or special fees. The admissions application fees (for credit, bachelor's, and international student admissions) and late registration fees are not refundable. Refunds for payments made with cash/checks will be refunded via the MDC One Card. Payments made with Visa/MasterCard/American Express will be refunded to the credit card account.

Fee Policy for Repeated Courses
Sections 1009.28 and 1009.285, Florida Statute require the assessment of fees for community college students who repeat a course due to withdrawal or failure. The fee for a third attempt of the same course is equal to 100 percent of the cost of instruction. Since state law prescribes student fees to equal 25 percent of the cost of instruction, the fee for a repeated course is approximately four times that of an initial attempt.

Sections 1009.28 and 1009.285, Florida Statute and College policy allow one-time exceptions to the increased fees for courses. Students assessed such a fee should consult an advisor for more information (http://www.mdc.edu/smart/documents/3rd-Attempt-Form-Extenuating-Circumstances.pdf).

Excess Hours Advisory
Section 1009.286, Florida Statutes, establishes an "excess hour" surcharge for a student seeking a baccalaureate degree at a state university. It is critical that students, including those entering Florida colleges, are aware of the potential for additional course fees. "Excess hours" are defined as hours that go beyond 120% of the hours required for a baccalaureate degree program. For example, if the length of the program is 120 credit hours, the student may be subject to an excess hour surcharge for any credits attempted beyond 144 credit hours (120% x 120).

All students whose educational plan may include earning a baccalaureate degree should make every effort to enroll in and successfully complete those courses that are required for their intended major on their first attempt. Florida college students intending to transfer to a state university should identify a major or "transfer program" early and be advised of admission requirements for that program, including the approved common pre-requisites. Course withdrawals and/or repeats, as well as enrollment in courses nonessential to the intended major, may contribute to a potential excess hours surcharge.

Per Section 1009.286(5), Florida Statute, it is recommended that students who intend to earn credit hours at the institution in excess of the credit hours required for baccalaureate degrees in which students are enrolled meet with their academic advisor.

Refund Policy
- Refunds of tuition and fees are made only if official drop or withdrawal cards are turned in at the campus Admissions and Registration Office by the published deadlines (see Academic Calendar), or if you drop via the web (and the drop is confirmed) by the deadline.
- If the student withdraws from the College as a result of administrative action or for the convenience of the College, except for disciplinary reasons, the student is entitled to a full refund of tuition and fees.
- If the student is dropped from a class due to cancellation of that class, the student is entitled to a full refund of tuition and fees.
- If the student is withdrawn from a course or courses for disciplinary reasons, the student is not entitled to a refund of tuition and fees.
- If the student does not utilize the College parking facility and a parking decal is not obtained, the college will refund the term parking fees after the specified term.
- The admissions application fees (for credit, bachelor's, and international student admissions) and late registration fees are not refundable.
- Refunds for payments made with cash/checks/wire transfers will be refunded via Bank Mobile.
- Debit card payment made at the Bursar's office are refunded via check (USPS mail).
- Payments made with Visa/MasterCard/American Express/Discover will be refunded to the credit card account. The Credit Card Service fee 2.0% is non-refundable.
- Tuition payments made via Third Party agency will be refunded based on the conditions of the Third Party agency*.
A procedure exists for handling specified exceptions to the refund policy. See the “Petitions Procedure” in the Students’ Rights and Responsibilities Handbook (https://www.mdc.edu/rightsandresponsibilities/docs/College-Wide-Student-Petitions.pdf).

**F. Refund Deadlines – Continuing Education & Professional Development Courses**

For one-day courses and workshops, the student must have paid in full and must make an official withdrawal at least one day prior to the day of class. For courses meeting for two or more days, the student must have paid in full and must make an official withdrawal at least one day prior to the second class meeting.

A procedure exists for handling specified exceptions to the refund policy. Students should see the Continuing Education chairperson on their campus.

**Payment Policy**

**A.** All fees are due and payable in full by the due date posted on the fee invoice. Fees and charges are subject to change without notice. Cash is not to be sent by mail.

**B.** Payment of Fees by Check - Checks may be remitted to Miami Dade College for payment of fees owed. Check payments are also accepted via the MDC Web page. All checks accepted in payment for fees must be drawn on a United States bank and must be payable to the College. If a student submits a check exceeding the amount owed to the College, he or she will not get cash back. The College will issue the refund through Bank Mobile. (https://www.refundselection.com/refund-selection/#/welcome/continue).

**C.** Payment by Credit Card - Miami Dade College will accept American Express, Discover, MasterCard and Visa. There is a 2.0% service fee on each credit card transaction made to the college. Credit card payments can be made over the telephone, and via the MDC Web page, www.mdc.edu.

**D.** Payment by an Employer, Company or Other Agency - Miami Dade College accepts payment for tuition and fees from employer, companies and other agencies.

**E.** Payment Via Wire Transfer by International Students – Prospective and current international students whose payment plan is available to students who need an option for paying tuition and fees. There is a $40 per semester sign-up fee for using the Nelnet Payment Plan. For more information, please visit MDC’s Nelnet Payment page (https://www.mdc.edu/costs/payment-plan.aspx).

**F. G. Payment Via Florida Pre-Paid Tuition Program - The Florida Pre-Paid Tuition Program covers only defined registration, tuition, scholarship and capital improvement fees. Students are required to pay any special fees and other local service fees, which include student service fees, parking fees and technology fees. Students may submit a copy of their Florida Prepaid recipient card or letter to the Admissions office to help establish Florida Residency for Tuition Purposes.

For further information, contact Student Financial Services.

**Florida Pre-Paid Tuition Program**

The Florida Pre-Paid Tuition Program covers only defined matriculation, scholarship and capital improvement fees. Students are required to pay any special fees and other local service fees, which include student service fees and technology fees.

Students may submit a copy of their Florida Prepaid
recipient card or letter to the Admissions office to help establish Florida Residency for Tuition Purposes.

Financial Aid

Student Financial Aid

Financial aid is any grant, scholarship, loan or employment offered to assist a student to meet college expenses. Funding is usually provided by federal and state agencies, foundations, corporations, private donors and/or the College itself. Most financial aid is based on financial "need" as determined by the federal government’s system of needs analysis.

The amounts and types of financial aid that a student can receive are determined by federal, state and institutional guidelines. Financial aid is usually offered in “packages,” which may consist of a combination of grants, loans, employment and scholarships. Grants and scholarships are regarded as a “gift” and need not be repaid. Loans are usually offered at low interest rates and can be repaid over an extended time period. When aid is offered in the form of employment, the student is paid an hourly rate for work performed (usually minimum wage).

Students who wish to be considered for financial assistance offered by or through the College, including scholarships, must complete and submit the FAFSA (Free Application for Federal Student Aid, see “How to Apply”). The availability of certain types of financial aid is dependent upon the student’s immigration status. Financial aid is available for approved and/or certified credit and vocational certificate programs of study.

Philosophy of Financial Aid

The objective of the student financial aid program at Miami Dade College is to provide financial assistance to students who need assistance in funding their educational goals. Financial aid officers are trained and available to counsel and assist students and parents seeking additional or alternative sources of aid.

Prospective students and parents are strongly encouraged to contact the Financial Aid Office at any one of our campuses to obtain additional information regarding financial aid opportunities.

What is Financial Need?

Financial need is defined as the difference between the cost of education and the amount the student (and parents) can be expected to contribute to offset educational expenses. Financial need is based on federal regulations and information provided by the student and/or student’s family on the Free Application for Federal Student Aid (FAFSA, see below).

How to Apply

To be considered for most types of financial assistance, a student must complete the Free Application for Federal Student Aid (FAFSA). The FAFSA is available online at www.fafsa.ed.gov. The application process begins Oct. 1 for the academic year that begins in August. The results of the federal analysis are transmitted electronically to the College and are also sent to the student in the form of a Student Aid Report (SAR) via email or regular mail.

Students should carefully read all notifications and communications from the U.S. Department of Education, Federal Student Aid offices and in a timely manner, provide information to the College or on the FAFSA, if the information originally submitted has to be corrected.

Miami Dade College reserves the right to request supplemental information from parent(s), guardian(s), spouse and/or student as required by the financial aid staff to assess the need of the student. Students who are eligible to receive outside educational assistance such as Veterans Administration benefits and vocational rehabilitation assistance are expected to apply for this assistance through the appropriate agencies.

Verification

The Department of Education selects applicants for verification randomly, to determine the accuracy of
the information provided on the FAFSA. If selected for verification, a student will be asked to provide additional information, such as but not limited to federal, tax return transcripts. Student files will not be processed until all required documentation is received, verification is complete and all corrections have been made.

**Reapplying**

Financial aid is not automatically renewed each year. To be considered for financial assistance from one year to the next, all students must reapply. Since the amount and type of aid are based upon the family’s financial situation each year, it is quite possible that financial aid awards may change from one year to the next.

**Basis on Which Financial Aid is Granted**

The amount of financial assistance a student receives is generally determined by the need of the applicant, the availability of funds from federal, state, institutional and private sources, as well as the order in which the applications were completed (first-come, first-served basis).

Students receiving federal financial aid are required to achieve and maintain an acceptable level of academic progress to receive financial aid. Specific eligible categories are posted on the Financial Aid Web page, and information is available in the Financial Aid Office.

**Who Qualifies for Financial Aid**

To be considered for most need-based assistance, you must meet the following basic eligibility requirements:

- Demonstrate financial need
- Be a U.S. citizen or eligible non-citizen
- Be registered with selective service, if required
- Not be in default on a previous student loan or owe a repayment on previous federal financial aid received at any institution
- Be enrolled at least half-time in an eligible program of study (some aid is available only to full-time students)
- Maintain satisfactory academic progress.
- Additional requirements may apply depending on the financial aid awarded to you.

**Refunds and Repayments (Return to Title IV)**

Federal regulations mandate that financial aid recipients who drop all courses or officially withdraw from the College before completing 60 percent of their enrollment period for the semester may be liable to repay a portion of the federal aid disbursed. The amount of the return is calculated using a federal formula that depends on the date the student ceased attendance. A student who owes a repayment will not be eligible for additional financial aid until the repayment is made in full.

**Miami Dade College Student Assistance Programs**

**Scholarships and Grants**

Scholarships and grants are available annually for students who require additional financial assistance beyond that received from federal and state sources. College funds for scholarships and grants are provided by businesses, clubs and organizations, agencies and from individual friends of the College through the Miami Dade College Foundation Inc. The primary criterion on which grant and scholarship recipients are selected is financial need. However, academic achievement is strongly considered during scholarship recipient selection. A limited number of grants are made available annually for service to the College and to students who may not be eligible for other types of financial assistance. Students who complete the FAFSA will be considered for a College grant. Students must complete an MDC Scholarship Application online at [http://www.mdc.edu/financialaid/scholarships/default.aspx](http://www.mdc.edu/financialaid/scholarships/default.aspx) to be considered for a scholarship. Scholarship candidates may be required to submit additional documentation and/or information.

**Tuition Payment Plan**

A Tuition Payment Plan may be offered to students who are unable to pay the full amount of their schedule. Students should review their fee invoice for the term to determine the payment due date and to apply for the Tuition Payment Plan.

**Tax Help for Educational Expenses**

The Taxpayers Relief Act of 1997 offers several tax credits and deductions for educational expenses. For more information regarding these programs, go to the IRS webpage at: [www.irs.gov](http://www.irs.gov).

**Veterans Administration Assistance**

The Veterans Benefit Program is designed exclusively for providing educational assistance to veterans of the United States armed forces and eligible dependents. Miami Dade College is an approved institution for the education and training of veterans and eligible dependents under all public laws now in effect. The College assists veterans and eligible dependents wishing to receive V.A. educational benefits. Personal and academic
counseling, registration fee deferments, tutorial assistance and V.A. Work-Study programs are available. Veterans are encouraged to contact any campus Registrar’s Office to obtain further information.

Other Sources of Financial Assistance

Benefits for the Disabled – The state of Florida provides funding for the purchase of special equipment and services for all persons with disabilities enrolled in public postsecondary institutions.

Accessing the Financial Aid Office

- Counseling – Financial Aid counselors are available at all MDC campuses, on a walk-in basis, to assist students.
- Online – You can access the Financial Aid Office webpage at [www.mdc.edu/financialaid](http://www.mdc.edu/financialaid) to obtain more detailed information about financial aid programs, procedures and to check the status of your application and financial aid award.
- Email Communications – Regardless of the campus you attend, you can communicate with the Financial Aid Office via email at finaid@mdc.edu

Student Complaint Procedures

Prospective or current students may voice their concerns about college rules, regulations, procedures or experience. Students must first voice concerns to the department staff and supervisor. Students who are unable to resolve any concerns on their own, may contact the Federal Student Aid Ombudsman via [https://studentaid.ed.gov/sa/repay-loans/disputes/prepare/contact-ombudsman](https://studentaid.ed.gov/sa/repay-loans/disputes/prepare/contact-ombudsman).
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Advisement and Career Services

Advisement and Career Services support all student populations by facilitating an effective decision-making process regarding educational, transfer and career goals. Advisors promote appropriate course selection and assist students with referrals to internal and external resources and support services.

Advisement and Career Services supports first-time-in-college and non-traditional student populations by offering office hours until 7:00pm Monday to Thursday and until 4:30 on Fridays at all of our campuses which facilitates access to the full scope of services provided by advisors even for those students attending classes during non-traditional times. Access to advisors is also available via phone and email.

All first-time-in-college, direct-entry students from high school will be assigned an advisor at their mandatory orientation session (Shark Start) after admission to the College. At that time, students and their assigned advisors will begin to chart an appropriate choice of courses based on the student’s academic pathway, placement scores, high school transcripts, non-cognitive factors, and transfer institution of choice. In addition, advisors provide students assistance with career exploration, skills assessments, and guidance about how to best match student’s skills and abilities with the right career path. Once a career path is chosen, advisors will provide important information regarding required courses, program information, graduation status and much more.

All students are encouraged to see an advisor after admission to the College, after assessment testing has been completed (for those who require testing) and before first term registration. During these advisement sessions, the student and the advisor can chart an appropriate choice of courses based on the student’s chosen pathway. Conferring of graduation eligibility at this time may be crucial to a student’s success in meeting their career goals.

During enrollment at Miami Dade College, students are encouraged, and sometimes required, to see an advisor when they encounter academic problems or contemplate a change in educational goals. In addition to helping students chart their educational and professional careers, advisors work with students to resolve problems affecting academic performance. Students may be referred for testing or to community agencies when appropriate, as a means to aid decision-making.

The Advisement and Career Services department also assists students with career planning, resume building and interviewing skills, and other employment needs. Career-related events, including seminars, career exploration workshops, and job and college fairs, are scheduled throughout the academic year. Students are also provided with guidance and information about transfer options and transfer assistance in preparation for the completion of their degree at the College. Transfer resources, including college catalogs, scholarship information and information on the College’s Articulation Agreements with local, in-state and out-of-state institutions are available through the Department and on the MDC website. The department offers a variety of online tools that assist students with job placement, through a feedback system on resumes, cover letters, and interviewing skills assessments.

Academic Requirement Report

The Academic Requirement Report is a tool used for advising purposes only. The catalog and/or the MDC website should be consulted for program/degree requirements.

Basic Skills Assessment Program

In an effort to provide more effective educational services for students, the College has established a Basic Skills Assessment Program. Through this program, the College can identify the student’s academic strengths and weaknesses in reading, writing and mathematics.

Results from the assessment are used to advise students on how best to take advantage of their strengths. Regarding weaknesses, assessment results are used to guide a student into courses designed toward improvement in the respective discipline.

MDC administers the Florida Postsecondary Education Readiness Test (PERT). The PERT is not timed, and it consists of three sections: reading, writing and elementary mathematics.

With the exception of students who meet the criteria for an exemption from common placement testing and develop mental education instruction, the State Board of Education (SBOE) requires entry-level testing for degree seeking students and students who have not met college level competency either through the completion of developmental education requirements in the Florida College System or have not been awarded credit for college-level coursework in the area of deficiency. Students whose
Students without sufficient English-language proficiency to take the PERT are required to take an MDC approved English proficiency placement test (ACCUPLACER ESL) and be placed in designated English for Academic Purposes (EAP) courses. EAP students who have satisfied the 0200 level or above, either by EAP course completion or ACCUPLACER ESL placement, should be encouraged to take the mathematics subtest of the MDC Placement Test at any time in Levels 0300, 0400, or 0500. They must take it no later than the last withdrawal date of the EAP 1600 Level. Continuing EAP students in the 0400 level or above in all four skill areas (Reading, Writing, Grammar, or their equivalents) shall take the reading and writing subtests of the MDC Placement Test after the last withdrawal date of the term for advisement into advanced EAP levels or ENC 1101 in the following term. New incoming students whose ACCUPLACER ESL subtest scores in Reading, Grammar Usage, and WritePlacer ESL place them into the EAP 1500 or 1600 levels shall take the MDC Placement Test prior to registering for EAP courses.

If a student’s scores on one or more of the subtests of the PERT fall below minimum passing scores established by the SBOE, he or she must enroll for at least one developmental education course during their first term.
Further evaluation may be conducted in classes, and developmental education course placement changed, based on the results of the additional assessments. If a student meets a minimum score but is identified as likely to benefit from a developmental education course, he or she may enroll in such a course.

The SBOE requires agencies offering Post-secondary Career and Technical Education programs (CTE) to assess the basic skills level of students entering programs of 450 or more contact hours. MDC offers the Tests of Adult Basic Education (TABE) for these career certificate-seeking students. The minimum passing scores vary among the career certificate programs, so a student must check with his or her advisor for these scores. A student must take the TABE within the first six weeks of admission into the program. Academic support labs are available to prepare students to take the TABE. If a student is enrolling in an Adult General Educational program, he or she also must take the TABE. Adult Education students without English proficiency are given the College approved alternate for placement into appropriate Adult English for Speakers of Other Languages (ESOL) program courses. If a student has any questions regarding the TABE, including exemption from taking the test, he or she should contact the campus Testing and Assessment Department. This information may also be acquired by visiting the testing information Web site, accessed from MDC’s homepage (www.mdc.edu) by clicking on Admissions then, ‘Testing Information.’

Students seeking entrance into MDC’s School of Justice are exempt from the TABE testing requirement, but they are required to pass the Florida Basic Abilities Test (FBAT). If a student has any questions regarding the •FBAT, he or she should contact the School of Justice. Students may also visit the FBAT Web site, accessed from MDC’s School of Justice homepage (www.mdc.edu/main/justice/mdc.edu) by clicking on ‘Assessment Center,’ and then ‘FBAT.’

**Bookstore**

Bookstores are located on all of the campuses. Hours vary during the term and at each location, with longer hours in the early weeks of the semesters. Locations and phone numbers are:

**Carrie P. Meek Entrepreneurial Education Center:**
305-237-1991, Room 1215. When closed, visit the North Campus bookstore.

**Hialeah Campus:**
305-237-8806, Room 1113, located near Public Safety;

**Homestead Campus:**
305-237-5042/5043, located in Building F, Room F102, next to the Cafeteria;

**Eduardo J. Padrón Campus:**
305-237-6019/6696, located in Building 6000.

**Kendall Campus:**
05-237-2361/2063, located in Building 8, Room 8105, across from the Cafeteria and pool;

**Medical Campus:**
305-237-4178, Room 1180, located between Buildings 1 and 2;

**North Campus:**
305-237-1247, Room 4101, Building 4000, located just inside the breezeway and the entrance to the Cafeteria;

**West Campus:**
305-237-8953, located on the first floor;

**Wolfson Campus**
305-237-3236, Room 2102, Building 2, located beside Fourth Street and near the Cafe.

The best time to purchase textbooks for an upcoming term is at the beginning of classes. If a student has a schedule and/or syllabus, he or she can purchase textbooks before the class begins. When purchasing textbooks, a student should bring his or her schedule as the bookstore is organized alphabetically by course abbreviation and by reference number (six-digit code identifying the class). If a student cannot locate textbooks, the professor’s name, or reference number on the shelf tags, the student should ask for assistance at the customer service desk. The store’s textbook manager and sales staff can assist in answering questions. If a student purchases a textbook before attending class and later finds that the textbook is incorrect, it can be returned if the student has the original cash register receipt. The textbook must also be in the original shrink-wrap (if applicable), and in the exact condition as when purchased. The refund policy and dates for each term are posted in all of the bookstores and on the cash register receipts. If a student needs any information concerning the refund policy and dates, the student should contact the campus bookstore at the phone number listed above. During the refund periods, new and used textbooks will be fully refundable when returned in the same condition as purchased. If a textbook is not in the same condition as originally purchased, the textbook will be returned at 25 percent markdown from the original price. If the student does not have the original receipt the book can be sold back to the bookstore at buyback. Shrink-wrapped packages are nonrefundable if opened; however if the student has all of the components of the package then a return may be done for a 25 percent markdown from the original price.

Any textbook purchased during the last week of classes or during final exams is not fully refundable, but may be sold back at buyback. If a student has textbooks that are no longer needed, he or she can sell the books back to the bookstore at anytime of the year. The price for the buyback textbooks will vary, depending on the level of demand for the upcoming term and the inventory in the store. If the bookstore has a need for a textbook,
a student can receive up to 50 percent of the new price whether it was purchased new or used. Another feature the bookstore offers is online ordering of textbooks at www.efollett.com. Students can either log in directly to www.efollett.com or upon registering for a class on the MDC website, proceed through Book Now with a link to efollett.com to purchase the textbooks required for their class. By selecting the state, institution and classes, as well as purchasing information, a student may order textbooks and have them delivered directly to his or her home or have them ready for pick up at the bookstore on campus.

**First Year Experience**

Effective Fall 2014, First Time In College (FTIC) AA degree seeking students must enroll in SLS1106 - First Year Experience Seminar (or approved equivalent). The students will learn skills which will assist in successful transition into college.

**Learning Resources**

Learning Resources houses, in one department, the Library, Computer Courtyard, and tutoring services for various disciplines. We offer students comfortable and collaborative spaces for individual or group studying with the assistance of librarians or other academic experts just a few feet away. In each campus’s Learning Commons, users will find an extensive collection of books (both academic and bestsellers), periodicals, videos, and newspapers; in addition, mobile devices such as laptops, iPads and tablets are available on campus. eBooks, streaming videos and an extensive selection of databases are also available online. All Learning Commons’ computers are equipped with an array of educational and tutorial software applications required by many classes offered at MDC. All items within the collection are available to check out for free.

Librarians are available to assist students during the research process both on a one-on-one basis, and in the classroom. In addition, Learning Resources works closely with the Academic Disciplines to provide tutoring in a wide variety of subjects within the Learning Commons. Embedded tutors, learning assistants, educational technologists and supplemental instruction sessions can also extend the tutoring service into the classroom upon request from faculty.

For more information, visit [www.mdc.edu/learning-resources](http://www.mdc.edu/learning-resources).

**New Student Center**

The New Student Center is the first point of contact for prospective and new students who are attending college for the first time or who are transferring from another institution. Prospective students are encouraged to meet with a pre-admission advisor to obtain information about degree and vocational program options, admissions requirements, assistance with the admissions process and the steps a new student will take from admission through course registration.

The New Student Center conducts orientation sessions prior to each semester. All new degree-seeking students are required to participate in an orientation program. The objective of the new student orientation sessions is to provide practical information to assist new students in transitioning to college life. The New Student Center at the Medical Campus (MC) assists students in pre-select programs as they transition from other campuses. Staff help guide students with course selection, the development of educational plans, and the application process for the selective admission programs at MC.

**Registration and Records**

Registration is held each term on the dates scheduled by the College Registrar’s Office. Students may register online by going to the College’s Homepage ([www.mdc.edu](http://www.mdc.edu)). Students may register for courses in person at each campus Admissions and Registration. The College Registrar’s Office is the designated custodian of all official academic records. The campus Admissions and Registration offices maintains official student transcripts, processes final grades at the end of each term and updates student records with address, name and
Students may find out about additional services and eligibility by contacting the ACCESS office or representative in the Division of Student Services at their campus and visiting online at (HYPERLINK "http://www.mdc.edu/ACCESS/" www.mdc.edu/ACCESS/).

**Student Health Services**

Miami Dade College is not legally or financially responsible for medical care and does not provide the services of a physician on any campus. The Fire Department Rescue Service provides first aid emergency health service.

At the time of application, each student should provide, on the appropriate line of the application form, the name of a person to contact in an emergency. If that contact person changes while the student is attending the College, the student should update that information through the Registrar's Office. Students should carry emergency information at all times, as well as any medical insurance card(s).

**Single Stop**

Single Stop is a one-stop source for students and immediate family members to be connected to public benefits and local resources. Single Stop offers students a wide array of services including benefits screening, free tax preparation, financial coaching, Food Pantry for Students and health insurance assistance (https://www.mdc.edu/main/singlestop/).

**Student Wellness**

Miami Dade College offers a range of resources to help students emotionally and physically navigate the demanding pace of modern life. From food pantries to financial planning to mental health counseling, Miami Dade College can help students get the help they need (https://www.mdc.edu/student-wellness/).
Information and Policies

AIDS Policy

MDC will offer its students and employees diagnosed HIV positive the same opportunities and benefits offered to other students and employees in accordance with appropriate laws and Center for Disease Control (CDC) guidelines. These include access to educational programs, advisement and counseling services, employment opportunities and, financial aid.

The College is committed to a policy of nondiscrimination in the conditions and privileges of employment for those diagnosed HIV positive, but who are otherwise qualified and able to perform the essential functions of the job. Except where course work or employment requires involvement with body fluids, no special policies, procedures or rules will be imposed on students or employees diagnosed with HIV that will limit or restrict the students' participation in College activities and programs or the employees' rights to employment, use of benefits, or livelihood. The College will exercise an appropriate level of privacy and confidentiality in the provision of rights and benefits as required by law.

Automobiles on Campus

Student and faculty parking areas are designated on each campus. The MDCard may be required for access to a lot or a garage. Students must have the MDC parking decal affixed to their car's rear window or bumper. The parking decal is issued upon acceptance to the College. Parking decals are good for one year. Updated decals are available from the Student Life Department on each campus. Miami-Dade County and municipal police enforce traffic and parking regulations on and around each campus. Citations are issued for traffic and parking irregularities; violators may be towed at their own expense.

Automobiles on Campus

Although campus security officers patrol parking areas, the College assumes no responsibility for the care or protection of a vehicle or its contents at any time. If a vehicle must be left on campus overnight, students should notify the Campus Security Office.

Visitor parking policies vary by campus, so visitors should phone ahead for information. Visitors parked in unauthorized spaces may be subject to traffic citations and towing at the owner's expense.

Kendall Campus has a multistory parking garage open to students, faculty and staff. The garage, also known as Building 7, is located between First and Second avenues and between Fifth and Sixth streets. Entrances are on Fifth Street, Sixth Street, and First Avenue. Students must use the MDCard to gain access. Hours of operation vary, so students need to check with security if planning to leave a car after hours.

Medical Campus operates a parking lot at Northwest 10th Avenue and Northwest 20th Street. This lot is equipped with electronic control arms monitored by Campus Public Safety Officers from 6 a.m. to 10:30 p.m. Monday to Thursday, and 6:30 a.m. to 6 p.m. Fridays, Saturdays and Sundays. Handicapped parking is available east of Building 2. Limited shuttle service is provided to and from the Culmer Metrorail station from 6:30 a.m. to 10:30 a.m. and from 3:30 p.m. to 5:30 p.m., Monday to Friday. The facility is closed on Saturdays. During some special events, visitors may obtain parking passes in advance from the Campus Information Booth, from Campus Public Safety (located on the south side of Building 5000), or from the event's sponsor.

Wolfson Campus has a multistory parking garage open to students, faculty and staff. The garage, also known as Building 7, is located between First and Second avenues and between Fifth and Sixth streets. Entrances are on Fifth Street, Sixth Street, and First Avenue. Students must use the MDCard to gain access. Hours of operation vary, so students need to check with security if planning to leave a car after hours.

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through Friday. Dropoff and pickup at the Campus are north of Building 2. The driveway is posted as a “NO PARKING” and “TOWAWAY” zone. Vehicles parked illegally in this area will be towed. Campus Public Safety enforces traffic laws on campus. Identification is verified before entry to the lots.

Homestead Campus provides visitor, student, faculty and staff parking in designated areas. The College and the Homestead Police Department enforce traffic and parking regulations on the campus.

Eduardo J. Padrón Campus has a multistory parking garage and several offcampus facilities for students. These facilities offer parking free of charge and access is gained upon presentation of an MDCard (or a class schedule with the Registrar’s indication that the student has paid tuition). Direct access to campus buildings is available from the parking garage.

North Campus has numerous lots, though some are accessible only by faculty and staff.

West Campus has numerous parking lots located around the building.

**Family Educational Rights and Privacy Act (FERPA) - Information Statement**

**Release of Student Information**

Miami Dade College has a longstanding commitment to protect students’ rights and privacy of information. This commitment will continue as a matter of College practice. The College complies with the provisions of the federal Family Educational Rights and Privacy Act (FERPA), State of Florida law, and Florida State Department of Education, Florida College System rules. These federal and state requirements concern accessibility and confidentiality of student records. Miami Dade College Procedure 4085, Release of Student Information, provides pertinent details concerning classifications of student records and access and release provisions. The College procedure is available to students, faculty, administration and staff in the Dean of Student Services Office, as well as other offices and departments at each campus. In addition, the complete procedures are published in the Student’s Rights and Responsibilities Handbook.

In accordance with U.S. Public Law 93-380 (FERPA), students at Miami Dade College have the right to inspect their educational records and to correct such records if warranted. All student records are open for inspection and review by the student unless he or she waives this right. These records are protected from release of information without written consent. The parent(s) of a dependent student, as defined in Title 26 U.S.C. §152 of the Internal Revenue Code, also has the right to inspect records which are maintained by the College on behalf of the student.

Directory Information, which may be made public, includes:

1. Student name,
2. Major field of study,
3. Participation in officially recognized activities and sports,
4. Weight and height of members of athletic teams,
5. Degrees, honors and awards received,
6. Enrollment status (fulltime, halftime, not enrolled).

The office of the Dean of Student Services or designee will release this information only after the requestor has demonstrated a legitimate need to have such information. Students not wishing the dissemination of Directory Information must complete a statement in the Registrar’s Office, otherwise Directory Information may be disclosed for legitimate purposes by the College.

Additional details concerning the release of student information, including exceptions, challenges to the content of records and related matters, may be obtained by consulting the Dean of Student Services, the Registrar’s Office or designee at any campus.

FERPA information can be found on our website at: [www.mdc.edu/main/ferpa/](http://www.mdc.edu/main/ferpa/)

**Grievance Policy**

In compliance with federal and state requirements, the College has an institutional grievance policy for students alleging discriminatory practices or sexual harassment. The initial contact point for students to lodge a claim of discrimination or sexual harassment is the office of the Dean of Student Services at Kendall, North and Wolfson campuses, Dean of Students and Administration Support Services at Medical Center and Eduardo J. Padrón cam-
Housing
As a college, Miami Dade does not provide or supervise housing facilities. Two or three months’ advance payment is generally required for rental housing. Out-of-area students should arrive approximately two to four weeks in advance of registration in order to locate suitable housing.

Identification
The MDCard is the official identification card for students and employees.

Students are required to wear visibly and present their MDC identification card when requested by authorized College officials. Any misrepresentation, alteration or misuse of identification is prohibited.

This card will provide immediate access to the library, laboratories and parking lots. Students with questions should contact the Student Life Office at any campus for details.

Students’ Rights and Responsibilities
The Students’ Rights and Responsibilities publication, available to all students, sets forth the rights of students with corresponding responsibilities. This document details the relationship between student and College. The document covers protection in academic pursuits and privacy of records, sets forth the conditions for responsible behavior on the campus and lists the various appeal mechanisms and grievance procedures available to students.

The section on student discipline complies with Rule 6A14.56, F.A.C., and §240.132, §240.133 and §877.13, F.S. This section concerns control and discipline of college students. The document complies with relevant federal regulations such as the award of financial aid, protection of privacy of records and equal access/equal opportunity. For more information, visit http://www.mdc.edu/procedures/Chapter4/4009.pdf and http://www.mdc.edu/rightsandresponsibilities/.

Safety and Security
As required by the Federal Student Right to Know Legislation, the College publishes the annual crime statistics for each campus. These statistics may be obtained at the campus bookstore, Registrar’s Office or the Public Safety Office. Prospective students may request a copy from the Admissions Office.

Campus Activities
Campus Activities, Clubs and Organizations
There are many opportunities for students to get involved in campus activities. Each year, outstanding artists, musicians, singers, dancers, lecturers and other performers share their talents and expertise with students. Student Life committees, composed of representatives from student groups, assist with the establishment of these programs and the policies governing these activities. In addition, there are on-campus art exhibits, dance programs, music concerts and theatrical productions presented by different campus departments.

Students have the opportunity to join 85+ clubs chartered on the various campuses. The best time to find out about clubs and organizations on each campus is at the beginning of the semester, when most campuses hold special events to publicize the various clubs. Students may also visit the campus Student Life Department to find out how to get involved. All students are encouraged to participate actively in clubs and organizations.

North Campus Pen Players and Kendall Campus Studio Theatre players present several full-length theatrical productions each year and tryouts are open to all students. In addition, there are several programs of experimental one-act plays produced and directed by students. The New World Players give performances in English, both on and off campus. Interested students should contact the campus theater department.

The College bands, choruses and ensembles are open to all students, and in some cases, students can receive college credit for participating in a music group. These groups present numerous concerts each year, both on and off campus, and participate in various College activities. Students can check with each group’s director to find out if they need to audition to join. The campus music department is the best resource for information on music groups.

Intercollegiate Athletics
Students with outstanding athletic abilities may try out for one of the following intercollegiate sports teams: men’s, basketball or baseball; women’s, basketball, volleyball or softball. Miami Dade College teams, all known as The Sharks, compete at the highest level of the National Junior College Athletic Association. Each year, Shark teams travel around the state to compete against other college teams, and they consistently finish in the
higher rounds of conference and state events. Sharks also have the opportunity to compete for the National Junior College Championship, and have the chance to be selected for NJCAA AllAmerican teams and other special awards. MDC offers first rate athletic facilities, training and conditioning services and a talented coaching staff. For information on trying out for an athletic team, contact the college director of athletics, based at Kendall Campus.

Student Government Association

Students are given an opportunity for selfgovernment. A studentrun governing body works with faculty and administration to formulate appropriate policies. The Student Government Association (SGA) provides an opportunity for students to gain the leadership skills vital in today’s competitive job market.

Student Publications

The Reporter is the student newspaper at Miami Dade College. It was launched on Oct. 4, 2010, features 16 pages printing on a biweekly schedule and has a circulation of 10,250 per print cycle. It is augmented by a website with video and audio content.

The Reporter is distributed collegewide and has newsrooms at the North, Wolfson and Kendall campuses:

North Campus Bureau 11380 N.W. 27th Avenue, Room 4209, 3052371255
Kendall Campus Bureau 11011 S.W. 104th Street, Room M239, 305237 2323
Wolfson Campus Bureau 300 N.E. Second Avenue, Suite 1610, 3052373477.

The Antidote Newsletter at Medical and the Urbana at Eduardo J. Padrón are under the guidance of advisors who work with student editors and staff members. These publications serve as the media for student expression on matters involving the curricular and extracurricular activities of the College. These publications also provide training for those interested in journalism.

The Students’ Rights and Responsibilities Handbook provides students on each campus with basic information about collegewide policies and procedures.
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ACADEMIC REGULATIONS

Attendance in Class

Students are expected to attend every class meeting and to arrive on time. Students who expect to miss a class, or those anticipating tardiness, should let the instructor know. In most courses, attendance requirements are listed on the syllabus. It is the responsibility of the student to make up work missed.

Audit

Students desiring to enroll in a course at Miami Dade College, but who do not wish to receive a grade or credit for the class, may elect to audit. Students will not be allowed to change from an audit status to a credit status (or from credit to audit) after the 100 percent refund date for each term.

Audit courses will be included in the student's academic record with a non-punitive grade of “Z”; however any audit courses taken prior to fall 2016 will show a grade of “X”. Courses and credits enrolled for audit purposes do not count in the computation of a student’s full-time or part-time enrollment status. College Preparatory students, who are required to be certified as completing competency-based College Preparatory instruction, cannot be enrolled under audit status.

Auditing a class costs the same as enrolling for a credit course.

Course Load

All credit courses carry a specified number of credits. A 3-credit lecture course normally meets three hours per week during the 16-week terms, and eight hours per week during the six-week terms. Lab classes generally meet for two hours per credit.

The fall and spring terms are called “major terms” and are approximately 16 weeks long. During a major term, a full course load is considered to be between 12 or more credits. The summer term consists of two six-week summer sessions (first six-weeks/second six-weeks). Some courses are scheduled for the combined summer sessions of 12 weeks. During the six-week summer session a full load is considered to be 6 or more credits.

It is suggested that students who are employed should reduce their college load as follows:

<table>
<thead>
<tr>
<th>Work Hours per week</th>
<th># Credits fall/spring</th>
<th># Credits summer A/B</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>12-15</td>
<td>6-7</td>
</tr>
<tr>
<td>25</td>
<td>8-11</td>
<td>5-6</td>
</tr>
<tr>
<td>40</td>
<td>6-7</td>
<td>3</td>
</tr>
</tbody>
</table>

Grading System

Students in college credit and vocational credit courses are graded according to the following grade point average (GPA) system:

A. Used in GPA computation:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Credits</th>
<th>Grade</th>
<th>Total Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENC 1101</td>
<td>3</td>
<td>A</td>
<td>12</td>
</tr>
<tr>
<td>HUM 120</td>
<td>3</td>
<td>C</td>
<td>6</td>
</tr>
<tr>
<td>ISS 1120</td>
<td>3</td>
<td>F</td>
<td>0</td>
</tr>
<tr>
<td>ISS 1161</td>
<td>3</td>
<td>B</td>
<td>9</td>
</tr>
<tr>
<td>ART 1300C</td>
<td>3</td>
<td>C</td>
<td>6</td>
</tr>
<tr>
<td>DAA 1160</td>
<td>1</td>
<td>B</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>16</strong></td>
<td></td>
<td><strong>36</strong></td>
</tr>
</tbody>
</table>

Final grades are available on the College's Web site following the end of the term.

Grade Point Average (GPA)

Each letter grade has a point value (see above). To compute the grade
points for a course, multiply the grade point value by the number of credits. For example, a "B" in a 3-credit course, is worth 9 points. A "B" in a 4-credit course is worth 12 points. To calculate a GPA, add the total grade point values for all courses and divide that figure by the total number of credits attempted.

In order to graduate from any credit program at MDC and/or to qualify for entry into a bachelor's degree program, a student must have a minimum 2.0 GPA.

Repeating Courses
Students may repeat courses taken at MDC if they received a “W,” “U,” “D,” or “F” grade.

State rule (F.A.C. 6A-14.0301) limits the number of repeat attempts to three per course. The third and final repeat attempt (i.e., the fourth time a student attempts the course) may be granted only if the student petitions https://www.mdc.edu/media/mdc/smart/documents/3rd-Attempt-Form-Extenuating-Circumstances.pdf through an appeals process, and if the student has documentation to convey extenuating circumstances. However, a student is not permitted to withdraw during the third or fourth attempt (i.e., a grade must be assigned). Repeated surcharges apply to any third or fourth attempt. All courses originally taken and then repeated will appear on the student's transcript with assigned grades, but the GPA will be recomputed to average the third and subsequent attempts of computable grades.

Specific courses, as identified in the course description section, may be repeated multiple times for additional credit. All attempts of these courses will be included within the GPA. Students should note that some state universities and colleges may not accept courses repeated for additional credit. Students should also be aware that some private colleges or universities might not accept the grade of a repeated course, and that some institutions compute the grade originally assigned.

Incomplete “I” Grade
When a student is unable to complete the requirements of a course by the end of the semester, the student may be assigned an “Incomplete” or “I” grade. The “I” grade is recorded by the instructor if the student has valid reasons for not being able to finish the work. The student and instructor complete an “Agreement for Grade of Incomplete” form, which stipulates the work to be completed for a grade. If the student has not completed the required coursework after 180 calendar days, the incomplete grade will be changed to a failing grade.

Grade Appeals
The responsibility for the academic evaluation and assignment of grades is that of the faculty member teaching the course. A student who believes that he or she has been unfairly graded should first appeal the grade to the faculty member. If satisfaction is not achieved, the student may appeal through administrative channels (Department Chair, Academic Dean or the grade appeals committee http://www.mdc.edu/procedures/Chapter8/8301.pdf).

Academic Amnesty
Students with credits more than 10 years old may petition to have these grades excluded from cumulative GPA calculation. This is a one-time privilege. Students may not request specific courses to be removed; it must be the entire prior record. Students may obtain a Request for Academic Amnesty form at any Advisement & Career Services Department.

Since academic amnesty does not remove courses from the academic record (it only excludes them from cumulative grade point average calculations at MDC), state/federal regulations concerning course attempts will still apply. Therefore, if a student has three or more attempts in the same course, state regulations mandate that the student be assessed the full cost of instruction and not be permitted to withdraw after the 100 percent refund deadline for the course.

Academic amnesty does not apply to federal and state financial aid regulations. The academic record impacted by academic amnesty is not excluded from federal and state financial aid policies. Students should consult an MDC financial aid advisor prior to requesting academic amnesty. Academic amnesty requests that include courses that were used as part of the requirements for a previously awarded program of study will not be processed.

Petitions Committee
The Petitions Committee (http://www.mdc.edu/procedures/Chapter1/4018.pdf and http://www.mdc.edu/rightsandresponsibilities/docs/College-Wide-Student-Petitions.pdf) considers exceptions to financial and withdrawal policies as stated in this catalog. Students should submit a written petition to the committee. The committee will make a recommendation to the Dean of Student Services for approval and implementation. The decision of the Dean is final. Petitions should identify the student (complete name and student number), and clearly and concisely state the request (by writing a personal letter and supplying supporting documentation for the reason stated in the letter). Students should address the petition to: Petitions Committee, Dean of Student’s Office, and submit the petition at the campus at which they are regis-
tered for courses. Petitions must be made by the end of the next major term (fall and spring).

**Student Ombudsman**

MDC has a student ombudsman who serves as the initial point of contact for students who have concerns, complaints or issues related to College processes, policies and procedures. The Ombudsman listens to student concerns; directs students to the appropriate MDC office, policies and procedures; and, if requested, assists students in completing the forms required to obtain a resolution. The Student Ombudsman has the authority to investigate issues and arrange meetings among the involved parties in order to reach a resolution. MDC has designated the Student Ombudsman as the Assistant Dean of Student Services or designee at each campus.

**Standards of Academic Progress**

The main purpose for the Standards of Academic Progress (SOAP) Procedure is to establish a formal process through which the faculty, staff, and administration at Miami Dade College may identify and provide support to students who experience academic difficulty and fall below a Combined Cumulative Grade Point Average (GPA) of 2.0 (Calculated from the combined graded units for GPA). The combined Cumulative GPA includes computation of grades for both MDC and posted transfer courses. Good Academic Standing is defined as 2.0 or higher for the Combined Cumulative GPA. SOAP is not intended to discourage or penalize students. Rather, SOAP reflects the commitment of the College’s faculty, staff, and administration to provide students with assistance and support to ensure success in achieving their educational goals. Students have available to them a variety of means to remedy their cognitive and non-cognitive challenges and to be academically successful. When academic progress has not been satisfactory, SOAP requires students to meet with an academic and career advisor to develop an academic improvement plan and discuss support services that may assist them in achieving good academic standing. Students who are not in Good Academic Standing are ineligible to run for executive board positions in student organizations unless special permission is granted by the Dean of Students at their home campus. The overall objective of SOAP is to improve the performance of students experiencing academic difficulty by connecting them to academic and student support services.

**Categories for Standards of Academic Progress**

**Academic Warning:** 7-16 combined graded units for GPA with less than a 2.0 for the Combined Cumulative GPA.

**Academic Probation:** 17-29 combined graded units for GPA with less than a 2.0 for the Combined Cumulative GPA.

**Academic Suspension Alert:** 30 or more combined graded units for GPA with less than a 2.0 for the Term GPA and previously in Good Academic Standing.
Academic Suspension: 30 or more combined graded units for GPA with less than a 2.0 for the Combined Cumulative GPA and previously on Academic Probation or Academic Suspension Alert.

Extended Academic Probation: 30 or more combined graded units for GPA with less than a 2.0 for the Combined Cumulative GPA but the Term GPA is 2.0 or higher and previously on Academic Suspension or Dismissal.

Academic Dismissal: 30 or more combined graded units for GPA with less than a 2.0 for the Combined Cumulative GPA and less than a 2.0 for the Term GPA is 2.0 or higher and previously on Academic Probation or Academic Suspension Alert.

Interventions for each Category of Standard of Academic Progress (SOAP)

A. Academic Warning Students must meet with an academic and career advisor prior to enrolling in courses to develop an academic improvement plan which may include referrals to academic support /tutoring and/or student support services, career advising, learning style assessment, and/or enrollment in a Student Life Skills (SLS) course. Students may also be required to reduce their course load.

B. Academic Probation or Academic Suspension Alert Students must meet with an academic and career advisor prior to enrolling in courses to develop an academic improvement plan which may include referrals to academic support /tutoring and/or student support services, career advising, learning style assessment, and/or enrollment in a Student Life Skills (SLS) course. Students may also be required to reduce their course load.

C. Academic Suspension Students are required to pause enrollment in credit courses at the College for the subsequent term (fall, spring, or summer term). Students on Academic Suspension may submit an appeal to the Director of Advisement at their home campus for consideration of continued enrollment.

D. Extended Academic Probation Students who have successfully appealed Academic Suspension or who have met the time conditions for suspension may continue enrollment in credit courses at the College under the category of Extended Academic Probation, provided that they maintain a Combined Cumulative GPA of 2.0 or higher. Students must meet with an academic and career advisor prior to enrolling in courses to develop an academic improvement plan which may include referrals to academic support /tutoring and/or student support services, career advising, learning style assessment, and/or enrollment in a Student Life Skills (SLS) course. Students may also be required to reduce their course load.

E. Academic Dismissal Students are required to discontinue enrollment in credit courses at the College for at least twelve months. Academic Dismissal occurs after students fail to meet the minimum requirements of maintaining a 2.0 for the Term GPA during Extended Academic Probation after being readmitted from Academic Suspension. Students on Academic Dismissal may submit an appeal to the Dean of Students at their home campus for consideration of continued enrollment.

Guidelines for Appeal of Standards of Academic Progress

Students may appeal if on academic suspension or dismissal according to the MDC Procedure 4015 Guidelines for Appeal of the Standards of Academic Progress (https://www.mdc.edu/procedures/Chapter4/4015.pdf). In order for the appeal to be considered, students must present evidence/supporting documentation that reflects a change in their situation and supports their academic success. Students who are on academic suspension are eligible to submit an appeal for consideration of continued enrollment on a term-by-term basis. Students who are on academic dismissal are eligible to appeal for re-admission to the College after the dismissal period. Admission will be on a petition basis.

Administrative Review

Students who have attempted 30 credits with less than half their credits earned or with less than a 2.0 for the Combined Cumulative GPA may be subject to a special administrative review. If their academic record reflects unusual conditions of academic difficulty, their status under the Standards of Academic Progress may be administratively adjusted.

Standards of Progress for Students Receiving Financial Aid

A student receiving financial aid must meet “Standards of Academic Progress.” Federal regulations state that students are eligible to receive financial aid benefits for up to 150 percent of the number of credits registered to complete the degree or certificate. After the 150-percent mark, benefits will terminate. This applies to all registered credits, including courses that were attempted or withdrawn from, but not including “I” grades or audits. Thirty credits of College Preparatory and AP credits are exempted from this 150-percent rule. Students who meet or exceed the 150 percent are
no longer eligible to receive federal/state financial aid. For extenuating circumstances, students may appeal through the Petition for Financial Aid Waiver.

**Code of Conduct**

By the act of registering at Miami Dade College, a student agrees to abide by the Code of Conduct of the College. A student who violates the Code of Conduct while on College property or while participating at a College-sponsored event may be suspended (http://www.mdc.edu/procedures/Chapter4/4025.pdf). Refer to Petitions Committee (http://www.mdc.edu/procedures/Chapter4/4018.pdf) and http://www.mdc.edu/rightsandresponsibilities/docs/College-Wide-Student-Petitions.pdf for more information.

**Transcript of Records**

A transcript (http://www.mdc.edu/transcripts/) is a printed list of all the courses taken, the number of credits and grade earned. Transcripts summarize the GPA and also indicate the receipt of any certificates or degrees. Students must submit a written request to the Registrar’s Office in order to have a transcript sent to a particular location.

Students will be unable to get a transcript if an obligation to the College has not been satisfied. These obligations include unpaid fees or overdue loans, as well as the return of library books, audiovisual media and athletic equipment.

**Drops and Withdrawals**

**Dropping Courses**

Students may drop courses within the drop period indicated on their class schedule. They may do so online using their MyMDC account, or in person at any campus Admissions and Registration Office.

Note that a reduction in course load may impact athletic eligibility, financial aid, scholarships, and veteran benefits.

**Administrative Withdrawal from Courses**

Miami Dade College reserves the right to cancel courses and/or programs for which there is insufficient enrollment, to close a course when the enrollment limit in that course is reached and to make any schedule changes as necessary, including a change in time, days, credit, location or instructor. In the event of course cancellation, the College will notify each registrant by email and/or by telephone and will issue a full refund for the course. Miami Dade College is not responsible for any other related expenses. Students may see an academic advisor regarding selection of another course.

Faculty have the right to withdraw a student from their course for lack of attendance (“no show”) or excessive absences as determined by established departmental guidelines.

If a student is withdrawn from a course or courses for disciplinary reasons, the student is not entitled to a refund of matriculation, tuition or special fees.

**College Withdrawal Policy for Credit and Developmental Education Courses**

Students who enroll in the same course for the third time (or subsequent time) will not be permitted to withdraw from (drop) the course. Attempts taken by students prior to the Fall Term 1997 will not be counted as an attempt for the purposes of this policy. An attempt is counted any time students officially enroll, have a schedule validated for a course, and do not withdraw from (drop) the course with a refund. For example, a student enrolled in a course in the Fall Term 2015 and received an “F” grade in the course. The student enrolled again in the same course in the Spring Term 2016 and found it necessary to withdraw from (drop) the course with a grade of “W” (Withdrawal). The student enrolled again for the third time in the course for the Summer Term 2016. The student needed to withdraw again from the course. This was not permitted, and the student received a valid grade of A, B, C, D, F, S, P or U at the end of the term.

**Cost to Re-Enroll in a Course**

Florida Statutes 1009.28 (applies to developmental education courses) and 1009.285 (applies to college credit courses) state that students who enrolled in the same course twice, received a grade of W, D, F, P, U or X and wish to re-enroll for the third time must pay the full cost of instruction for this attempt and any later attempts. This fee is equivalent to the cost of the course for a student paying fees as a nonresident of the state of Florida for tuition purposes. Students who are assessed the higher fee on the third attempt only may appeal to have the fee lowered. Contact the Dean of Student Services Office at the campus where the course is offered for more information. A student cannot re-enroll in a course for credit if the student previously earned a grade of I, S, C or better. This policy is a result of 6A-14.0301 Florida Administrative Code.
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GRADUATION REQUIREMENTS AND TRANSFER INFORMATION

Graduation Requirements

Miami Dade College awards baccalaureate degrees in education, public safety management, nursing, supervision and management, film/television and digital production, health sciences with an option in physician assistant studies, electronics engineering technology, biological sciences, and early childhood education, as well as Associate in Arts, Associate in Science, and the Associate in Applied Science degrees. MDC also offers college credit certificates, advanced technical certificates and career technical certificates. Students must meet the general education requirements and any program requirements to be eligible for a degree.

Continuous Enrollment for Graduation Requirements

The College graduation requirements are based upon the term of admission or readmission to Miami Dade College. Those requirements apply as long as the student has continuous annual enrollment. If a student does not register for a period exceeding one year, he or she is subject to the graduation requirements in effect for the year and term of re-admission to the College.

Residency Requirements for Graduation

To satisfy the residency requirement for graduation, students must earn at Miami Dade College a minimum of 25 percent of the credits applicable toward the program of study for which graduation is sought. Additional requirements for specific programs of study include:

1. All Associate in Science/Associate in Applied Science degree-seeking students, as well as College Credit Certificate-seeking and Career and Technical Education-seeking students, must earn at Miami Dade College a minimum of 50 percent of the credits in discipline-specific courses.
2. Baccalaureate degree students must earn at Miami Dade College a minimum of 50 percent of the credits in upper-division course work.
3. Different residency requirements may apply as required by programs that have special accreditation or by state regulations such as the statewide articulation agreements.
4. All financial obligations must be fulfilled in order to graduate from any MDC program of study.
5. All associate, baccalaureate, and college credit programs require a minimum 2.0 GPA to graduate; some programs may have higher GPA requirements.

Baccalaureate Degree

Required Hours and GPA

Successful completion of a minimum of 120 semester hours or as approved by the State Board of Education, and a minimum GPA of 2.0 is required to earn a baccalaureate degree.

Note: A higher GPA may be required for specific majors.

General Education

Satisfactory completion of General Education courses (36 semester hours) as follows:

- Area I. English Composition (6 semester hours)
- Area II. Oral Communication (3 semester hours)
- Area III. Humanities/Fine Arts (6 semester hours)
- Area IV. Behavioral/Social Science (6 semester hours)
- Area V. Natural Science (6 semester hours)
- Area VI. Mathematics (6 semester hours)
- Area VII. General Education Elective (3 semester hours) Per 6A-10.030, Florida Administrative Code

Civics Literacy Competency

All Associate in Arts and baccalaureate seeking students must complete the civic literacy requirement. The requirement may be met by successfully completing one of the following: AMH2020; POS2041; or achieving the standard score on the AP Government and Politics: United States (minimum score of 3), AP United States History (minimum score of 4) or CLEP: American Government (minimum score of 50).

Computer Skills Competency

All MDC degree-seeking students with 16 or more credits must demonstrate computer competency prior to graduation. Students demonstrate this competency by passing the MDC computer competency test, currently known
as CSP (Computer Skills Placement) examination or by enrolling in and successfully completing an equivalent course. No credit is awarded for successful completion. For additional information please visit the Testing Criteria Computer Competency Web site, accessed from MDC’s Homepage (www.mdc.edu) by clicking on ‘Admissions’, then ‘Testing Information’.

Requirements for Admission to Upper Division
Students should review the Baccalaureate Degree section of this catalog and contact the Academic Department responsible for the specific Baccalaureate admissions criteria.

Foreign Language Requirement
In accordance with Rule 6A-10.02412, Florida Administrative Code and pursuant to Section 1007.262, Florida Statute, all AA and baccalaureate degree-seeking students must demonstrate Foreign Language Competence (FLC) by: (a) successfully completing the elementary 2 level (i.e., 2 years of secondary/high school level) or postsecondary/college level equivalent in one (1) foreign language or American Sign Language OR (b) successfully completing a standardized examination that documents the required FLC. Students who demonstrate proficiency in a native language other than English are exempt. For more information, please visit the MDC Credit-by-Exam website or contact the MDC World Languages department.

Associate in Science/Associate in Applied Science Degrees

Associate in Science degree: Awarded to students who successfully complete a program of career and technical instruction consisting of lower division college credit courses to prepare for entry into employment. The associate in science degree is a transfer degree and a basis for admission to a related bachelor's degree. The associate in science degree shall be awarded upon satisfactory completion of a planned program of instruction comprised of the standard credit hour length established, after demonstration of the attainment of predetermined and specified performance requirements. The standard credit hour length of all associate in applied science degree programs as defined in Rule 6A-6.0571, F.A.C.

Requirements for Associate in Science/Associate in Applied Science Degrees
1. Complete an approved program of study with 60 credits or as approved by the State Board of Education.
2. Earn a minimum 2.0 cumulative GPA in the 60 credits or as approved by the State Board of Education required for graduation.
3. Complete a minimum of 15 credits of general education courses.
4. Meet MDC Residency for Graduation requirements.

General Education and Miami Dade College Student Learning Outcomes

General Education: Student Learning
The General Education program provides multiple, varied, and intentional learning experiences that provide you with a solid foundation for your personal, academic, and professional development. The program is meant to facilitate the acquisition of fundamental knowledge and skills and the development of attitudes that foster effective citizenship and the desire for lifelong learning. What begins in specified general education coursework is reinforced and expanded by purposeful Student Learning Outcomes present throughout your degree program and co-curricular activities.

Student Learning Outcomes: A Promise between Students and Faculty
All students who graduate from MDC - regardless of major or degree type - have 10 things in common: the college-wide student learning outcomes (CSLO) summarized below. Developed collaboratively by students, faculty, alumni and industry partners, and adopted in 2007, the outcomes are part of the Miami Dade College learning experience. The CSLOs will help you to succeed in your chosen field, to strengthen the life skills critical to your future and to encourage you to become lifelong learners.

1. Communication – Good communication skills are defining characteristic in both personal and professional development. A MDC education helps students develop effective communication habits and skills.
2. Quantitative Analysis – Numbers are everywhere,
from the calories in your favorite soda to political polls. You will be able to process, understand and accurately analyze numerical data.

3. **Critical/Creative Thinking and Scientific Reasoning** – There is no guarantee that you will know all the answers by the time you graduate, but you will develop the skills needed to think through a situation, consider multiple points of view, and arrive at a fair, unbiased conclusion.

4. **Information Literacy** – Most individuals use Internet search engines such as Google, Bing or Yahoo to find information quickly. However, academic research requires you to determine if the information you find is trustworthy. By the time you graduate, you will know the pros and cons of using Internet resources and be able to locate relevant and accurate information resources.

5. **Global, Cultural and Historical Perspectives** – MDC students represent over 170 nationalities and speak over 65 different languages. As a member of this college community, you will build a strong foundation in engaging with others who may have a different history from you. In order to succeed in this global workforce environment and society, you will learn to develop an appreciation of various cultures and an understanding of different points of view.

6. **Personal, Civic and Social Responsibility** – While at MDC, you will develop skills to fulfill not only your personal responsibilities, but also your roles as citizens. As members of your local and global community, participation in activities such as the census, or voting, or volunteering are some ways that your actions may impact your local and global community. For example, John Donne said, “No man is an island.” Everything you do and say has an impact on those around you.

7. **Ethical Thinking** – Our core beliefs influence the way we view headlines such as Black Lives Matter; Plagiarism and Political Speeches; Wikki Leaks; Big Data and Privacy; Political Corruption; Campaign Rhetoric; or Childhood Vaccines. Your course of study will help you identify ethical dilemmas and issues through a disciplinary lens and help you to develop perspectives based on ethical concepts, not just your core beliefs.

8. **Computer and Technology Usage** – You can probably surf the Net, send emails and create posts for social media already, but there are other ways technology can support your educational experience. Before you graduate, you will learn how to use word processing, spreadsheets, databases and presentation programs.

9. **Aesthetic Appreciation** – As a well-rounded MDC student, you will learn to appreciate the beauty around you, the creative process, and the value of artistic expression.

10. **Natural Systems and the Environment** – An understanding of natural systems is important in caring for your health, considering the world around you, and incorporating sustainable practices in your everyday life.

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## General Education Requirements for the Associate in Arts

To receive an Associate in Arts, students must complete 36 “General Education” credits.

**Designates “Gordon Rule” course.** Students must complete the following (information located at [www.mdc.edu/academics/programs/default.aspx](http://www.mdc.edu/academics/programs/default.aspx)):

### ASSOCIATE IN ARTS

Total credits required for the degree: 60

**COMMUNICATIONS** 6 Units**

**State Core: Group A:**

ENC 1101 - English Composition 1 (Gw)

**MDC Core: Group B:**

ENC 1102 - English Composition 2 (Gw)

**MATH** 6 Units**

Select one State Core course and one MDC Core course. Lab units are not allowed in this area.

**State Core: Group A Courses: 3 units**

MAC 1105 - College Algebra (Gc)

MAC 2311 - Calculus & Analytical Geometry (Gc)

MGF 1106 - Math for Liberal Arts 1 (Gc)

MGF 1107 - Math for Liberal Arts 2 (Gc)

STA 2023 - Statistical Methods (Gc)

**and**

**MDC Core: Group B Courses: 3 units**

MAC* (Gc)

MAS* (Gc)

STA 2023 (Gc)

MAD* (Gc)

MGF* (Gc)

MTG 2204 (Gc)

MAP* (Gc)

QMB 2100 (Gc)

**ORAL COMMUNICATIONS** 3 Units**

Select one of the following:

ENC 2300 - Advanced Composition and Communications (Gw)

LIT 2480 - Issues in Literature and Culture (Gw)

SPC 1017 - Fundamentals of Speech Communication (Gw)

SPC 2608 – Introduction to Public Speaking (Gw)

**HUMANITIES** 6 Units**

Select 1 course from State Core and 1 course from MDC Core

**State Core: Group A Courses 3 units**

ARH 1000 - Art Appreciation
HUM 1020 - Humanities
LIT 2000 - Introduction to Literature (Gw)
MUL 1010 - Music Appreciation
PHI 2010 - Introduction to Philosophy (Gw)
The 2000 - Theater Appreciation (Gw)

and

MDC Core: Group B Courses 3 units
ARC 2701 - History of Architecture 1
ARC 2702 - History of Architecture 2 (Gw)
ARH 1000 - Art Appreciation
ARH 2050 - Art History 1
ARH 2051 - Art History 2 (Gw)
ARH 2740 - Cinema Appreciation (Gw)
DAN 2100 - Dance Appreciation
DAN 2130 - Dance History 1 (Gw)
HUM 1020 - Humanities
IND 1100 - History of Interiors 1
IND 1130 - History of Interiors 2 (Gw)
LIT 2000 - Introduction to Literature (Gw)
LIT 2120 - A Survey of World Literature (Gw)
MUH 2111 - Survey of Music History 1
MUH 2112 - Survey of Music History 2 (Gw)
MUL 1010 - Music Appreciation
MUL 2380 - Jazz and Popular Music in America (Gw)
PHI 2010 - Introduction to Philosophy (Gw)
PHI 2604 - Critical Thinking and Ethics (Gw)
The 2000 - Theater Appreciation (Gw)

BEHAVIORAL & SOCIAL SCIENCES 6 Units**
If a Behavioral Science course is selected from the State Core, then a Social Science course must be selected from the MDC Core. If a Social Science course is selected from the State Core, then a Behavioral Science course must be selected from the MDC Core.

State Core A: BEHAVIORAL SCIENCES: 3 units
ANT 2000 - Introduction to Anthropology
PSY 2012 - Introduction to Psychology
SYG 2000 - Introduction to Sociology

and

MDC Core A: SOCIAL SCIENCES: 3 units
AMH 2010 - History of the United States to 1877
AMH 2020 - History of the United States from 1877***
ECO 2013 - Principles of Economics (Gw)
ISS 1120 - The Social Environment
POS 2041 - American Federal Government***
WOH 2012 - History of World Civilization to 1715
WOH 2022 - History of World Civilization from 1715

---OR---

State Core B: BEHAVIORAL SCIENCES: 3 units
ANT 2000 - Introduction to Anthropology
ANT 2410 - Introduction to Cultural Anthropology
CLP 1006 - Psychology of Personal Effectiveness

DEP 2000 - Human Growth and Development
ISS 1161 - The Individual in Society
PSY 2012 - Introduction to Psychology
SYG 2000 - Introduction to Sociology

and

MDC Core B: SOCIAL SCIENCES: 3 units
AMH 2020 - History of the United States from 1877
ECO 2013 - Principles of Economics (Gw)
POS 2041 - American Federal Government

NATURAL SCIENCES 6 Units**
If a Physical Science course is selected from the State Core, then a Life Science course must be selected from the MDC Core. If a Life Science course is selected from the State Core, then a Physical Science course must be selected from the MDC Core.

State Core A: LIFE SCIENCES: 3 units
BSC 1005 - General Education Biology
BSC 1010 - Principles of Biology
BSC 2085 - Human Anatomy & Physiology
EVR 1001 - Introduction to Environmental Science

and

MDC Core A: PHYSICAL SCIENCES: 3 units
AST 1002 - Descriptive Astronomy
CHM 1020 - General Education Chemistry
CHM 1045 - General Chemistry & Qualitative Analysis
ESC 1000 - General Education Earth Science
PHY 1020 - Fundamentals of Physics
PHY 2048 - Physics with Calculus 1
PHY 2053 - Physics without Calculus 1

---OR---

State Core B: LIFE SCIENCES: 3 units
BOT 1010
BSC 1005
BSC 1030
BSC 1050
BSC 1084
BSC 2010
BSC 2020
BSC 2085
BSC 2250
EVR 1001
HUN 1201
HUN 1201
PB 2033
PSC 1515
PSC 1121

and

MDC Core B: PHYSICAL SCIENCES: 3 units
AST 1002
CHM 1020
CHM 1045
ESC 1000
PHY 1020
PHY 2048
PHY 2053

GENERAL EDUCATION ELECTIVE 3 Units
Select one course from any of the following options.
ACG 2021
AMH 2010
AMH 2020
ANT 2000
ANT 2410
ARC 2701
ARC 2702
ARH 1000
ARH 2050
ARH 2051
ARH 2740
ASL 2200C
AST* ASL*
BAS* BSC *
CGS 1060C
CHI* CHM*
CIS 1000
CLP 1006
COP 1332
COP 1334
COP 2270
DAN 2130
DEP 2000
ECO 2013
EDF 1005  EDF 2085  EEX 2000  ENC 2300
ESC 1000  FRE*  FRW*  GEO 2420
GER*  GLY*  HBR*  HLP 1080
HLP 1081  HSC 2400  HUM 1020  HUN 1201
IND 1100  IND 1130  INR 2002  ISS 1120
ISS 1161  ISS 2270  ITA*  JPN*
LIT 2000  LIT 2120  LIT 2480  MAC*
MAD 2104  MAP*  MAS*  MET*
MG*  MUH 2111  MUH 2112  MUL 1010
MUL 2380  OCE*  PCB 2033  PHI 2010
PHI 2604  PHY*  POR*  POS 2041
POS 2112  PSC*  PSY 2012  QMB 2100
REL 2300  RUS*  SPC 1017  SPN*
STA 2023  SYG 2000  SYG 2230  THE 2000
WOH 2012  WOH 2022  ZOO*

**COMPUTER COMPETENCY**
By 16th earned college-level unit, students must attempt the computer competency requirement. By 31st earned college-level unit, students must satisfy the requirement (CGS1060C, CTS 0050, an equivalent college unit course or the Computer Skills Placement examination). For more information, see http://bitly.com/UQJDHM.

**CIVIC LITERACY COMPETENCY**
Prior to the award of an associate in arts or baccalaureate degree, first-time-in-college students entering a Florida College System institution in the 2018-19 school year, and thereafter must demonstrate competency in civic literacy. This requirement may be satisfied by passing AMH2020, POS2041, or an equivalent AP or CLEP exam.

**FOREIGN LANGUAGE COMPETENCY**
May be satisfied by Foreign Language Competency (FLC) standardized examinations

---OR---

ASL 1150C  CHI 1121  FRE 1121  GER 1121  HAI 1121
HBR 1121  ITA 1121  JPN 1121  POR 1121  RUS 1121

**FIRST YEAR EXPERIENCE**
SLS 1106 – First Year Experience Seminar (required course)

---OR---

one of the courses below based on advisor's recommendation:
SLS 1502 – College Study Skills
SLS 1505 – College Survival Skills
SLS 1510 – Preparing for Student Success
SLS 1125 – Student Support Seminar

**ELECTIVES 24 Units**
Elective courses should be selected by program and/or specialization. Refer the Common Prerequisites Manual or consult with an advisor or mentor. Also refer to information available at your Transfer Institution of choice. General education courses that are not used to meet general education requirements may be used for electives in this block.

**60 UNITS REQUIRED FOR GRADUATION**

**General Education (36 credits):**
- 15 units from State Core
- 21 units from MDC Core
- Electives: 24 Units

**Notes**
*Includes any and all courses within associated prefix
**Requires grade of C or higher to satisfy requirement
***Meets Civics Literacy Competency
Gw = Gordon Rule writing and Gc = Gordon Rule computation
A minimum cumulative grade point average of 2.0 is required for graduation.

Students should check their individualized Degree Audit Report to determine the specific graduation policies in effect for their program of study for the year and term they entered Miami Dade. This outline includes current graduation requirements.

Course numbers, titles, descriptions, and listing are subject to change. Please consult the MDC Course Dictionary for updated information.

The final responsibility for meeting graduation requirements rests with the student.

**MDC Advisement & Career Services Offices**
Hialeah  Room 2101  305-237-8794
Homestead  Room A233  305-237-5046
Kendall  Room R243  305-237-2125
Medical  Room 1113  305-237-4141
North  Room 1104  305-237-1425
Padron  Room 1117  305-237-6153
Wolfson  Room 3117  305-237-3077
West  Room 2114  305-237-8947
Carrie Meek Ctr.  Room 1101  305-237-1903

**Call Center**
305-237-8888
mdcinfo@mdc.edu

**Other Assessment Procedures for College-Level Communication and Computation Skills (6A-10.030) (often referenced as Gordon Rule)**
A. In addition to assessments that may be adopted by
the State Board of Education or Board of Governors to measure student achievement in college-level communication and computation skills, other assessment requirements shall be met by successful completion of coursework in English and mathematics. For the purposes of this rule, a grade of C or higher shall be considered successful completion.

B. Prior to receipt of an Associate in Arts degree from a public community college or university or prior to entry into the upper division of a public university or college, a student shall complete successfully the following:

1. Six (6) semester hours of English coursework and six (6) semester hours of additional coursework in which the student is required to demonstrate college-level writing skills through multiple assignments. Each institution shall designate the courses that fulfill the writing requirements of this section. These course designations shall be submitted to the Statewide Course Numbering System. An institution to which a student transfers shall accept courses so designated by the sending institution as meeting the writing requirements outlined in this section.

2. Six (6) semester hours of mathematics coursework at the level of college algebra or higher. For the purposes of this rule, applied logic, statistics and other such computation coursework which may not be placed within a mathematics department may be used to fulfill three (3) hours of the six (6) hours required by this section.

3. (c) Students awarded college credit in English based on their demonstration of writing skills through dual enrollment, advanced placement, or international baccalaureate instruction pursuant to Rule 6A-10.024, F.A.C., and students awarded college credit based on their demonstration of mathematics skills at the level of college algebra or higher through one (1) or more of the acceleration mechanisms in Rule 6A-10.024, F.A.C., shall be considered to have satisfied the requirements in subsection 6A-10.030(2), F.A.C., to the extent of the college credit awarded.

C. Exemptions and Waivers. Any public community college or university desiring to exempt its students from the requirements of subsection 6A-10.030(2), F.A.C., shall submit an alternative plan to the Department of Education. Upon approval of the plan by the Department, the plan shall be submitted to the State Board of Education or the Board of Governors as appropriate. Upon approval by the State Board of Education or the Board of Governors, said plan shall be deemed effective in lieu of the requirements of subsection 6A-10.030(2), F.A.C.

Note: A list of MDC courses that fulfill this requirement, can be found at [http://www.mdc.edu/asa/faculty/gordon_rule_courses.asp](http://www.mdc.edu/asa/faculty/gordon_rule_courses.asp).

**Advanced Technical Certificate Programs**

Awarded to students who successfully complete a program of career and technical instruction consisting of nine (9) hours or more but less than forty-five (45) college credits of lower division and/or upper division courses. Florida College System institutions offering advanced technical certificates with upper division courses must be approved to offer baccalaureate programs containing those courses. An advanced technical certificate may be awarded to students who have already received an associate in science degree or an associate in applied science degree and are seeking an advanced specialized program of instruction to supplement their associate degree (information located at [www.mdc.edu/academics/programs/default.aspx](http://www.mdc.edu/academics/programs/default.aspx)).

**College Credit Certificate Programs**

Awarded to students who successfully complete a program of career and technical instruction consisting of less than sixty (60) college credits which are part of an associate in science degree or an associate in applied science degree program and prepare students for entry into employment. The standard credit hour length of all technical certificate programs as defined in Rule 6A-6.0571, F.A.C. (information located at [www.mdc.edu/academics/programs/default.aspx](http://www.mdc.edu/academics/programs/default.aspx)).

**Career Technical Education Programs**

Awarded to students who successfully complete a program of career and technical instruction consisting of clock hour courses to prepare for entry into employment. Upon satisfactory completion of a planned program of instruction, after the demonstration of the attainment of predetermined and specified performance requirements, the career and technical certificate shall be awarded. The standard clock hour length of all career and technical certificate programs as defined in Rule 6A-6.0571, F.A.C. (updated information located at [www.mdc.edu/academics/programs/default.aspx](http://www.mdc.edu/academics/programs/default.aspx)).

**Commencement (Graduation Ceremony)**

Students who anticipate completing their program during the academic year should meet with an academic advisor.
to ensure that all graduation requirements will be met. Also, students must apply for graduation by the deadlines published in the academic calendar. Students planning to graduate in spring or summer terms should note that the deadline is very early in the spring term. The commencement ceremony is held once a year, at the end of spring term (late April or early May). Caps and gowns are available at campus bookstores for those who have applied for graduation. There is no cost for these items.

Special Recognition for Outstanding Academic Performance (College Credit Students Only)

The College gives special recognition to students who demonstrate outstanding academic performance while working toward a degree. Students are eligible for the following recognition:

**Dean’s List** – recognizes students who have a term combined cumulative GPA of 3.5 or above for 12 or more credits earned in the fall or spring term, and for 6 or more credits earned in the summer A or summer B terms. **Letter of Congratulations** – the campus dean of faculty or equivalent sends a special letter of congratulations to students who earn a term grade point average of 4.0 for 12 or more credits earned in the fall or spring terms (excluding courses that do not satisfy degree requirements).

In addition, special designations are entered on transcripts of students awarded a degree program as follows:

**Honors**
A combined cumulative GPA of 3.5–3.69 is required to graduate with Honors.

**Honors and Distinction**
A combined cumulative GPA of 3.5–3.69 and at least 15 credits earned in honors courses is required to graduate with Honors and Distinction.

**Highest Honors**
To graduate with Highest Honors, a student must achieve a combined cumulative GPA of 3.7 or higher.

**Highest Honors and Distinction**
A combined cumulative GPA of 3.7 or higher and at least 15 credits earned in honors courses is required to graduate with Highest Honors and Distinction.

**Phi Theta Kappa**
To be eligible for induction into Phi Theta Kappa, the International Honor Society of the Two Year College, a student must have completed a minimum of 12 college-level credits leading to an Associate degree, with a minimum 3.5 combined cumulative GPA and the student must be currently enrolled. Upon graduation, initiated students will have the designation noted on their transcript.

**Transfer Information**
Transfer information and resources, including transfer agreements and transfer tips, can be found at: [http://www.mdc.edu/academics/transfer/default.aspx](http://www.mdc.edu/academics/transfer/default.aspx). Graduating with an Associate in Arts degree guarantees MDC graduates numerous transfer benefits. Certain Associate in Science/Associate in Applied Science degrees are also transferable to related baccalaureate degree programs. Additional information about transfer guarantees and agreements can be found in the Articulation section.

Miami Dade College offers baccalaureate degrees in
Articulation

Articulation is a system designed to provide for smooth movement of students from high school, through the Florida College System and into a baccalaureate degree program at a State University, Florida College System institution, or other postsecondary institution. There are a number of articulation agreements which create special transfer opportunities for students (updated information located at www.mdc.edu/academics/transfer/default.aspx).

Articulation Agreements with Miami-Dade County Public Schools

Miami Dade College and Miami-Dade County Public Schools have entered into several articulation agreements. These range from the formalized New World School of the Arts and the School for Advanced Studies, to agreements for transfer of specific career pathways and adult vocational credits to Associate in Applied Science and Associate in Science degrees and certificate programs.

State of Florida Articulation Agreement

Section 1007.23, Florida Statutes, states the following:

A. The State Board of Education and the Board of Governors shall enter into a statewide articulation agreement which the State Board of Education shall adopt by rule. The agreement must preserve Florida’s “2+2” system of articulation, facilitate the seamless articulation of student credit across and among Florida’s educational entities, and reinforce the provisions of this chapter by governing: (a) Articulation between secondary and postsecondary education; (b) Admission of Associate in Arts degree graduates from Florida College System institutions and state universities; (c) Admission of applied technology diploma program graduates from Florida College System institutions or career centers; (d) Admission of Associate in Science degree and Associate in Applied Science degree graduates from Florida College System institutions; (e) The use of acceleration mechanisms, including nationally standardized examinations through which students may earn credit; (f) General education requirements and statewide course numbers as provided for in ss. 1007.24 and 1007.25; and (g) Articulation among programs in nursing.

B. (a) The articulation agreement must specifically provide that every associate in arts graduate of a Florida College System institution shall have met all general education requirements and must be granted admission to the upper division of a:

1. State university, except for a limited access or teacher certification program or a major program requiring an audition.
2. Florida College System institution if it offers baccalaureate degree programs, except for a limited access or teacher certification program or a major program requiring an audition. (b) Florida College System institution Associate in Arts graduates shall...
receive priority for admission to the upper division of a Florida College System institution or to a state university over out-of-state students. Orientation programs, catalogs, and student handbooks provided to freshman enrollees and transfer students at Florida College System institutions and state universities must include an explanation of this provision of the articulation agreement.

C. To improve articulation and reduce excess credit hours, beginning with students initially entering a Florida College System institution in 2013-2014 and thereafter, the articulation agreement must require each student who is seeking an Associate in Arts degree to indicate a baccalaureate degree program offered by an institution of interest by the time the student earns 30 semester hours. The institution in which the student is enrolled shall inform the student of the prerequisites for the baccalaureate degree program.

D. The articulation agreement must guarantee the state-wide articulation of appropriate workforce development programs and courses between school districts and Florida College System institutions and specifically provide that every applied technology diploma graduate must be granted the same amount of credit upon admission to an Associate in Science degree or Associate in Applied Science degree program unless it is a limited access program. Preference for admission must be given to graduates who are residents of Florida.

E. The articulation agreement must guarantee the statewide articulation of appropriate courses within Associate in Science degree programs to baccalaureate degree programs. Courses within an Associate in Applied Science degree program may articulate into a baccalaureate degree program on an individual or block basis as authorized in local interinstitutional articulation agreements.

F. The articulation agreement must guarantee the articulation of 9 credit hours toward a postsecondary degree in early childhood education for programs approved by the State Board of Education and the Board of Governors which: (a) Award a child development associate credential issued by the National Credentialing Program of the Council for Professional Recognition or award a credential approved under s. 1002.55(3)(c)1.b. or s. 402.305(3)(c) as being equivalent to the child development associate credential; and (b) Include training in emergent literacy which meets or exceeds the minimum standards for training courses for prekindergarten instructors of the Voluntary Prekindergarten Education Program in s. 1002.59.

Independent Colleges and Universities of Florida (ICUF)
There is also an articulation agreement between the Florida College System and the Independent Colleges and Universities of Florida (ICUF). Under the agreement, Florida College System graduates holding an Associate in Arts degree are guaranteed junior standing in any member institution, recognition of their completed general education core and the application of a minimum of 60 earned credit hours toward a baccalaureate degree.

Additional Agreements
In addition, Miami Dade College has developed several unique arrangements with local and out-of-state colleges and universities that make it possible for a student to apply for admission toward a baccalaureate degree. As a general rule, participating institutions will accept associate degree credits and work out a schedule for the additional bachelor’s degree requirements. Miami Dade College also has agreements with universities that facilitate the transfer of MDC baccalaureate graduates to graduate programs. For additional information relating to articulation agreements, contact the Office of School and College Relations or visit http://www.mdc.edu/academics/transfer/articulation.aspx.
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ACADEMIC PROGRAMS

BACCALAUREATE DEGREES

The baccalaureate (or Bachelor’s) degree is an upper-level degree for students who wish to pursue further education. Miami Dade College (MDC) offers the Bachelor of Science (B.S.) and the Bachelor of Applied Science (B.A.S.) in selected areas of study. All MDC baccalaureate programs are approved by the Florida Board of Education (FLDOE) and are accredited by the Commission on Colleges of the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC).

Note: All students must complete the MDC Bachelor's Application at [www.mdc.edu/admissions](http://www.mdc.edu/admissions) and ensure that all admissions requirements are met ([https://sissr.mdc.edu/admission/cchecker.aspx?type=NC-babs=Y](https://sissr.mdc.edu/admission/cchecker.aspx?type=NC-babs=Y)).

General Education Requirement
All areas of General Education must be satisfactorily completed. Students must have an overall GPA of at least 2.0 in their General Education courses. Students must have a “C” or better in each course designated as “Gordon Rule.”

Foreign Language Requirement
In accordance with Florida Administrative Code 6A10.02412 and pursuant to Florida Statute 1007.262, all baccalaureate degree-seeking students admitted to the baccalaureate degree program without meeting the Foreign Language Competence (FLC) must demonstrate competence prior to graduation.

Requirements for the Major
Departments are responsible for disseminating major requirements to students. Each candidate for the baccalaureate degree must complete requirements in their chosen major. The upper division major requirements consist of a minimum of thirty (30) semester hours. Visit [www.mdc.edu/academics/programs/bachelors.aspx](http://www.mdc.edu/academics/programs/bachelors.aspx) for specific requirements.

Dual Degree Versus a Double Major
Students should note that there is a difference between a double major (one degree, with a second major listed) and a dual degree (second baccalaureate degree). A student completing multiple majors that have the same degree (e.g., Bachelor of Science or Bachelor of Applied Science), will receive a single degree. The transcript will list the degree plus each major.

- **Double Major** – To obtain a double major, students must meet all requirements of the school/department of the primary major but only the major requirements of the secondary major.
- **Dual Degree** – Students may receive a second baccalaureate degree provided that:
  1. the requirements for each major/ minor as well as individual college requirements for both the first and
  2. the second degrees are satisfied; and 30 semester hours in residence are completed, in addition to the hours required for the first degree. The additional 30 semester hours must be completed in residence after the completion of the first degree. Hours earned by the student during the completion of the first baccalaureate degree, over and above those extra credit hours actually required for the first degree, may not be included in the 30 semester hours. There are no General Education requirement for the second (dual) degree.

Bachelor of Applied Science (B.A.S.)

**Film, Television & Digital Production**

Bachelor of Applied Science | Code: P9220 | 120 credits

The Bachelor of Applied Science (B.A.S.) in Film, Television and Digital Production is a flexible baccalaureate program intended to accommodate the unique demands for entry and advancement in the media and entertainment sector. The B.A.S. program provides degree advancement opportunities for students with the Associate in Science in Film Production Technology and other Associate in Arts programs. Students learn advanced, practical, and hands-on training necessary in today’s film, television and digital media production workforce. Guided by outstanding faculty and curricula, students further their knowledge in the latest technologies, giving them the experience to successfully achieve their academic goals and professional aspirations. Graduates will be prepared to gain immediate employment with film and/or television production companies as producers, directors, technical directors, production managers, camera operators, cinematographers, writers, researchers, editors and sound engineers, as well as be prepared for graduate school in digital media production.
**Health Science - Physician Assistant Studies Concentration**  
*Bachelor of Applied Science | Code: P9210 | 130 credits*  
The Bachelor of Applied Science with a major in Health Science - Physician Assistant Studies (concentration) is designed to address the critical shortage of healthcare professionals by providing graduates a continuum of technical, supervisory, and management skills necessary to meet workforce needs and labor market projections. Students will be provided with opportunities to develop discipline-specific medical skills and to expand their knowledge by participating in structured clinical experiences under the supervision of Physician Assistants and physicians.

**Public Safety Management - Crime Scene Investigation Concentration**  
*Bachelor of Applied Science | Code: P9106 | 120 credits*  
The four-year Bachelor of Applied Science degree is a workforce-driven baccalaureate degree in Public Safety Management designed to provide education and training, resulting in immediate employment possibilities for students in numerous careers in Public Safety. This comprehensive curriculum emphasizes critical thinking, analytical, written and oral communications, as well as research skills designed to prepare today’s learners for entry-level, mid-management, and upper level supervisory positions within Public Safety agencies such as the FBI, DEA, ICE, U.S. Marshals Service, U.S. Secret Service and others.

**Public Safety Management - Criminal Justice Concentration**  
*Bachelor of Applied Science | Code: P9110 | 120 credits*  
The four-year Bachelor of Applied Science degree is a workforce-driven baccalaureate degree in Public Safety Management designed to provide education and training, resulting in immediate employment possibilities for students in numerous careers in Public Safety. This comprehensive curriculum emphasizes critical thinking, analytical, written and oral communications, as well as research skills designed to prepare today’s learners for entry-level, mid-management, and upper level supervisory positions within Public Safety agencies such as the FBI, DEA, ICE, U.S. Marshals Service, U.S. Secret Service and others.

**Public Safety Management - Emergency Management Concentration**  
*Bachelor of Applied Science | Code: P9105 | 120 credits*  
The four-year Bachelor of Applied Science degree is a workforce-driven baccalaureate degree in Public Safety Management designed to provide education and training, resulting in immediate employment possibilities for students in numerous careers in Public Safety. This comprehensive curriculum emphasizes critical thinking, analytical, written and oral communications, as well as research skills designed to prepare today’s learners for entry-level, mid-management, and upper level supervisory positions within Public Safety agencies such as the FBI, DEA, ICE, U.S. Marshals Service, U.S. Secret Service and others.

**Supervision and Management**  
*Bachelor of Applied Science | Code: P9200 | 120 credits*  
The Bachelor of Applied Science (BAS) degree in Supervision and Management prepares associate degree graduates from a variety of disciplines for work as a supervisor or manager. The programs prepares students with the hands-on training necessary to meet the workforce demands of today and tomorrow while providing the skills needed to compete for advancement.

**Supervision and Management - Accounting Concentration**  
*Bachelor of Applied Science | Code: P9203 | 120 credits*  
The Bachelor of Applied Science (BAS) degree in Supervision and Management prepares students to meet the needs of a dynamic and global business environment with the abilities and skills to succeed as a manager or supervisor. In addition, students may complete the general degree or one of three concentrations in Accounting, Hospitality Management, or Human Resource Management.

**Supervision and Management - Hospitality Management Concentration**  
*Bachelor of Applied Science | Code: P9201 | 120 credits*  
The Bachelor of Applied Science (BAS) degree in Supervision and Management prepares students to meet the needs of a dynamic and global business environment with the abilities and skills to succeed as a manager or supervisor. In addition, students may complete the general degree or one of three concentrations in Accounting, Hospitality Management, or Human Resource Management.

**Supervision and Management - Human Resource Management Concentration**  
*Bachelor of Applied Science | Code: P9202 | 120 credits*  
The Bachelor of Applied Science (BAS) degree in Supervision and Management prepares students to meet the needs of a dynamic and global business environment with the abilities and skills to succeed as a manager or supervisor. In addition, students may complete the general degree or one of two concentrations in Hospitality Management or Human Resource Management.

**Supply Chain Management**  
*Bachelor of Applied Science | Code: P9300 | 120 credits*  
Supply chain management is an interdisciplinary field that emphasizes cross-functional integration of diverse business functions, facilities, and activities and seeks to manage those activities to enhance a company’s competitive advantage. The Bachelor of Applied Science with a major in Supply Chain Management (BAS-SCM) is designed to provide knowledge of the supply chain while exploring the risks, operations, logistics, economics, regulatory issues, change management, forecasting, resource allocation, production planning, inventory management, customer delivery, after-sales support and service and other functions basic to business.
Concentration

Concentration

Concentration

communicate discoveries using sophisticated visualization tech -

cross-disciplinary curriculum, students will learn to clean, organize,

electives in science and general education to complete their degree

requirements.

electives in science and general education to complete their degree

requirements.

electives in science and general education to complete their degree

requirements.

Bachelor of Science (B.S.)

**Biological Sciences - Biopharmaceutical Sciences Concentration**

Bachelor of Science | Code: S5201 | 120 credits

The Bachelor of Science (B.S.) in Biological Sciences is designed to provide students with a broad foundation in biology. Miami Dade College students will explore structure, function, genetics, and evolution of cells and organisms, while being provided the hands-on skills necessary to obtain jobs in the Biological/Life Science fields. Students take the core courses in biology, chemistry, physics and mathematics, and must meet the same General Education Requirements of all students seeking an AA degree. Students may choose from a variety of electives in science and general education to complete their degree requirements.

**Biological Sciences - Biotechnology Concentration**

Bachelor of Science | Code: S5200 | 120 credits

The Bachelor of Science (B.S.) in Biological Sciences is designed to provide students with a broad foundation in biology. Miami Dade College students will explore structure, function, genetics, and evolution of cells and organisms, while being provided the hands-on skills necessary to obtain jobs in the Biological/Life Science fields. Students take the core courses in biology, chemistry, physics and mathematics, and must meet the same General Education Requirements of all students seeking an AA degree. Students may choose from a variety of electives in science and general education to complete their degree requirements.

**Biological Sciences - Science Education Concentration**

Bachelor of Science | Code: S5202 | 120 credits

The Bachelor of Science (B.S.) in Biological Sciences is designed to provide students with a broad foundation in biology. Miami Dade College students will explore structure, function, genetics, and evolution of cells and organisms, while being provided the hands-on skills necessary to obtain jobs in the Biological/Life Science fields. Students take the core courses in biology, chemistry, physics and mathematics, and must meet the same General Education Requirements of all students seeking an AA degree. Students may choose from a variety of electives in science and general education to complete their degree requirements.

**Data Analytics**

Bachelor of Science | Code: S5510 | 120 credits

The Bachelor of Science (BS) in Data Analytics program is designed to train and supply a workforce of skilled graduates in data manipulation and analysis across a spectrum of industries. Through the cross-disciplinary curriculum, students will learn to clean, organize, analyze, and interpret unstructured data, to derive knowledge and communicate discoveries using sophisticated visualization techniques. Students will demonstrate competence with fundamental algorithmic approaches to analyzing large data sets.

**Early Childhood Education**

Bachelor of Science | Code: S5400 | 120 credits

Upon completion of the Bachelor of Science Degree with a major in Early Childhood Education program, the student will be eligible to obtain a Florida Educator Certification in Pre-school (Birth to Age 4) and Pre-Kindergarten/ Primary (Age 3 to Grade 3) with endorsements in English for Speakers of Other Languages (ESOL), Reading, and Pre-Kindergarten Disabilities.

**Electrical and Computer Engineering Technology**

Bachelor of Science | Code: S5100 | 134 credits

The Bachelor of Science in Electrical and Computer Engineering Technology degree opens the door to a variety of engineering technology-related disciplines. The degree offers students practical, hands-on experience in engineering-related project management, teamwork and technical writing. The program prepares students for entry level engineering positions such as Electronics Engineers, Electrical Engineers, Computer Engineers, Project Engineers, Electronics Manufacturing Engineers, Quality Control Engineers, Field Engineers, and Sales Engineers.

**Exceptional Student Education (K-12)**

Bachelor of Science | Code: S4301 | 120 credits

The four-year baccalaureate degrees in Education are designed to prepare students to become teachers and pass state professional certification exams. An internship in a school setting is required to provide practical experience. The completer will earn a professional teaching certificate in Exceptional Student Education with endorsements in ESOL and Reading.

**Information Systems Technology - Applications Development Concentration**

Bachelor of Science | Code: S5501 | 120 credits

The Bachelor of Science (BS) in Information Systems Technology (IST) degree provides skills and knowledge essential to effectively support the design, planning and management of information infrastructures and information resources within diverse organizational settings. The Application Development concentration focuses on designing and creating software. Students learn how to specify software requirements from clients and how to design, implement and validate software solutions for real-world problems.

**Information Systems Technology - Cybersecurity Concentration**

Bachelor of Science | Code: S5502 | 120 credits

The Bachelor of Science (BS) in Information Systems Technology (IST) degree provides skills and knowledge essential to effectively support the design, planning and management of information infrastructures and information resources within diverse organizational settings. The Cybersecurity concentration focuses on the threats
faced by information systems. Students learn how to identify threats against an organization’s digital assets, as well as the tools and methods to mitigate those threats. Upon completion of the program, the student will have learned to collect and analyze evidence from Windows and Linux computer systems and to footprint, scan, and enumerate networks.

**Information Systems Technology - Networking Concentration**
Bachelor of Science | Code: S5500 | 120 credits

The Bachelor of Science (BS) in Information Systems Technology (IST) degree provides skills and knowledge essential to effectively support the design, planning and management of information infrastructures and information resources within diverse organizational settings. The Networking Concentration focuses on how to plan, design, implement and maintain network infrastructures. Students will learn how to select the technologies that best suit the client’s needs. Students will also learn how to install, maintain, and extend multi-user computer systems and how to develop administrative policies and procedures.

**Secondary Mathematics Education**
Bachelor of Science | Code: S4201 | 120 credits

The four-year baccalaureate degrees in Education are designed to prepare students to become teachers and pass state professional certification exams. An internship in a school setting is required to provide practical experience. The completer will earn a professional teaching certificate in Mathematics Education (gr.6-12).

**Secondary Science Education - Physics**
Bachelor of Science | Code: S4107 | 120 credits

The four-year baccalaureate degrees in Education are designed to prepare students to become teachers and pass state professional certification exams. An internship in a school setting is required to provide practical experience. The completer will earn a professional teaching certificate in Physics Education (gr.6-12).

**Secondary Science Education - Biology**
Bachelor of Science | Code: S4104 | 120 credits

The four-year baccalaureate degrees in Education are designed to prepare students to become teachers and pass state professional certification exams. An internship in a school setting is required to provide practical experience. The completer will earn a professional teaching certificate in Biology Education (gr.6-12).

**Secondary Science Education - Chemistry**
Bachelor of Science | Code: S4105 | 120 credits

The four-year baccalaureate degrees in Education are designed to prepare students to become teachers and pass state professional certification exams. An internship in a school setting is required to provide practical experience. The completer will earn a professional teaching certificate in Chemistry Education (gr.6-12).

**Secondary Science Education - Earth & Space Sciences**
Bachelor of Science | Code: S4106 | 120 credits

The four-year baccalaureate degrees in Education are designed to prepare students to become teachers and pass state professional certification exams. An internship in a school setting is required to provide practical experience. The completer will earn a professional teaching certificate in Earth and Space Science Education (gr.6-12).

**Certificate of Professional Preparation (CPP)**

**Educator Preparation Institute Certificate of Professional Preparation | Code: 69000 | 21 credits**

The Educator Preparation Institute (EPI) is a state approved competency-based alternative certification program for individuals who have a bachelor’s degree or higher in a discipline other than education and are currently teaching on a Temporary Teaching Certificate or who wish to enter the teaching profession. It focuses on the skills and competencies identified by the state as necessary for a high quality teacher to possess. Emphasis is placed on the Sunshine State Standards, teaching methods and strategies, the integration of technology into instructional practice, literacy development, assessment techniques and integration of technology into instructional practice, literacy development, assessment techniques and analysis of data, classroom management and school safety. At the completion of these modules the student will have successfully demonstrated the Florida Educator Accomplished Practices and have provided documentation of mastery in a comprehensive professional portfolio.

**Instructional Design and Technology Certificate of Professional Preparation | Code: CPP03 | 15 credits**

This program is designed to provide baccalaureate-prepared students with the knowledge and skills necessary to work as instructional designers and technologists. Instructional designers and technologists may plan and conduct training for teachers related to teaching methods or the use of technology. Instructional designers and technologists oversee school curriculums and teaching standards. They develop instructional material, coordinate its implementation with teachers and principals, and assess its effectiveness.
**Reading Endorsement**  
Certificate of Professional Preparation | Code: CPP02 | 15 credits  
The Reading Endorsement is a Certificate of Professional Preparation that adds licensure to professionally certified teachers so that they can teach reading. This program meets the specifications in State Board Rule 6A-4.0292 for the Reading Endorsement.  

**ASSOCIATE IN ARTS DEGREE (AA)**  

Miami Dade College offers courses for a wide range of pathways in the Associate in Arts (AA) degree. The AA prepares students to enter the junior year at four-year upper-division colleges and universities.  

Four-year institutions vary in the required number and nature of courses a student needs to take during the freshman and sophomore years. The State Common lower level course prerequisites have been identified for all baccalaureate majors. Students should see an advisor for additional information.  

Students who have determined which profession or major they plan to pursue should become familiar with the requirements of the upper-division institutions. With the help of advisors and through using the degree audit, students may choose electives best suited for pursuit of a baccalaureate degree.  

Students must be high school graduates or have a high school equivalency diploma (GED) to enroll in Associate in Arts courses.  

Each pathway is comprised of courses specified by one or more of the universities in the SUS or by local private institutions. The first two years of these transfer programs contain specialized courses as prescribed by the respective university (refer to FLVC.org for the Common Prerequisite Manual information). All general education requirements are included. Students should be aware that credits earned in excess of the 60 credits required for graduation might not be accepted for transfer by the upper-division university. Note: The AA does not prepare students to be eligible to take certification/licensure exams or to practice in the health care professions. Students may be awarded the AA degree only once, and students who have already earned a baccalaureate degree cannot be awarded an AA.  

STUDENTS SHOULD CHECK THEIR INDIVIDUALIZED DEGREE AUDIT REPORT TO DETERMINE THE SPECIFIC GRADUATION POLICIES IN EFFECT. REQUIREMENTS MAY CHANGE BASED ON THE YEAR AND TERM A STUDENT ENTERS MIAMI DADE COLLEGE. THE DEGREE AUDIT REPORT INCLUDES CURRENT GRADUATION REQUIREMENTS. THE FINAL RESPONSIBILITY FOR MEETING GRADUATION REQUIREMENTS STATED IN THE DEGREE AUDIT REPORT RESTS WITH THE STUDENT.  

**Accounting**  
Associate in Arts | Code: 10504 | 60 credits  
This program offers fundamental instruction in accounting and related subjects (such as economics or business). Students who wish to become an accountant may transfer to senior colleges or universities that offer baccalaureate degrees in accounting. Accountants work in a variety of settings such as corporations, small businesses, financial institutions and government agencies.  

**Agriculture**  
Associate in Arts | Code: 10100 | 60 credits  
Agriculture is the art, science and industry of managing the growth of plants and animals for human use. Study at MDC emphasizes a strong foundation in the sciences of biology (including botany), chemistry and/or physics. The range of careers in agriculture extends from rural farming to urban landscaping, with numerous specializations in areas such as hydroponics, agricultural engineering, animal husbandry, food packing and processing and soil chemistry.  

**Anthropology**  
Associate in Arts | Code: 12200 | 60 credits  
Anthropology studies all aspects of human life by evaluating society, evolution and culture. Course offerings prepare the student in the four fields of the discipline: cultural anthropology, physical anthropology, anthropological linguistics and archaeology. Most anthropologists are researchers who work in museums or educational institutions. Students majoring in anthropology should plan to obtain the Ph.D. degree to fully succeed in the field.  

**Architecture**  
Associate in Arts | Code: 10200 | 60 credits  
This program provides a foundation in areas such as architectural drawing, design and structure, as well as necessary courses in mathematics. Students may transfer to one of three universities in Florida that have accredited programs in architecture. An architect designs and oversees the construction or remodeling of buildings, working with engineers and contractors toward a prescribed goal.  

**Area & Ethnic Studies**  
Associate in Arts | Code: 10304 | 60 credits  
The undergraduate major in area and ethnic studies is a flexible, interdisciplinary program that emphasizes the history, politics and literature of various groups. Students can concentrate in a specific area such as African-American/Black studies, American studies, Asian Studies, Jewish studies, Latin American studies, or Women’s studies. These studies could lead to careers in sociology, political science, or academic work in areas such as comparative literature or history.
Art or Art Education
Associate in Arts | Code: 11000 | 60 credits
This program offers hands-on instruction in medias such as ceramics, jewelry making and metalsmithing, painting, photography, print making and sculpture. Additionally, the curriculum includes design, art history and education classes, so that students may work as artists or art teachers.

Atmospheric Science & Meteorology
Associate in Arts | Code: 11903 | 60 credits
To transfer to a four-year program in atmospheric science and meteorology, students must take science and math courses as well as introductory courses in meteorology. Job opportunities may include weather forecasting in aviation, marine or shipping companies, government agencies, and broadcasting or transportation industries. Additionally, meteorologists may work with other scientists researching phenomena such as volcanoes, hurricanes and global warming.

Biology
Associate in Arts | Code: 10400 | 60 credits
Biology, or life science, is the study of all aspects of living organisms, emphasizing the relationship of animals and plants to their environment. This program provides the first two years of a four-year curriculum for students planning to major in biology, botany, zoology, marine biology, ecological studies or microbiology. Biology majors may also enter professional schools in medicine, dentistry, veterinary medicine, optometry or podiatry.

Biotechnology
Associate in Arts | Code: 12207 | 60 credits
Biotechnology is the practice of using living organisms to make products or improve processes. It combines elements of biology, chemistry, engineering, and computing. This program provides the first two years of a four-year curriculum for students planning to major in biotechnology, biology, chemistry, or bioinformatics. Majors may also enter professional schools in related disciplines.

Building Construction
Associate in Arts | Code: 10907 | 60 credits
This program is for students primarily interested in the construction of buildings rather than their architectural design. Coursework includes math and science subjects as well as courses in business and construction. A four-year degree in this program will prepare students to enter the building construction industry at the management level.

Business Administration
Associate in Arts | Code: 10503 | 60 credits
Business Administration includes courses in accounting, business law and finance, as well as more generalized courses in mathematics. Students may transfer to senior colleges or universities that offer baccalaureate degrees in business administration. Ultimately, graduates may work in the fields of banking, finance, marketing, information systems or real estate.

Chemistry
Associate in Arts | Code: 11901 | 60 credits
Chemistry is the science that investigates the composition, properties and change of properties of elementary forms of matter. In addition to coursework in chemistry, the A.A. is a science and math-intensive program that includes courses in botany, biology, physics, geometry and calculus. Chemists may work as researchers, analysts, or quality control specialists in companies that manufacture anything from pharmaceuticals to food products. Additionally, students may pursue careers in medicine, environmental science, chemical engineering or many other fields.

Computer Arts Animation
Associate in Arts | Code: 11005 | 60 credits
This program enables students develop creative and artistic skills in conjunction with advanced computer skills. Studies include basic drawing and figure drawing, use of computer animation software and general education, well as evaluation of trends and standards in the animation industry for television and film.

Computer Information Systems
Associate in Arts | Code: 10702 | 60 credits
CIS focuses on the structure, management and control of information resources on computers. Coursework includes business and math classes, as well as courses in information systems and programming languages. Students transfer to four-year institutions and major in computer information systems, computer and information sciences, information sciences, or management information systems. Degrees lead to careers in systems analysis, computer application programming, database management, network services and IT support.

Computer Science
Associate in Arts | Code: 10703 | 60 credits
As the name suggests, Computer Science is a more science-intensive program than CIS. In addition to courses in programming and applications, the program provides a thorough grounding in mathematics, biology, chemistry and physics. Computer scientists design technical programs, do research, create new technologies, develop operating systems, code device drivers, write specialized programming languages and implement complex applications in a variety of settings. Computer Science requires skills in mathematics and physics. Students must complete Calculus II and Physics with Calculus II before entering their junior year.

Criminal Justice Administration
Associate in Arts | Code: 12204 | 60 credits
In addition to coursework focusing on criminal justice and law, this program includes classes in history, sociology and political science. Thus, pre-law students will find this program suitable, as well as those seeking Bachelor’s degrees in criminal justice. This program may lead to careers in law enforcement, corrections (including probation and parole), and security in private businesses or government.
Dance
Associate in Arts | Code: 11003 | 60 credits
Studio classes feature modern dance and ballet, and the program also includes theoretical courses. This curriculum meets the pre-professional and general education course requirements for transfer, but students should meet with an advisor to discuss the specific requirements of the four-year institution they plan to attend. Often, departments in four-year institutions will require an audition. This program is designed to prepare students pursuing careers in choreography or the performance of ballet and jazz or contemporary forms of dance. The program is also suited for students wishing to become teachers of dance.

Dietetics
Associate in Arts | Code: 11305 | 60 credits
This program provides the science education needed to transfer to a four-year program in dietetics. Chemistry, biology, anatomy and physiology are emphasized in this program. Dieticians and nutrition specialists may work as meal planners in institutions such as schools and hospitals, in the food products or health and fitness industry, or in a range of health and medical professions.

Drama or Drama Education
Associate in Arts | Code: 11002 | 60 credits
This is a comprehensive program in all aspects of theatrical production, including lighting, costuming, make-up and other aspects of stagecraft. Students participate in stage productions which are presented to the public throughout the academic year. While this program does provide the necessary coursework to transfer to a four-year institution, some departments in four-year colleges and universities will require an audition or portfolio, depending on the student’s intended area of study. Careers in drama include education, theatrical production, casting, acting and a wide variety of stagecraft.

Economics
Associate in Arts | Code: 12201 | 60 credits
Economics is the study of how people produce, trade and consumer goods and services. The A.A. program emphasizes fundamental coursework in business and mathematics. While many students choose to obtain graduate degrees, economists with Bachelor’s degrees can work in fields such as business economics and forecasting, urban real estate and regional planning, analysis of markets and industrial regulation, management consulting and in banking and financial services.

Engineering - Architectural
Associate in Arts | Code: 10905 | 60 credits
Miami Dade College offers ten Engineering A.A. programs: architectural, chemical, civil, computer, electrical, industrial, mechanical, ocean, science, and surveying and mapping. Each has its own curriculum to best prepare students for transfer to a four-year institution. Interdisciplinary fields can include the study of biomechanics, kinesiology, nutrition and related areas.

Engineering - Biomedical
Associate in Arts | Code: 10904 | 60 credits
Miami Dade College offers ten Engineering A.A. programs: architectural, biomedical chemical, civil, computer, electrical, industrial, mechanical, ocean, science, and surveying and mapping. Each has its own curriculum to best prepare students for transfer to a four-year institution. Interdisciplinary fields can include the study of biomechanics, kinesiology, nutrition and related areas.

Engineering - Chemical
Associate in Arts | Code: 10906 | 60 credits
Miami Dade College offers ten Engineering A.A. programs: architectural, chemical, civil, computer, electrical, industrial, mechanical, ocean, science, and surveying and mapping. Each has its own curriculum to best prepare students for transfer to a four-year institution. Interdisciplinary fields can include the study of biomechanics, kinesiology, nutrition and related areas.

Engineering - Civil
Associate in Arts | Code: 10908 | 60 credits
Miami Dade College offers ten Engineering A.A. programs: architectural, chemical, civil, computer, electrical, industrial, mechanical, ocean, science, and surveying and mapping. Each has its own curriculum to best prepare students for transfer to a four-year institution. Interdisciplinary fields can include the study of biomechanics, kinesiology, nutrition and related areas.

Engineering - Computer
Associate in Arts | Code: 10705 | 60 credits
Miami Dade College offers ten Engineering A.A. programs: architectural, chemical, civil, computer, electrical, industrial, mechanical, ocean, science, and surveying and mapping. Each has its own curriculum to best prepare students for transfer to a four-year institution. Interdisciplinary fields can include the study of biomechanics, kinesiology, nutrition and related areas.

Engineering - Electrical
Associate in Arts | Code: 10910 | 60 credits
Miami Dade College offers ten Engineering A.A. programs: architectural, chemical, civil, computer, electrical, industrial, mechanical, ocean, science, and surveying and mapping. Each has its own curriculum to best prepare students for transfer to a four-year institution. Interdisciplinary fields can include the study of biomechanics, kinesiology, nutrition and related areas.

Engineering - Geomatics (Surveying and Mapping)
Associate in Arts | Code: 10909 | 60 credits
Miami Dade College offers ten Engineering A.A. programs: architectural, chemical, civil, computer, electrical, industrial, mechanical, ocean, science, and surveying and mapping. Each has its own curriculum to best prepare students for transfer to a four-year institution. Interdisciplinary fields can include the study of biomechanics, kinesiology, nutrition and related areas.
Engineering - Industrial  
Associate in Arts | Code: 10912 | 60 credits

Miami Dade College offers ten Engineering A.A. programs: architectural, chemical, civil, computer, electrical, industrial, mechanical, ocean, science, and surveying and mapping. Each has its own curriculum to best prepare students for transfer to a four-year institution. Interdisciplinary fields can include the study of biomechanics, kinesiology, nutrition and related areas.

Engineering - Mechanical  
Associate in Arts | Code: 10911 | 60 credits

Miami Dade College offers ten Engineering A.A. programs: architectural, chemical, civil, computer, electrical, industrial, mechanical, ocean, science, and surveying and mapping. Each has its own curriculum to best prepare students for transfer to a four-year institution. Interdisciplinary fields can include the study of biomechanics, kinesiology, nutrition and related areas.

Engineering - Ocean  
Associate in Arts | Code: 10913 | 60 credits

Miami Dade College offers ten Engineering A.A. programs: architectural, chemical, civil, computer, electrical, industrial, mechanical, ocean, science, and surveying and mapping. Each has its own curriculum to best prepare students for transfer to a four-year institution. Interdisciplinary fields can include the study of biomechanics, kinesiology, nutrition and related areas.

English/Literature & English Education  
Associate in Arts | Code: 11500 | 60 credits

English/Literature is the study of great written works and how they were shaped by historical and cultural events. This program also includes education courses to prepare students for careers as teachers. However, students who graduate with a Bachelor’s degree in English are equipped to work in publishing, and may be qualified to work as a writer in virtually any field.

Environmental Sciences  
Associate in Arts | Code: 10203 | 60 credits

Environmental Science examines environmental issues from both ecological and sociological standpoints. Thus, it is an interdisciplinary major which combines life sciences, social sciences and the humanities. Students at MDC take mostly science and mathematics courses to prepare for transfer into a baccalaureate program. This field is projected to grow in the 21st century, as the need for environmental researchers, analysts, engineers and journalists will grow.

Exercise Science  
Associate in Arts | Code: 12103 | 60 credits

Exercise Science studies the relationship of physical exercise to human health and disease prevention. This program at MDC prepares students for transfer with coursework in human anatomy and physiology, nutrition, health and exercise. Exercise science is a growing field with professionals working in diverse settings, such as hospitals and health clubs, research facilities and sports teams. Specialists also work in corporate, industrial and educational environments.

Foreign Language  
Associate in Arts | Code: 10301 | 60 credits

Foreign language programs train students to achieve reading, writing and verbal fluency in one or more foreign languages. The demand for interpreters, translators and language instructors is projected to grow in the 21st century, and graduates with Bachelor’s degrees can work almost anywhere in the world for corporations, businesses, governments, nonprofit agencies or schools.

Forestry  
Associate in Arts | Code: 10101 | 60 credits

Forestry studies the ecology and economy of forest management. Students should be aware that the University of Florida is the only in-state university offering this program, with majors in forest resources, and conservation and urban forestry. Foresters manage, develop, and protect woodlands and their resources (timber, water, wildlife, forage and recreational areas).

Geology  
Associate in Arts | Code: 11904 | 60 credits

Geologists study the structure, composition and history of the Earth. This program provides basic coursework in geology, calculus, biology and chemistry. Some examples of employers of geologists include agencies targeting pollution or urban waste, corporations searching for new sources of petroleum or natural gas and research organizations studying volcanoes or earthquakes.

Graphic or Commercial Arts  
Associate in Arts | Code: 11004 | 60 credits

Graphic Arts emphasizes studio courses in design, drawing and digital techniques. Graduates may work in advertising agencies, design studios, exhibit and display businesses, department stores and industrial organizations.

Health Services Administration  
Associate in Arts | Code: 11200 | 60 credits

This program provides the fundamental science coursework for transfer to a baccalaureate program in health services administration. The Baccalaureate degree prepares students for entry-level management positions in health services delivery organizations. Persons licensed in clinical health often pursue this degree, as do medical care professionals who do not have an undergraduate degree. The Baccalaureate also prepares individuals for graduate study in this field.

History  
Associate in Arts | Code: 12202 | 60 credits

History is the study of the events, patterns and cycles that have shaped our present world. Depending on the area of specialization, history may examine political events, social evolution, cultural devel-
ments or a combination of these. The two-year program at MDC prepares students for transfer with courses in American, African-American and Latin American history, and surveys of American, English and world literature. Professional historians (e.g. museum curators and educators) tend to pursue the Doctoral degree, but the Bachelor’s degree in history can prepare students for graduate work in law or political science, and apply to careers requiring good writing or analytical skills.

**Hospitality Administration/Travel & Tourism**
*Associate in Arts | Code: 10506 | 60 credits*

This field combines traditional business and management education with training specific to the tourism, travel and hospitality industries. Careers in the hospitality/travel and tourism industry include hotel and restaurant management, and managerial positions with cruise ships, airlines, land-based tourism companies, as well as travel agencies.

**Interior Design**
*Associate in Arts | Code: 10201 | 60 credits*

Interior Design studies combine architecture, art and design courses, training the student to understand the relation of interior spaces to the total design of structures (including architecture, landscaping and lighting). An interior designer encounters a variety of challenging work, available in professional, institutional and private settings.

**International Relations**
*Associate in Arts | Code: 12205 | 60 credits*

Students can obtain the coursework necessary to transfer to four-year programs in international relations, a major which usually includes political science and economics courses. Employment opportunities are available at the baccalaureate level in business, government, journalism and political organizations. Many students, however, go on to pursue graduate work or law school.

**Landscape Architecture**
*Associate in Arts | Code: 10202 | 60 credits*

The A.A. in Landscape Architecture prepares students for transfer by offering courses in architecture, horticulture and botany. Landscape architects plan the arrangement of outdoor areas for public use and enjoyment, making recommendations for the types and location of plantings, circulation, drainage and other harmonizing improvements with existing land features and architectural structures. The University of Florida offers the only in-state program in landscape architecture.

**Mass Communications/Journalism**
*Associate in Arts | Code: 10600 | 60 credits*

Mass Communication examines the role of media in society. Coursework includes media criticism and analysis, U.S. history and government, sociology, and a study of the broadcast, cable and Internet industries. Depending upon the student’s area of interest, study may also include journalism, and television and radio production. A Bachelor’s in mass communication equips one to work in journalism, corporate communication, or in certain business or managerial positions in television or radio.

**Mathematics**
*Associate in Arts | Code: 11700 | 60 credits*

The Mathematics A.A. emphasizes math and science training, and includes coursework in computer programming. Mathematics is both a science and a tool essential for many kinds of work in industry and business. As a result, employment opportunities for graduates trained in mathematics have expanded rapidly in industries such as aviation and communications, sciences such as oceanography and meteorology, and government agencies such as the U.S. Census Bureau.

**Music or Music Education**
*Associate in Arts | Code: 11001 | 60 credits*

Music or Music Education students must be proficient in music theory and music history as well as be a skilled performer. Careers in music include individual and group performance, conducting, composing and teaching. Music graduates may also have jobs working in ancillary professions such as retail, publishing and recording.

**Philosophy**
*Associate in Arts | Code: 11502 | 60 credits*

Philosophy investigates the fundamental principles of being, knowledge or conduct. There are numerous systems of philosophical discourse and the two-year program introduces students to many of these. Unless a student wishes to earn a Doctorate and teach at the college level, a Bachelor’s degree in philosophy is generally useful only in indirect ways. It can prepare students for graduate work in other fields such as law or theology, and the study of philosophy usually sharpens a student’s analytic skills.

**Physical Education Teaching & Coaching**
*Associate in Arts | Code: 10817 | 60 credits*

This program is designed for students interested in pursuing careers in physical education at the pre-school, elementary, secondary, college or community program level. This curriculum meets the pre-professional and “General Education” course requirements for transfer, but due to variations in prerequisites, students should confer with a departmental advisor. Employment opportunities include teaching, coaching, sports communications, sports psychology, sports history, sports sociology and sports medicine. Target populations include the able-bodied, physically limited and aged, and the environments include educational, governmental, public and/or private settings.

**Physics**
*Associate in Arts | Code: 11900 | 60 credits*

Physics is the study of the motion and force of energy and matter. This science is applied to different kinds of energy and matter, as in thermodynamics, astrophysics, nuclear physics and wave motion analysis. The A.A. coursework provides a fundamental education.
ACADEMIC PROGRAMS

in mathematics and science topics so that students may transfer to pursue their area of interest. Careers in research are available both in government agencies and private industries, as well as in educational institutions, though in most cases graduate degrees are required.

**Political Science**  
*Associate in Arts | Code: 12206 | 60 credits*  
Political science examines the role and effects of government actions on society. The A.A. program prepares students for transfer with coursework in history, literature, economics and government. Political scientists may work in various government jobs, or may work as lobbyists, researchers, political analysts or journalists. In addition to graduate work in the field, a Bachelor's degree in political science also prepares students for law school.

**Pre-Bachelor of Arts**  
*Associate in Arts | Code: 14902 | 60 credits*  
The Pre-Bachelor of Arts program at MDC is designed for students who seek a general degree program and greater freedom to explore intellectual fields of their particular interest. This program challenges students to assume major responsibility for the direction of their own education. The program also provides a broader range of educational opportunities than in specialized programs. At the upper division, a major theme or area of concentration is usually required.

**Pre-Law**  
*Associate in Arts | Code: 11400 | 60 credits*  
Although no specific area of study is mandatory for the Pre-Law major, the MDC program offers courses in criminal justice, government, history and business to best prepare a student for future coursework. Students should work with an advisor to determine the best four-year degree to pursue.

**Pre-Medical Science/Dentistry**  
*Associate in Arts | Code: 11211 | 60 credits*  
This program is designed to meet the first two years of required courses for students planning careers in medicine and dentistry. Pre-medical education should include a foundation in chemistry, biology, mathematics, and physics, as well as a broad education in the humanities and social sciences. This program enables the student to transfer to colleges or universities that offer a Baccalaureate degree in physician assistant (PA), or other pre-medical degrees such as biology. Admission to a professional school is dependent upon academic record, and have widely differing pre-professional course requirements. Therefore, students are advised to check with the Nursing Department of the senior institution they wish to attend. Most upper-division programs also offer a track for registered nurses (RNs) completing an Associate in Science degree to earn a BSN degree.

**Pre-Optometry**  
*Associate in Arts | Code: 11205 | 60 credits*  
This program provides the fundamental science coursework necessary to transfer to a four-year institution, where students can obtain a degree in an appropriate field, such as biology. To be an optometrist, one must earn the Doctor of Optometry professional degree. A Bachelor’s degree with a strong science background is required for admission. Graduates must pass a state licensure exam in order to practice. Optometrists prescribe glasses, contact lenses and visual therapy, and offer non-surgical treatment of eye diseases and the rehabilitation of patients with visual disabilities.

**Pre-Pharmacy**  
*Associate in Arts | Code: 11206 | 60 credits*  
The Pre-Pharmacy program provides the math and science education needed to transfer to a baccalaureate program. Career opportunities in pharmacy include positions in a hospital or institutional pharmacy, in industry or manufacturing, in a retail or clinical pharmacy, in gov-
that offers a veterinary program.

Pre-Physical Therapy
Associate in Arts | Code: 11207 | 60 credits
The A.A. degree does not prepare students to be eligible to take certification/licensure exams or to practice in the Physical Therapy profession. This program prepares students for transfer by providing intensive coursework in mathematics and science. Most upper-division programs have selective admissions and transfer requirements vary, so students should work with an advisor in planning a program of study. Physical therapists (PTs) are movement experts who improve quality of life through prescribed exercise, hands-on care, and patient education. After making a diagnosis, physical therapists create personalized treatment plans that help their patients improve mobility, manage pain and other chronic conditions, recover from injury, and prevent future injury and chronic disease. (www.APTA.org). They work in healthcare settings such as hospitals, home care, nursing homes, and outpatient facilities.

Pre-Veterinary Medicine
Associate in Arts | Code: 11208 | 60 credits
Veterinary medicine is the study of the diagnosis, treatment and control of disease and injuries among animals. Veterinarians may specialize in the health and breeding of certain animals, performing surgery, prescribing and administering drugs and vaccines, and research. Veterinarians may also concentrate on the inspection of meat, poultry and other foods as part of federal and state public health programs. The University of Florida is the only state school that offers a veterinary program.

Psychology
Associate in Arts | Code: 12001 | 60 credits
Psychology is the science of human behavior and mental processes that affect mental and physical health. A.A. coursework covers the science and mathematics subjects needed to transfer to a four-year institution. While the Bachelor’s degree in psychology could be useful in a number of careers, professional psychologists must continue to graduate study. Employment opportunities with a Doctorate or a Masters’ degree include teaching or counseling in a wide variety of settings.

Public Administration
Associate in Arts | Code: 12100 | 60 credits
This is an interdisciplinary program gearing the combined study of business, government and economics toward a career in the public sector. Although some students pursue graduate degrees, those with Bachelor’s degrees may obtain work managing budgets, or developing programs and policies in government, education and nonprofit settings.

Recreation
Associate in Arts | Code: 12101 | 60 credits
To prepare for upper-division work in recreation, students take courses in accounting, economics, and human anatomy and physiology, and health sciences. This curriculum meets the pre-professional and general education course requirements for transfer, but due to variations in upper-division requirements, students should confer with an advisor. Recreation professionals often work in youth agencies, but may also develop careers in industries such as healthcare, fitness, and travel and tourism.

Religion
Associate in Arts | Code: 11503 | 60 credits
Religion majors may compare religions of the world, study the inherent values of various religions, examine the impact of religion on culture and society and explore one religious system in depth. The two-year curriculum offers basic coursework in world and western religions, as well as an array of history courses. Students who obtain the Bachelor's degree may pursue graduate theological studies or a ministerial career or they may seek work immediately in a religious organization.

Social Work
Associate in Arts | Code: 12102 | 60 credits
This program prepares students for upper-division education in social work by offering courses in science and sociology. Social workers provide the link between organized social services and individuals and families unable to provide for themselves or needing assistance in problem solving. Potential employers include hospitals, mental health centers, rehabilitation centers, government agencies, schools and correctional institutions.

Sociology
Associate in Arts | Code: 12203 | 60 credits
Sociology is the systematic study of human interaction, that is, society, social relationships, social structures and social change. Coursework emphasizes liberal arts topics such as literature, cultural anthropology, theatre appreciation and history, as well as introductory courses in sociology. Graduates with a Bachelor’s degree can work within community organizations, government agencies and the criminal justice field. Many students go on to pursue graduate degrees and work in social policy, public administration, law, government or social services.

Speech Pathology & Audiology
Associate in Arts | Code: 11501 | 60 credits
This program provides fundamental coursework in biology and communications so that students may transfer to a four-year institution. The curriculum leading to the Baccalaureate degree is usually designed as pre-professional education for a graduate program. Speech language pathologists and audiologists provide clinical services to individuals with speech, language and hearing impairments. Eligibility for the Certificate of Clinical Competence from the American Speech-Language-Hearing Association and state licensure are not possible until requirements for the graduate degree are met.

Teaching (Elementary)
Associate in Arts | Code: 10802 | 60 credits
This program prepares students to major in elementary education by presenting the general education and education curriculum
Teaching (Exceptional Student Education)
Associate in Arts | Code: 10804 | 60 credits
This program prepares students to major in exceptional student education by presenting the general education courses and education curriculum necessary to earn a baccalaureate degree. This AA can be used for transfer to Florida colleges and universities. Areas of specialization include elementary, pre-elementary/early childhood, exceptional student, and secondary education. Students should work with an advisor to determine the appropriate coursework for transfer into their intended area of study.

Teaching (Pre-Elementary/Early Childhood)
Associate in Arts | Code: 10809 | 60 credits
This program prepares students to major in early childhood education (birth to age 4) by presenting the general education and early childhood and education curriculum necessary to earn a baccalaureate degree. This AA can be used for transfer to Florida colleges and universities. Areas of specialization include elementary, pre-elementary/early childhood, exceptional student and secondary education. Students should work with an advisor to determine the appropriate coursework for transfer into their intended area of study.

Teaching (Secondary)
Associate in Arts | Code: 10810 | 60 credits
This program prepares students to major in various subject areas in education by offering the general education and education courses necessary for transfer to a baccalaureate degree. This AA can be used for transfer to Florida colleges and universities. Available areas of specialization in secondary education are biology, chemistry, earth/space science, English and foreign language, mathematics, physics and social science. Additionally, a specialization in vocational secondary education is available. This includes agriculture, business, home economics and technical coursework. A curriculum appropriate to each area of specialization is featured in the specific A.A. program. Students should work with an advisor to determine the appropriate coursework for transfer into their intended area of study.

Teaching Secondary (Biology)
Associate in Arts | Code: 10815 | 60 credits
This program prepares students to major in secondary biology education by presenting the science, general education and education curriculum necessary to earn a baccalaureate degree. This AA can be used for transfer to Florida colleges and universities. Students should work with an advisor to determine the appropriate coursework for transfer into their intended area of study.

Teaching Secondary (Chemistry)
Associate in Arts | Code: 10814 | 60 credits
This program prepares students to major in secondary chemistry education by presenting the science, general education and education curriculum necessary to earn a baccalaureate degree. This AA can be used for transfer to Florida colleges and universities. A curriculum appropriate to each area of specialization is featured in the specific A.A. program. Students should work with an advisor to determine the appropriate coursework for transfer into their intended area of study.

Teaching Secondary (Earth/Space)
Associate in Arts | Code: 10813 | 60 credits
This program prepares students to major in secondary earth/space science education by presenting the science, general education and education curriculum necessary to earn a baccalaureate degree. This AA can be used for transfer to Florida colleges and universities. Students should work with an advisor to determine the appropriate coursework for transfer into their intended area of study.

Teaching Secondary (English/Foreign Languages)
Associate in Arts | Code: 10808 | 60 credits
This program prepares students to major in secondary foreign language education by presenting the general education and education curriculum necessary to earn a baccalaureate degree. This AA can be used for transfer to Florida colleges and universities. Students should work with an advisor to determine the appropriate coursework for transfer into their intended area of study.

Teaching Secondary (Mathematics Education)
Associate in Arts | Code: 10812 | 60 credits
This program prepares students to major in secondary mathematics education by presenting the mathematics, general education, and education curriculum necessary to earn a baccalaureate degree. This AA can be used for transfer to Florida colleges and universities. Students should work with an advisor to determine the appropriate coursework for transfer into their intended area of study.

Teaching Secondary (Physics)
Associate in Arts | Code: 10816 | 60 credits
This program prepares students to major in physics education by presenting the science, general education and education curriculum necessary to earn a baccalaureate degree. This AA can be used for transfer to Florida colleges and universities. Students should work with an advisor to determine the appropriate coursework for transfer into their intended area of study.

Teaching Secondary (Social Science)
Associate in Arts | Code: 10806 | 60 credits
This program prepares students to major in secondary social science education by presenting the general education and education curriculum necessary to earn a baccalaureate degree. This AA can be
used for transfer to Florida colleges and universities. Students should work with an advisor to determine the appropriate coursework for transfer into their intended area of study.

**Teaching Secondary (Vocational: Business, Technical, Home)**
Associate in Arts | Code: 10803 | 60 credits
This program prepares students to major in vocational education by presenting the general education and education curriculum necessary to earn a baccalaureate degree. This AA can be used for transfer to Florida colleges and universities. Areas of specialization include agriculture, business, home economics and technical coursework. Students should work with an advisor to determine the appropriate coursework for transfer into their intended area of study.

### ASSOCIATE IN SCIENCE DEGREE (AS)

The two-year Associate in Science (AS) degree is designed for individuals looking for specialized study at the college level leading to immediate entry into a career upon graduation. The A.S. degree programs are comprised mostly of courses directly related to the identified career area. The remaining courses are comprised of general education courses such as English, oral communications, math/science, behavioral/social science and humanities.

Upon successful completion of all MDC and program requirements, students may be awarded multiple AS degrees as appropriate, provided the degrees do not share the same classification of instructional program (CIP) code.

Several of the AS degree programs are covered by a statewide articulation agreement that allows transfer to the corresponding bachelor's degree program at Florida public universities (refer to FLVC.org for the Statewide Articulation Manual information). In addition, many of the other AS degree programs have established articulation agreements with selected universities.

The general education component of the AS degree is transferable to the upper divisions. Health Science & Nursing programs are offered at the Medical Campus. Any students interested in any of the health programs are encouraged to consult advisors in the New Student Center to receive the most current information regarding program admission.

**STUDENTS SHOULD CHECK THEIR INDIVIDUALIZED DEGREE AUDIT REPORT TO DETERMINE THE SPECIFIC GRADUATION POLICIES IN EFFECT. REQUIREMENTS MAY CHANGE BASED ON THE YEAR AND TERM A STUDENT ENTERS MIAMI DADE COLLEGE. THE DEGREE AUDIT REPORT INCLUDES CURRENT GRADUATION REQUIREMENTS. THE FINAL RESPONSIBILITY FOR MEETING GRADUATION REQUIREMENTS STATED IN THE DEGREE AUDIT REPORT RESTS WITH THE STUDENT.**

### Accounting Technology
Associate in Science | Code: 25022 | 60 credits
The Accounting Technology program is designed mainly for students who intend to seek immediate employment in the field of accounting and for those presently employed in business but seeking advancement. Completion of this program prepares the student for employment as a paraprofessional in the accounting field. Instruction emphasizes accounting competencies required at the entry-level while also providing the student with a broad business overview and the required general education courses. The Associate in Arts degree is also available to the student planning to transfer to a senior institution after graduation from Miami Dade College. Please consult a business advisor about additional courses for such plans.

### Animation & Game Art
Associate in Science | Code: 25074 | 60 credits
The Animation & Game Art is an intensive hands on program in which students learn narrative structure along with technical skills required in the animation industry. Students learn character design and animation, 3D modeling, storyboarding and environment design. Graduates are prepared for entry level jobs as 3D artist and animators.

### Architectural Design & Construction Technology
Associate in Science | Code: 26034 | 66 credits
The Architectural Design and Construction Technology program offers courses that enable the student to translate the design and systems of the architect into graphic and written form and assists the professional in rendering architectural services. The attainment of these skills qualifies the student for several specialties, such as, architectural drafting, cost estimating, material selecting, specification writing and preparing presentations, drawings & models.

### Aviation Administration
Associate in Science | Code: 26028 | 60 credits
The Aviation Administration program is designed to prepare students to succeed in the dynamic aviation industry. The program focuses on the necessary entry-level skills for most aviation employment fields. The Air Traffic Control option provides students with the opportunity to be hired with the Federal Aviation Administration (FAA). Accordingly, graduates find opportunities in airline sales and reservations, air cargo, airport operations and many data-entry positions required by the airline management. Contact the Aviation Department at (305) 237-5950 for information and advisement.
Aviation Maintenance Management
Associate in Science | Code: 26027 | 83 credits
The Aviation Maintenance Management is a special program in which 45 semester hours are awarded to students who possess the Federal Aviation Administration Aircraft and Powerplant (A & P) certificate. The 38 additional required credits consist of general education and aviation requirements needed by the licensee for the Associate in Science degree. Contact the Aviation Department at (305) 237-5950 for information and advisement.

Biomedical Engineering Technology
Associate in Science | Code: 26053 | 62 credits
The Biomedical Engineering Technology program prepares students for employment as Biomedical Engineering Technicians/ Technologists and in related occupations in health-related fields. The program also provides supplemental training for persons currently or previously employed in these occupations. The program focuses on the understanding and applying of concepts in electronics, in addition to troubleshooting techniques, to digital, microprocessor, or computer-based systems as they relate to medical devices. Assembly, installation, operations maintenance, calibration, trouble-shooting, repairing and elementary design on medical systems are taught using an integrated, applied and theoretical approach.

Biotechnology
Associate in Science | Code: 22027 | 61 credits
The Biotechnology Program will expose students to a breadth of topics and emphasizes hands-on learning in a variety of techniques and procedures necessary for employment in the bioscience industry. The Program includes modules designed to enhance critical thinking and technical communication skills. It focuses on developing broad transferable skills and stresses understanding and demonstration of laboratory/industry protocols and regulations, bio-safety and safe operating procedures, ethical and environmental issues, product generation/formulation, quality control, validation, instrumentation, and computing.

Biotechnology - Bioinformatics
Associate in Science | Code: 22028 | 61 credits
The Biotechnology Program will expose students to a breadth of topics and emphasizes hands-on learning in a variety of techniques and procedures necessary for employment in the bioscience industry. The program includes modules designed to enhance critical thinking and technical communication skills. It focuses on developing broad transferable skills and stresses understanding and demonstration of laboratory/industry protocols and regulations, bio-safety and safe operating procedures, ethical and environmental issues, product generation/formulation, quality control, validation, instrumentation, and computing.

Biotechnology - Chemical Technology
Associate in Science | Code: 22029 | 61 credits
The Biotechnology Program will expose students to a breadth of topics and emphasizes hands-on learning in a variety of techniques and procedures necessary for employment in the bioscience industry. The Program includes modules designed to enhance critical thinking and technical communication skills. It focuses on developing broad transferable skills and stresses understanding and demonstration of laboratory/industry protocols and regulations, bio-safety and safe operating procedures, ethical and environmental issues, product generation/formulation, quality control, validation, instrumentation, and computing.

Building Construction Technology
Associate in Science | Code: 26033 | 60 credits
The Building Construction Technology program is designed to furnish technically trained personnel for the building construction industry. The graduate may work with a contractor as part of the administrative team in such entry-level job positions as those leading to estimators, job coordinators, or project managers. Technical jobs may also be available in the following areas: land and project developers; technical sales for building materials, systems, and equipment; with local, state, and federal government agencies; as well as various financial institutions.

Business Administration
Associate in Science | Code: 25051 | 60 credits
This program transfers to four-year institutions. See department for information. The Business Administration program trains individuals to assume management or supervisory positions in business, industry, and government. It provides basic skills in a broad range of business functions including accounting, computer usage, management and marketing. Successful completion of this program earns the student entry into any university in the State University System as part of the A.S. to B.S. program.

Business Intelligence Specialist
Associate in Science | Code: 25073 | 60 credits
The Associate in Science in Business Intelligence Specialist prepares students for employment as business intelligence analysts and related occupations and/or for upper division studies in data analytics. Business intelligence is a broad category of application programs and technologies for gathering, storing, analyzing, and providing access to data to help enterprise users make improved business decisions. Students will learn how to build business intelligence applications and how to manipulate massive amounts of data, turning it into useful information and reports.

Civil Engineering Technology
Associate in Science | Code: 26035 | 63 credits
The Civil Engineering Technology program is designed for those students who wish immediate job placement prior to or after graduation. This program also satisfies many of the civil engineering freshman and sophomore requirements for the Bachelor of Engineering Technology degree offered by certain universities. Consult your Civil Engineering advisor prior to registration.

Clinical Laboratory Sciences
Associate in Science - Health Sciences | Code: 23023 | 76 credits
The Clinical Laboratory Sciences program prepares the graduate to work as part of the health care delivery team in a nonprofit clini-
Clinical laboratory or research laboratory. Clinical practice is conducted in local health care facilities under the supervision of qualified registered professional personnel. Graduates are eligible for Florida State Licensure and Registry with the American Society of Clinical Pathologists and equivalent licensure.

**Clinical Laboratory Sciences (Accelerated)**  
*Associate in Science - Health Sciences | Code: 23023 | 76 credits*

The Clinical Laboratory Sciences program prepares the graduate to work as part of the health care delivery team in a nonprofit clinical laboratory or research laboratory. Clinical practice is conducted in local health care facilities under the supervision of qualified registered professional personnel. Graduates are eligible for Florida State Licensure and Registry with the American Society of Clinical Pathologists and equivalent licensure.

**Clinical Laboratory Sciences (Part-Time)**  
*Associate in Science - Health Sciences | Code: 23023 | 76 credits*

The Clinical Laboratory Sciences program prepares the graduate to work as part of the health care delivery team in a nonprofit clinical laboratory or research laboratory. Clinical practice is conducted in local health care facilities under the supervision of qualified registered professional personnel. Graduates are eligible for Florida State Licensure and Registry with the American Society of Clinical Pathologists and equivalent licensure.

**Computer Crime Investigation**  
*Associate in Science | Code: 27028 | 60 credits*

The Associate in Science (AS) in Computer Crime Investigation will prepare graduates with the education and skills needed to fulfill roles and positions in the Information Security industry. The coursework will include education and applied technical skills in the criminal justice and information security fields.

**Computer Engineering Technology**  
*Associate in Science | Code: 26052 | 68 credits*

The Computer Engineering Technology program prepares students for employment as computer engineering technicians/technologists and in related occupations in electronics. It also provides supplemental training for persons currently or previously employed in these occupations. The program focuses on the understanding and applying of hardware and software concepts, in addition to troubleshooting techniques to digital, microprocessor or computer-based systems. Assembly, installation, operation, maintenance, calibration, troubleshooting, repairing and elementary designs of medical systems are taught using an integrated and theoretical approach.

**Computer Information Technology**  
*Associate in Science | Code: 25055 | 60 credits*

The Computer Information Technology program is to provide an opportunity to establish a basic foundation in computer applications. Graduates are prepared for positions as microcomputer support specialists, user support specialists, applications system specialists and computer information managers to meet the demands of today’s automated offices. In addition, program objectives are designed to assist students in their development of interpersonal and communication skills required by office professionals.

**Computer Programming and Analysis - Business Applications Programming**  
*Associate in Science | Code: 25065 | 60 credits*

The Computer Programming and Analysis program provides an opportunity to establish a basic foundation in computer programming in scientific, commercial, industrial and government data processing applications. Graduates are prepared for positions as entry-level application programmers, programmer specialists, computer programmers and programmer analysts.

**Computer Programming and Analysis – Internet of Things (IoT) Applications**  
*Associate in Science | Code: 25076 | 60 credits*

Graduates of the program acquire a skill-set that leads to producing connected devices by developing applications that can run on microcontroller development boards, designing and simulating the functioning of the devices and building physical prototypes. Upon completion of the program, students will have learned how to develop applications in the dominant programming languages used in IoT, completed projects that they can include in their portfolio and configured different single board computers.

**Computer Programming and Analysis - Mobile Applications Development**  
*Associate in Science | Code: 25070 | 60 credits*

The Computer Programming and Analysis program provides an opportunity to establish a basic foundation in computer programming in scientific, commercial, industrial and government data processing applications. The Mobile Applications Development concentration offers hands on instruction with current technology for Apple and Android mobile device platforms. Graduates are prepared for positions as entry-level app developers.

**Crime Scene Technology - Crime Scene Investigation**  
*Associate in Science | Code: 27026 | 60 credits*

The Associate in Science Degree in Crime Scene Technology will prepare students for employment in the field of criminalistics with a specialty in Crime Scene Investigation or Forensic Science. The student can serve as, but is not limited to, positions of Forensic Science Technician (SOC 194092), Crime Scene Technician, Medical Examiner Investigator, Medical Investigator, Insurance Investigator, Legal Investigator, Forensic Paralegal, Crime Scene Investigator, and Laboratory Technician. Students may also continue their formal education with the College and receive a BAS in Public Safety Management.
Crime Scene Technology - Forensic Science
Associate in Science | Code: 27027 | 60 credits
The Associate in Science Degree in Crime Scene Technology will prepare students for employment in the field of criminalistics with a specialty in Crime Scene Investigation or Forensic Science. The student can serve as, but is not limited to, positions of Forensic Science Technician, Crime Scene Technician, Medical Examiner Investigator, Medical Investigator, Insurance Investigator, Legal Investigator, Forensic Paralegal, Crime Scene Investigator, and Laboratory Technician. Students may also continue their formal education with the College and receive a BAS in Public Safety Management.

Criminal Justice Technology
Associate in Science | Code: 27012 | 60 credits
Upon completion of the Criminal Justice Technology program, the student will be eligible for the Associate in Science degree. The A.S. degree opens up entry-level non-sworn positions in local, state and federal agencies, i.e., juvenile justice, private security, law enforcement, corrections, probation and parole, detention centers and community based intervention programs.

Culinary Arts Management
Associate in Science | Code: 22031 | 64 credits
The Associate in Science degree will groom individuals for careers in the widely varied areas of the culinary industry, including production line and supervisory positions. This competency based culinary program will provide the student with a unique combination of comprehensive theoretical knowledge and hands on training. Students will master the fundamentals of culinary production in an environment that builds teamwork while gaining practical individualized experiences. The course content includes food preparation and service, identification, storage, selection and presentation of foods; training in communication, leadership, human relations, and employability skills; and sanitation and safe work practices. Earning a degree will enable students to pursue further education at the university level or begin working in the field immediately upon graduation.

Cybersecurity
Associate in Science | Code: 25079 | 60 credits
The Cybersecurity program prepares students to fill a critical and growing need for cybersecurity personnel through hands-on experience along with simulation training and group/team-based learning to simulate a professional work environment. The program covers a wide range of topics including cybersecurity fundamentals, computer forensics and network security. Upon completion of the program, the student will have learned to evaluate security trends, recognize best practices, and understand IT security products and threats. Additionally, the curriculum is designed to aid students in preparing for many of the certification exams in the field.

Database Technology - Oracle Database Administration
Associate in Science | Code: 25058 | 60 credits
The Database Technology program is designed to provide an opportunity to establish a basic foundation in the field of database administration for employment in commercial, industrial and government institutions. Graduates are prepared for positions as database administrators and database developers.

Dental Hygiene
Associate in Science - Health Sciences | Code: 23022 | 88 credits
The Dental Hygienist is a licensed member of the dental health team dedicated to helping patients maintain good oral health and prevent dental disease and disorders. The dental hygienist performs dental cleaning, teaches patients proper oral care, takes x-rays and provides nutritional counseling for optimal oral health.

Diagnostic Medical Sonography Specialist
Associate in Science - Health Sciences | Code: 23039 | 72 credits
The Diagnostic Medical Sonography Specialist program prepares the student to become a Diagnostic Medical Sonographer. The Diagnostic Medical Sonographer provides patient services, using diagnostic ultrasound under the supervision of a doctor of medicine or osteopathy who is responsible for the use and interpretation of ultrasound procedures. The sonographer assists the physician in gathering sonographic data necessary to reach diagnostic decisions.

Drafting & Design Technology
Associate in Science | Code: 26037 | 62 credits
Drafting and Design Technology is a highly technical program which will adequately equip the student with the ability and skills necessary for acquisitions and advancement in the engineering technical aid and professional drafting fields. Specialized areas within the program include such specifics as structural steel drafting, welding, piping, technical illustration and computer-aided drafting and design.

Early Childhood Education
Associate in Science | Code: 27014 | 60 credits
The Early Childhood Education Associate in Science degree program provides the student with appropriate coursework to become a childcare practitioner. Students may complete the Florida Child Care Professional Certificate (FCCPC) and/or the National Child Development Associate credential. This degree program is accredited by the National Association for the Education of Young Children (NAEYC).

Early Childhood Education - Administrators
Associate in Science | Code: 27033 | 60 credits
The Early Childhood Education Associate in Science degree program provides the student with appropriate coursework in Administration to become a center director. Students may complete the initial or
advancement to positions of greater responsibility with financial organizations. This program meets most of the requirements for the American Institute of Banking diploma/certificates. The Associate in Arts degree is also available to the student planning to transfer to a senior institution after graduation from MDC. Consult an advisor about which additional courses are included in that program.

**Financial Services - Wealth Management**  
**Associate in Science | Code: 22024 | 60 credits**

The Financial Services program is designed to meet the needs of students who plan to seek employment with commercial banks, stock brokerage companies and related financial organizations. It is also planned for students who are currently employed and desire advancement to positions of greater responsibility with financial organizations. This program meets most of the requirements for the American Institute of Banking diploma/certificates. The Associate in Arts degree is also available to the student planning to transfer to a senior institution after graduation from MDC. Consult an advisor about which additional courses are included in that program.

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**Early Childhood Education - Infant Toddler**  
**Associate in Science | Code: 27032 | 60 credits**

The Early Childhood Education Associate in Science degree program provides the student with appropriate coursework in Infant-Toddler studies. Students may complete the Florida Child Care Professional Certificate (FCCPC) and/or the National Child Development Associate credential. This degree program is accredited by the National Association for the Education of Young Children (NAEYC).

**Early Childhood Education - Preschool**  
**Associate in Science | Code: 27031 | 60 credits**

The Early Childhood Education Associate in Science degree program provides the student with appropriate coursework in Preschool studies. Students may complete the Florida Child Care Professional Certificate (FCCPC) and/or the National Child Development Associate credential. This degree program is accredited by the National Association for the Education of Young Children (NAEYC).

**Electronics Engineering Technology**  
**Associate in Science | Code: 26039 | 68 credits**

The Electronics Engineering Technology program prepares students for work as technicians in various fields of electronics technology. Courses offered cover basic and advanced electrical circuits, semiconductors, integrated circuits, pulse circuits, digital computer circuits, electrical machinery, communication systems and industrial control. Theory and laboratory experience is provided. This program transfers to four-year institutions. See department advisor for information.

**Emergency Medical Services**  
**Associate in Science - Health Sciences | Code: 23048 | 73 credits**

The Emergency Medical Services program is designed according to national and state standards. Graduates will perform as advanced practitioners and as leaders in the technical supervisory and managerial aspects of advanced emergency care. Graduates will be prepared primarily for employment in agencies of advanced emergency care. Graduates will be prepared primarily for employment in agencies providing pre-hospital emergency medical care and secondarily, for jobs in emergency and other acute care areas of the hospital.

**Entrepreneurship**  
**Associate in Science | Code: 20002 | 60 credits**

The Associate in Science (AS) in Entrepreneurship prepares students to start-up and operate a business or social venture with a foundation in opportunity recognition, analysis, business model development and business plan creation. Graduates will bring a critically-informed perspective to their own start-up venture, family-owned business, or social venture.

**Fashion Design**  
**Associate in Science | Code: 22005 | 60 credits**

The Associate in Science degree in Fashion Design offers students a comprehensive education in innovative design, pattern cutting and garment construction technology to prepare students to work as creative professionals in the world of fashion. From concept through production, students learn the design process and acquire the knowledge and skills to integrate creativity, technology, and retail into their work. This course of study will prepare students to develop a successful career and meet a growing local demand for creative design and skilled labor in the fashion industry.

**Fashion Merchandising**  
**Associate in Science | Code: 22020 | 60 credits**

The Associate in Science degree in Fashion Merchandising offers students a comprehensive education, immersing students in the business of fashion where they can explore the interconnected relationships between marketing and design. The program offers students practical instruction in design, technology, and retail and merchandising practices. This course of study will prepare students to develop a successful career and meet a growing local demand for creative design and skilled labor in the fashion industry.

**Film Production Technology**  
**Associate in Science | Code: 26044 | 64 credits**

Lights... Camera... Action! South Florida has become a hotbed for independent filmmakers and music video producers. Learn what it takes to become a successful film producer, director, writer, editor, cinematographer, production manager and crew member while earning an Associate in Science (A.S.) degree in Film Production Technology. Learn to write scripts, shoot film and digital media, and edit projects on non-linear editing systems. Students have opportunities to exhibit their work in film showcases and participate in hands-on workshops and seminars held in collaboration with the Miami International Film Festival.

**Financial Services - Banking**  
**Associate in Science | Code: 22026 | 60 credits**

The Financial Services program is designed to meet the needs of students who plan to seek employment with commercial banks, stock brokerage companies and related financial organizations. It is also planned for students who are currently employed and desire advancement to positions of greater responsibility with financial organizations. This program meets most of the requirements for the American Institute of Banking diploma/certificates. The Associate in Arts degree is also available to the student planning to transfer to a senior institution after graduation from MDC. Consult an advisor about which additional courses are included in that program.

**Financial Services - Wealth Management**  
**Associate in Science | Code: 22024 | 60 credits**

The Financial Services program is designed to meet the needs of students who plan to seek employment with commercial banks,
Financial Services - Mortgage Finance
Associate in Science | Code: 22025 | 60 credits
The Financial Services Program is designed to meet the needs of students who plan to seek employment with commercial banks, stock brokerage companies and related financial organizations. It is also planned for students who are currently employed and desire advancement to positions of greater responsibility with financial organizations. This program meets most of the requirements for the American Institute of Banking diploma/certificates. The Associate in Arts degree is also available to the student planning to transfer to a senior institution after graduation from MDC. Consult an advisor about which additional courses are included in that program. Note: International Students are not admissible to this program.

Fire Science Technology
Associate in Science | Code: 27018 | 60 credits
The Fire Science Technology program prepares students for a wide variety of technical positions in the area of fire prevention and control. Students will learn about safety factors, building code requirements, national and local standards, hazardous materials, supervision and management skills, hydraulics, fire apparatus, tactics and strategy. The program has been designed to meet both the Florida Fire Fighters Pre-Officer Requirements and the NFPA 1021 Fire Officer Level Two Requirements.

Funeral Services
Associate in Science | Code: 23073 | 72 credits
Students in the Funeral Services program are given a broad understanding of all phases of funeral home operations as well as the public health responsibilities of the funeral director and embalmer. The Funeral Services Education degree program at Miami Dade College is accredited by the American Board of Funeral Service Education (ABFSE), 992 Mantua Pike, Suite 108, Woodbury Heights, NJ 08097, 816-233-3747, abfse.org. Students of the Associate in Science degree must register to take the International Conference of Funeral Service Examining Boards, Inc. National Board Examination during their final semester. Students who plan Funeral Service licensure in other states must contact the respective state board to determine that state’s specific licensing requirements and the student is responsible for complying with all particular laws and requirements of that state. National Board Examination pass rates, graduation rates, and employment rates for this and other ABFSE-accredited programs are available at www.abfse.org. To request a printed copy of this program's pass rates and rates, go to the Funeral Service Education Office (Building 3142), by e-mail at funeralservices@mdc.edu, or by telephone 305-237-1244.

Game Development & Design
Associate in Science | Code: 25075 | 60 credits
The Game Development and Design program allows students to explore the entertainment technology landscape while still pursuing a broad-based education. With an emphasis on game programming, the program exposes students to the development and design processes. Students can further specialize in game design, production, engines and systems, graphics programming and animation, mobile, and more.

Graphic Design Technology
Associate in Science | Code: 26031 | 64 credits
The Graphic Design Technology A.S. degree program prepares students for employment as graphic designers, illustrators, photo editors, page layout artists, advertising designers, package designers, branding and visual identity designers. Coursework includes the production workflow process from the design concept to the finished printed or multimedia product.

Graphic Internet Technology
Associate in Science | Code: 26050 | 60 credits
The Graphic Internet Technology program is designed to prepare creative students for a rewarding and challenging career as web designers. Students learn the design and creation of websites, incorporating graphic interfaces, aesthetic content, streaming media and dynamic databases. Upon completion, students will have the skills needed to succeed in the fast-growing field of web design.

Health Information Technology
Associate in Science - Health Sciences | Code: 23053 | 70 credits
The Health Information Management program prepares the individual for employment as a Health Information Technician in a variety of health care facilities. The technician may function in various capacities, having responsibilities such as coding of diagnoses and procedures; processing of health information; storage and retrieval of health information and statistical reporting. Other aspects of the curriculum include medical legal aspects, quality assessment and supervision of the daily operations of a Health Information Department. Management of computerized health information is emphasized. Clinical experiences are provided under the supervision of qualified professionals to enhance classroom instruction and demonstrate current advances in health information practice. A grade of “C” or better is required in all program courses.

Health Information Technology (Accelerated)
Associate in Science - Health Sciences | Code: 23053 | 70 credits
The Health Information Management program prepares the individual for employment as a Health Information Technician in a variety of health care facilities. The technician may function in various capacities, having responsibilities such as coding of diagnoses and procedures; processing of health information; storage and retrieval
of health information and statistical reporting. Other aspects of the curriculum include medical legal aspects, quality assessment and supervision of the daily operations of a Health Information Department. Management of computerized health information is emphasized. Clinical experiences are provided under the supervision of qualified professionals to enhance classroom instruction and demonstrate current advances in health information practice. A grade of "C" or better is required in all program courses.

**Health Sciences**  
Associate in Science - Health Sciences | Code: 23080 | 60 credits

The Health Sciences program provides students an introduction to the healthcare field and an in-depth science background to prepare them for a health-related career or a graduate professional health program or other graduate program.

**Histologic Technology**  
Associate in Science - Health Sciences | Code: 23063 | 76 credits

The Histologic Technology program prepares the student for employment in a wide choice of practice settings including hospitals, clinics, clinical laboratories, veterinary pathology and forensic pathology. A Histotechnologist will be able to freeze, embed, and cut tissues, mount tissue samples on slides and stain them with dyes to make the cell details visible under the microscope. Graduates are eligible to sit for the Florida State Licensure and Registry with the American Society of Clinical Pathologists.

**Hospitality & Tourism Management**  
Associate in Science | Code: 22016 | 60 credits

The Hospitality and Tourism Management program provides professional preparation for a career in the hospitality industry. Hospitality management is presented as a core curriculum with emphasis on hotel, cruise-line, resorts, conventions, and institutional management. An internship program is required to provide practical experience in the field of the student’s choice. The Associate in Arts degree is also available to the student planning to transfer to a four-year institution after graduation from MDC. Consult an advisor about which additional courses are included in that program.

**Industrial Engineering Technology**  
Associate in Science | Code: 22030 | 64 credits

The AS in Industrial Engineering Technology will provide students with the opportunity to acquire the knowledge and skill sets necessary for careers in manufacturing with an emphasis in industrial device and pharmaceutical manufacturing. The program prepares students for employment as a Manufacturing Engineering Technician or Production Technician in manufacturing settings. Note: International Students are not admissible to this program.

**Instructional Services Technology**  
Associate in Science | Code: 22013 | 63 credits

The Instructional Services Technology program provides training for students who desire to enter the field of education as paraprofessionals. Competencies covered in this program prepare paraprofessionals to support and extend instruction and services effectively, further increasing student learning. These competencies include the areas of instructional strategies in math, science, technology, behavior management, and human growth and development, as well as principles of language acquisition and literacy development. Students who complete the A.S. Degree in Instructional Services Technology may also obtain an AA degree through appropriate course selection (please consult with your advisor).

**Interior Design Technology**  
Associate in Science | Code: 26030 | 75 credits

The Interior Design Technology program is planned to develop ability in the design of interiors, to encourage originality and to foster talent in this field. It includes theoretical and technical aspects of interior design. The program is open to those who study for pleasure and those preparing for a career.

**Landscape & Horticulture Technology**  
Associate in Science | Code: 21005 | 60 credits

The purpose of this program is to prepare students for employment in horticulture and landscape industries. The students will learn about plant growth, nutrition and fertilization, plant classification and identification, propagation, pest control, pruning, maintenance and drainage. Students will also gain business management and job skills. Students pursuing the Horticulture Specialization will obtain the skills necessary for protecting, processing, shipping and marketing of commercially viable plants. Students pursuing the Landscape Specialization will obtain the skills necessary for landscape design and installation.

**Marketing**  
Associate in Science | Code: 25047 | 60 credits

The Associate in Science (AS) in Marketing is designed mainly for students who intend to seek immediate employment in the fields of marketing, international business and trade, or real estate; also for those desiring to work in a non-profit institution and those presently employed in marketing but seeking advancement. The Associate in Arts degree is also available to the student planning to transfer to a senior institution after graduating from Miami Dade College.
Dade College. Consult an advisor about additional courses for such plans.

Music Business - Business Management
Associate in Science | Code: 25019 | 64 credits
The Music Business Management program, one of three Music Business degree program options, is designed for students pursuing careers in the music or entertainment industries, with a focus on business skills and business knowledge specific to the music industry. The program combines a traditional music curriculum with industry-related courses and experiences. The Music Business curriculum includes copyright, publishing, artist development, the recording industry, sales, retailing, live concert promotion and management, preparing well-rounded graduates knowledgeable in all aspects of the music industry.

Music Business - Creative Performance
Associate in Science | Code: 25043 | 64 credits
The Music Business Creative Performance program, one of three Music Business degree program options, provides a structured program for students who have a strong interest in performing, composing or arranging music, and want to develop a diverse set of skills and knowledge related to the music business/entertainment industries. Students choosing this option study business, music business, music theory and music performance. This is the perfect program for students who want to manage their own careers as performers.

Music Business - Creative Production
Associate in Science | Code: 25044 | 64 credits
The Music Business Creative Production program, one of three Music Business degree program options, provides a structured pathway for students who have a strong interest in performing, composing or arranging music, and want to develop a diverse set of skills and knowledge related to the music business/entertainment industries. Students choosing this option study business, music business, music theory and music performance. This is the perfect program for students who want to manage their own careers as performers.

Networking Services Technology
Associate in Science | Code: 25062 | 60 credits
The Networking Services Technology program provides an opportunity to establish a basic foundation in the field of network design and administration for employment in commercial, industrial and government institutions. Graduates are prepared for positions as information technology specialists, help desk specialists, network specialists, entry level security specialists and network systems analysts. There is only one A.S. program for Networking Services Technology. Students may select one of the three options (Networking with Cisco, Enterprise Cloud Computing or Network Security). The student will be awarded the Networking Services Technology degree only once.

Networking Services Technology - Enterprise Cloud Computing
Associate in Science | Code: 25077 | 60 credits
The Networking Services Technology - Enterprise Cloud Computing program is designed to provide an opportunity to establish foundation in architect scalable, highly available application solutions that leverage cloud computing services, utilizing best practices focusing on cloud security, cost, and reliability. Graduates will utilize core design patterns and infrastructure expertise to implement solutions to deploy and maintain workloads and applications.

Networking Services Technology - Network Security
Associate in Science | Code: 25078 | 60 credits
The Network Security program prepares students to secure computer networks and protect them against unauthorized intrusions while establishing a foundation in the field of network design and administration. The program has an emphasis on operations, hardening and administration of network security devices. Graduates of the AS Program in this concentration acquire a skill-set that allows the student to collect and analyze system logs, perform network penetration testing, and install and operate IDS/IPS, VPNs, firewalls and honeypots.

Nuclear Medicine Technology
Associate in Science - Health Sciences | Code: 23069 | 75 credits
The Nuclear Medicine Technology program is designed to prepare selected students to qualify as nuclear medicine technologists in hospitals, outpatient diagnostic imaging centers, and private physician offices. These contributing members of the allied health team prepare and administer the tracer radio pharmaceuticals to the patients and record the image using computerized detection systems for medical diagnosis. Successful completion of this two-year program qualifies graduates to apply for the American Registry for Radiologic Technologists examination in Nuclear Medicine and/or the Nuclear Medicine Technology Certification Board Examination leading to certification as a registered nuclear medicine technologist and gainful employment as such.

Nursing - R.N. (Generic Full-Time)
Associate in Science - Nursing | Code: 23030 | 72 credits
The Generic Nursing Option is designed to prepare students without previous health care education for careers as Registered Nurses. The program is accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Rd. N.E., Suite 850, Atlanta, GA., 30326, 404-975–5000, acenursing.org and approved by the Florida Board of Nursing (FBN). Graduates are eligible to apply to take the National Council Licensing Examination for Registered Nurses (NCLEX-RN). See the School of Nursing Information website for
specific details about admission requirements. Pre-Admission tests - Applicants must take the ATI Test of Essential Academic Skills (TEAS).

**Nursing - R.N. (Generic Part-Time)**
Associate in Science - Nursing | Code: 23030 | 72 credits

The Generic Nursing Option is designed to prepare students without previous health care education for careers as Registered Nurses. The program is accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Rd. N.E., Suite 850, Atlanta, GA, 30326, 404-975-5000, acenursing.org and approved by the Florida Board of Nursing (FBON). Graduates are eligible to apply to take the National Council Licensing Examination for Registered Nurses (NCLEX-RN). The part-time track is designed for individuals who must work while they attend school. Nursing Information Booklet for more specific details about admission requirements. See the School of Nursing Information website for specific details about admission requirements. Pre-Admission tests - Applicants must take the ATI Test of Essential Academic Skills (TEAS).

**Nursing - R.N. (Transitional Full-Time)**
Associate in Science - Nursing | Code: 23029 | 72 credits

The Transition Option in Nursing is designed for students pursuing the career of a professional nurse who hold a license or certificate in specific healthcare fields for practice as a Registered Nurse (RN). The content and clinical experiences are designed to meet the learning and professional socialization needs of this special category of student. The program is accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Rd. N.E., Suite 850, Atlanta, GA, 30326, 404-975-5000, acenursing.org and approved by the Florida Board of Nursing (FBON). Graduates are eligible to apply to write the National Council Licensing Examination for Registered Nurses (NCLEX-RN). See the School of Nursing Information website for more specific details about admission requirements. Pre-Admission tests - Applicants must take the ATI Test of Essential Academic Skills (TEAS).

**Nursing - R.N. (Transitional Part-Time)**
Associate in Science - Nursing | Code: 23029 | 72 credits

The Transition Option in Nursing is designed for students pursuing the career of a professional nurse who hold a license or certificate in specific healthcare fields for practice as a Registered Nurse (RN). This option is designed for students who prefer a extended program of study. The content and clinical experiences are designed to meet the learning and professional socialization needs of this special category of student. The program is accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Rd. N.E., Suite 850, Atlanta, GA, 30326, 404-975-5000, acenursing.org and approved by the Florida Board of Nursing (FBON). Graduates are eligible to apply to write the National Council Licensing Examination for Registered Nurses (NCLEX-RN). See the School of Nursing Information website for more specific details about admission requirements. Pre-Admission tests - Applicants must take the ATI Test of Essential Academic Skills (TEAS).

**Nursing-R.N. (Accelerated)**
Associate in Science - Nursing | Code: 23032 | 72 credits

The Accelerated Option in Nursing is designed to prepare the student with a baccalaureate degree in another discipline for a career as a Registered Nurse (RN). The content and clinical experiences are designed to meet the learning and professional socialization needs of this special category of student. The program is accredited by the Accreditation Commission for Education in Nursing (ACEN), 3343 Peachtree Rd. N.E., Suite 850, Atlanta, GA, 30326, 404-975-5000, acenursing.org and approved by the Florida Board of Nursing (FBON). Graduates are eligible to apply to write the National Council Licensing Examination for Registered Nurses (NCLEX-RN). Selection is based on scores on pre-admission testing and completion of required prerequisite courses. See the School of Nursing Information website for more specific details about admission requirements. Pre-Admission tests – Applicants must take the ATI Test of Essential Academic Skills (TEAS).

**Opticianry**
Associate in Science - Health Sciences | Code: 23040 | 72 credits

The Opticianry program simultaneously prepares students for three ophthalmic health care careers: optician, optometric technician and ophthalmic medical assistant. A concentrated presentation of general education courses combined with career development and clinical experience accomplishes this multi-disciplinary approach. Among the marketable skills acquired are clinical data collection, ophthalmic fabrication and ophthalmic dispensing. The student begins working with patients during the third semester in clinics staffed by ophthalmologists, optometrists and opticians. A student must maintain a grade point average of 2.0 or better in each course with an “OPT” prefix in order to advance within the program. The successful completion of this program offers the graduate a challenging and rewarding career on an ophthalmic health care team. Graduates are eligible to sit for the Opticianry Licensure Examination and the Optometric Technician Registration Examination. After one year of work experience with an ophthalmologist, graduates may sit for the Ophthalmic Medical Assistant Certification Examination. The Opticianry program is approved by the Council on Optometric Education and the Commission on Opticianry Accreditation.

**Paralegal Studies - ABA Approved**
Associate in Science | Code: 27013 | 64 credits

The Legal Assisting program prepares students to obtain entry-level employment in law offices, government agencies, banks or business corporations. It also enables persons working in the field without a degree to upgrade their skills to become a qualified paralegal. The MDC Legal Assisting program is approved by the American Bar Association. The American Bar Association defines a paralegal or legal assistant as “a person, qualified by education, training or work experience who is employed or retained by a lawyer, law office, corporation, governmental agency or other entity and who performs specifically delegated
Physical Therapist Assistant
Associate in Science - Health Sciences | Code: 23035 | 74 credits
The Physical Therapist Assistant program prepares students for employment in hospitals, rehabilitation centers, nursing homes, private practices or other qualified health agencies. Graduates will work under the direction and supervision of a physical therapist in the promotion of optimal human health and function through the application of scientific principles to prevent, identify, correct or alleviate acute or prolonged physical disability of anatomic or physiologic origin. Externship or clinical practice is conducted in local health care facilities under the supervision of qualified professional personnel. The program is accredited by the Commission on Accreditation in Physical Therapy Education. Graduates of the program are eligible to take the National Physical Therapy Examination Process of the N.B.R.C. A grade of “C” or better is required in each course. The accredited program enables the graduate to apply for entry into the Examination Process of the N.B.R.C. A grade of “C” or better is required in each course.

Photographic Technology
Associate in Science | Code: 26032 | 64 credits
The Photographic Technology program is designed to meet individual students’ needs for either further study or immediate employment in the field of commercial and industrial photography. Students develop a wide variety of photographic and art-related skills and the ability to use these skills to produce commercially viable photographs. Instruction covers portrait photography, still photography, fashion photography, illustrative photography as well as the business skills needed to manage a photographic enterprise. Various internships such as in biomedical and forensic technology are available to students.

Respiratory Care
Associate in Science - Health Sciences | Code: 23045 | 76 credits
The Respiratory Care program prepares the successful graduates for employment in health agencies where they will work with the physician and other professionals in treating patients with respiratory ailments or injuries affecting the respiratory function. Emphasis will be placed on supervised clinical instruction and practice in local health care facilities. Completion of this two-year accredited program enables the graduate to apply for entry into the Examination Process of the N.B.R.C. A grade of “C” or better is required in each course.

Radio & Television Broadcast Programming
Associate in Science | Code: 26043 | 64 credits
Cue Camera 1! Students are trained in a state-of-the-art, high-definition broadcast facility to perform all functions of a television production crew, including: director, camera operator, floor manager, production assistant, technical director, graphics operator, audio engineer, and telepromter operator. Field production and broadcasting practices enhance the student’s advantage towards gaining lucrative employment in the expanding South Florida radio and television industries, as well as allied fields such as in-house educational and industrial studios.

Radiography
Associate in Science - Health Sciences | Code: 23036 | 77 credits
The Radiography program is an Associate of Applied Science degree, which provides a broad base of education and performance-based clinical experience in all technical aspects of work as a Radiographer. Experience is provided in all routine general and fluoroscopic procedures, special procedures and in the use of the specialized equipment and techniques available in the affiliated clinical education centers. The graduate is eligible to apply to take the Registry Examination of the American Registry of Radiologic Technologists. The application deadline is Feb. 15 for the class beginning the following Summer term. Additional Information: All applicants must attend an Information Session before acceptance into the Radiography program. Applicants must pass a physical, meet physical requirements, must complete an approved CPR course and an approved HIV/AIDS course before beginning the Radiography program. Due to the limited number of students that can be accepted into the Radiography program, it is important that applicants be properly informed. For information, advisement, application forms and deadline dates, interested students should contact the Department of Radiologic Sciences, Medical Center Campus.

Professional Pilot Technology
Associate in Science | Code: 26029 | 64 credits
The Professional Pilot Technology program is primarily developed to meet the challenging regional airline requirements for pilots; therefore, graduates of the program will earn the following Federal Aviation Administration (FAA) Certificates: Private, Commercial Pilot with Single and Multi-Engine Ratings. In addition, these certificates can be applied toward a Certified Flight Instructor (CFI) Certificate. Additional Information: Students interested in this program must first pass an FAA Class 3 medical evaluation prior to beginning classes. Cost of flight training is in addition to normal tuition costs. Contact the Aviation Department at 305-237-9950 for information and advisement.

Respiratory Care (Accelerated)
Associate in Science - Health Sciences | Code: 23045 | 76 credits
The Respiratory Care CRT to RRT Completion program prepares the practicing Certified Respiratory Therapist (CRT) to acquire the Registered Respiratory Therapist (RRT) credential, by completing the program requirements in order to meet eligibility for the National Board for Respiratory Care (NBRC) RRT examination. The emphasis
of the accelerated CRT to RRT completion program is on teaching the didactic, laboratory, and clinical competencies required of a registered respiratory therapist (RRT). CRT to RRT students will be classified as Advanced Placement in the Respiratory Care Program.

**Sign Language Interpretation**  
*Associate in Science | Code: 23033 | 66 credits*  
The Sign Language Interpretation program (SLI) is designed to develop the skills necessary to interpret the communications between deaf or hard of hearing persons and hearing individuals in an accurate and effective manner. Students prepare to work as entry-level American Sign Language (ASL) interpreters or to transfer to a bachelor’s degree program in ASL-English Interpreting.

**Social and Human Services - Addictions Studies**  
*Associate in Science | Code: 25067 | 60 credits*  
The Social and Human Services program with a specialization in Addiction Studies is designed to prepare students for employment as human services specialists, human services practitioners, chemical dependency practitioners, addiction specialists, mental health and social service practitioners, or to provide supplemental training for persons previously or currently employed in these occupations. The program is also designed to provide most of the general academic and addiction specific requirements of the Certification Board for Addiction Professionals of Florida.

**Social and Human Services - Generalist**  
*Associate in Science | Code: 25026 | 60 credits*  
The Generalist Human Services Associate in Science degree prepares the students for employment in the network of programs and agencies which provide a vast array of human needs. These include areas such as child care, criminal justice, education, health, housing, income maintenance, mental health and retardation, among others. These needs are provided for a variety of settings, such as clinics, hospitals, nursing homes, rehabilitation centers and social agencies.

**Translation/Interpretation Studies**  
*Associate in Science | Code: 24050 | 60 credits*  
This program is designed to provide bilingual students with the knowledge and skills necessary to carry out the work associated with areas of translation (written) and interpretation (oral) in the workplace. Graduates are prepared for positions as court translators/interpreters, in-house translators/interpreters for the private sector (including translation/interpretation agencies), translators for government agencies, hospital interpreters/interpreters, freelance translators/interpreters and telephone interpreters. Graduates will have the basic foundation to establish their own translation/interpretation business.

**Transportation & Logistics**  
*Associate in Science | Code: 28000 | 64 credits*  
This Transportation and Logistics A.S. degree program provides core courses in transportation policy, law, safety, security, management and marketing, and an integrated understanding of the intermodal relationship between the various modes of transportation. In addition, college credit certificates will be offered in Intermodal Freight Transportation and Surface Transportation.

**Veterinary Technology**  
*Associate in Science - Health Sciences | Code: 23062 | 73 credits*  
The Veterinary Technology program prepares students to assist veterinarians in their daily practice, working with all types of animals and in various disciplines within the realm of veterinary medicine. Tasks include providing total nursing care to the sick or injured patient, handling and restraint, assisting during examinations and surgical procedures, performing dental hygiene and radiographic exams and collection and analysis of diagnostic specimens. Graduates are eligible to apply to take the Veterinary Technician National Examination (VTNE) and the Florida Practical Exam (FPE).

**ASSOCIATE IN APPLIED SCIENCE DEGREE (AAS)**

The two year Associate in Applied Science Degree (AAS) is similar to the Associate of Science degree in that it prepares individuals for entry into a career upon graduation. The AAS was established to prepare individuals for careers requiring specialized study at the college level. The AAS degree does not usually articulate or transfer to the upper divisions.

The AAS degree programs are comprised mostly of courses directly related to the identified career area, with the remaining courses comprised of general education classes such as English, oral communications, math/science, behavioral/social science and humanities.

STUDENTS SHOULD CHECK THEIR INDIVIDUALIZED DEGREE AUDIT REPORT TO DETERMINE THE SPECIFIC GRADUATION POLICIES IN EFFECT. REQUIREMENTS MAY CHANGE BASED ON THE YEAR AND TERM A STUDENT ENTERS MIAMI DADE COLLEGE. THE DEGREE AUDIT REPORT INCLUDES CURRENT GRADUATION REQUIREMENTS. THE FINAL RESPONSIBILITY FOR MEETING GRADUATION REQUIREMENTS STATED IN THE DEGREE AUDIT REPORT RESTS WITH THE STUDENT.
**Automotive Service Management Technology**  
**Associate in Applied Science Degree (AAS) | Code: A1000 | 68 credits**  
The Automotive Service Management Technology program is offered for students who have completed or are concurrently enrolled in a nationally certified and approved 1,440 contract-hour automotive mechanics program.

**ADVANCED TECHNICAL CERTIFICATES (ATC)**

The Advanced Technical Certificate (ATC) is available to students who have been awarded an Associate in Science degree or higher and wish to upgrade their skills. Students must successfully complete a prescribed set of courses at the advanced level in order to be awarded the ATC.

STUDENTS SHOULD CHECK THEIR INDIVIDUALIZED DEGREE AUDIT REPORT TO DETERMINE THE SPECIFIC GRADUATION POLICIES IN EFFECT. REQUIREMENTS MAY CHANGE BASED ON THE YEAR AND TERM A STUDENT ENTERS MIAMI DADE COLLEGE. THE DEGREE AUDIT REPORT INCLUDES CURRENT GRADUATION REQUIREMENTS. THE FINAL RESPONSIBILITY FOR MEETING GRADUATION REQUIREMENTS STATED IN THE DEGREE AUDIT REPORT RESTS WITH THE STUDENT.

**Biotechnology**  
**Advanced Technical Certificate | Code: C6028 | 33 credits**  
A fast-track certification program in Biotechnology is available for students with bachelor’s degrees, or having at least an associate degree and a strong background in college-level math and science courses. This background, combined with selected courses in the biotechnology program, will provide students with the necessary skills to seek employment in Biotechnology and related industries.

**Biotechnology - Chemical Technology**  
**Advanced Technical Certificate | Code: C6030 | 33 credits**  
A fast-track certification program in Biotechnology is available for students with bachelor’s degrees, or having at least an associate degree and a strong background in college-level math and science courses. This background, combined with selected courses in the biotechnology program, will provide students with the necessary skills to seek employment in Biotechnology and related industries.

**Certified Flight Instructor**  
**Advanced Technical Certificate | Code: C6027 | 13 credits**  
The Certified Flight Instructor (CFI) Advanced Technical Certificate program includes theory, flight and lab instruction. The program meets FAA requirements for a CFI. In addition to the FAA requirements, each student will learn to develop lesson plans and learn how to communicate effectively using a variety of instructional materials and feedback techniques. Students wishing to enroll in this program must possess a Commercial Pilot’s License. Upon successful completion of this program, students will be able to demonstrate knowledge of private and commercial pilot certification; fundamentals of instruction in a single engine airplane; ability to recognize, analyze and provide correction of common student errors; and knowledge of the responsibilities of Certified Flight Instructors (CFI). Contact the Aviation Department at 305-237-5900 for information and advisement.

**Compensation & Benefits**  
**Advanced Technical Certificate | Code: C6002 | 18 credits**  
The Advanced Technical Certificate in Compensation and Benefits prepares students to design and manage compensation and benefits systems to attract, motivate and retain various employee groups. The compensation and benefits managers plan, direct, and coordinate the reward functions of an organization.

**Hospitality Management**  
**Advanced Technical Certificate | Code: C6000 | 18 credits**  
The Advanced Technical Certificate (ATC) in Hospitality Management will assist new and experienced hospitality industry personnel upgrade their management skills to increase employment opportunities. This certificate focuses on enhancing the skills needed for restaurant management, bar and beverage management, hotel and lodging management, food service management, business supervision and management, accounting and revenue management, and hospitality industry policies and regulations.

**Biotechnology - Bioinformatics**  
**Advanced Technical Certificate | Code: C6029 | 33 credits**  
A fast-track certification program in Biotechnology is available for students with bachelor’s degrees, or having at least an associate degree and a strong background in college-level math and science courses. This background, combined with selected courses in the biotechnology program, will provide students with the necessary skills to seek employment in Biotechnology and related industries.

**Human Resource Management**  
**Advanced Technical Certificate | Code: C6001 | 24 credits**  
The Advanced Technical Certificate (ATC) in Human Resources Management will assist new and experienced human resource professionals upgrade their knowledge and skills in order increase their employment opportunities. The student will be able to plan, direct, and coordinate the recruiting, interviewing, hiring and retaining employees.
Medical Interpretation - Language Neutral
Advanced Technical Certificate | Code: C6035 | 15 credits
The Medical Interpreting – Language Neutral Advanced Technical Certificate (ATC) will provide professional training in medical interpreting for speakers of widely-spoken languages other than Spanish. Students will meet the criteria to sit for the National Certified Medical Interpreters Exam (CMI). This certificate is offered at the Homestead Campus only.

Accounting Technology Management
College Credit Certificate | Code: 65077 | 27 credits
The Accounting Applications College Credit Certificate program is designed to prepare students for employment as accounting clerks, data processing clerks, junior accountants and assistant accountants, or to provide supplemental training for persons previously or currently employed in these occupations. The program prepares individuals in the principles, procedures and theories of organizing and maintaining business and financial records, and the preparation of accompanying financial reports.

Addiction Studies
College Credit Certificate | Code: 65078 | 24 credits
The Human Services program with a specialization in Addiction Studies is designed to prepare students for employment as human services specialists, human services practitioners, chemical dependency practitioners, addiction specialists, mental health and social service practitioners, or to provide supplemental training for persons previously or currently employed in these occupations. The program is also designed to provide most of the general academic and addiction specific requirements of the Certification Board for Addiction Professionals of Florida.

Airline/Aviation Management
College Credit Certificate | Code: 63012 | 16 credits
The Airline/Aviation Management College Credit Certificate program will provide the student with aviation management skills in an accelerated time frame. These include areas such as airline/aviation industry knowledge, management skills, marketing, law and operations. Students will learn how to take industry concepts and apply them both individually and as a team. They will be able to gain insight into the actual issues involved in running an airline at both the micro and macro levels, from a leadership perspective. They will also acquire up-to-date knowledge about airline/aviation technologies and law, and the latest management concepts and practical application of theories to real life aviation scenarios. Contact the Aviation Department at 305-237-5950 for information and advisement.

Airline Maintenance Procedures and Records Management
College Credit Certificate | Code: 63018 | 18 credits
The College Credit Certificate (CCC) in Airline Maintenance Procedures and Records Management will fill a growing need to train personnel in how to organize, review and classify aircraft records to comply with FAA regulations, as well as successfully manage records at aircraft manufacturers, airlines and maintenance repair operators. Students will receive a wide-range of classroom and hands-on training that will provide the student with the education and knowledge to successfully manage the aircraft records department in an aviation company.
Air Cargo Management  
College Credit Certificate | Code: 66030 | 16 credits  
The Air Cargo Management College Credit Certificate program is designed to give students the skills required to gain employment as an air cargo agent. The program can be completed in one or two semesters with classes offered during the day or evening hours. All of the credits earned can be applied towards an A.S. degree in Aviation Administration. Contact the Aviation Department at 305-237-5950 for information and advisement.

Airport Management  
College Credit Certificate | Code: 63017 | 16 credits  
The Airport Management College credit certificate program provides the student with the skills required to advance to management positions at airport (city & government) and/or airline terminal operations. Students will understand the cost centers, design processes and financial considerations required to be an effective manager in the aviation industry. Contact the Aviation Department at 305-237-5950 for information and advisement.

Audio Technology  
College Credit Certificate | Code: 61000 | 15 credits  
The Audio Technology College Credit Certificate (CCC) is designed for students who intend to seek employment within the music business industry as an alternative to the strictly traditional Music degree program. The Audio Technology college credit certificate combines a traditional music curriculum with industry-related courses and experiences. The curriculum stresses hands-on equipment use in sound engineering and recording, midi music creation, sound reinforcement methods and technologies, and computer applications.

Automation  
College Credit Certificate | Code: 68000 | 15 credits  
This certificate prepares students for initial employment with an occupational title as an Automation or Applied Automation Specialist in various specialized areas. It can also provide added training for persons in these occupations. These courses can be applied toward the Associate of Science in Advanced Manufacturing.

Banking Management  
College Credit Certificate | Code: 65045 | 27 credits  
The Banking Specialist College Credit Certificate program provides students with both general knowledge and specific competencies that establish a foundation for a successful financial services career. Because the required courses provide an ideal foundation upon which to build banking-specific knowledge and skills, the certificate is well-suited for individuals planning to make banking their long-term career. In that regard, candidates for the certificate include career entry employees with clerical, administrative or customer service responsibilities who are establishing career pathways through professional development and related job experience, professionals who recently entered banking from other industries and management trainees who desire a broader understanding of the financial services industry. Generally, positions would include banking managerial support workers. Positions that could be available based upon this training include Customer Service Representative and Financial/Banking Specialist. This program also meets the requirements for the Center for Financial Training national industry diploma.

Banking Operations  
College Credit Certificate | Code: 65044 | 18 credits  
The Banking Operations College Credit Certificate program is designed to provide students with the knowledge to analyze companies and their ability to repay loans. The intended audience includes lending support personnel, junior credit analysts and others who seek a pathway to lending. Generally, positions could also include first line banking supervisors. Positions that could be available based upon this training include Credit Analysis and Financial Analyst. This program also meets the requirements for the Center for Financial Training national industry diploma.

Banking Specialist  
College Credit Certificate | Code: 65043 | 12 credits  
The Banking Specialist College Credit Certificate program provides students with both general knowledge and specific competencies that establish a foundation for a successful financial services career. Because the required courses provide an ideal foundation upon which to build banking-specific knowledge and skills, the certificate is well-suited for individuals planning to make banking their long-term career. In that regard, candidates for the certificate include career entry employees with clerical, administrative or customer service responsibilities who are establishing career pathways through professional development and related job experience, professionals who recently entered banking from other industries and management trainees who desire a broader understanding of the financial services industry. Generally, positions would include banking managerial support workers. Positions that could be available based upon this training include Customer Service Representative and Financial/Banking Specialist. This program also meets the requirements for the Center for Financial Training national industry diploma.

Biotechnology  
College Credit Certificate | Code: 60002 | 19 credits  
The College Credit Certificate in Biotechnology seeks to prepare students for immediate entry-level employment in the biotechnology, pharmaceutical, or medical-device manufacturing industry. The program prepares individuals in the principles, procedures, and practices used in the bioscience industries. The college credits granted in this program will apply toward an Associate in Science degree in Biotechnology.

Building Construction Specialist  
College Credit Certificate | Code: 66025 | 18 credits  
The Building Construction Specialist college credit certificate prepares students for entry in the construction field through acquisition
The Business Entrepreneurship Specialist College Credit Certificate is designed to prepare students for employment in entry-level positions or opening their own business or venture in the following areas: Family-Owned Business, Start-Up Venture, and Social Venture. Students may select one of the 3 options, but the certificate is awarded only once.

**Business Entrepreneurship Specialist – Social Venture**  
College Credit Certificate | Code: 65097 | 12 credits

The Business Entrepreneurship Specialist College Credit Certificate is designed to prepare students for employment in entry-level positions or opening their own business or venture in the following areas: Family-Owned Business, Start-Up Venture, and Social Venture. Students may select one of the 3 options, but the certificate is awarded only once.

**Business Entrepreneurship Specialist – Start-Up Venture**  
College Credit Certificate | Code: 65101 | 12 credits

The Business Entrepreneurship Specialist College Credit Certificate is designed to prepare students for employment in entry-level positions or opening their own business or venture in the following areas: Family-Owned Business, Start-Up Venture, and Social Venture. Students may select one of the 3 options, but the certificate is awarded only once.

**Business Intelligence Professional**  
College Credit Certificate | Code: 66038 | 20 credits

The Business Intelligence Professional College Credit Certificate prepares students for employment manipulating and analyzing massive amounts of data and turning it into useful information and reports. Students are prepared for employment, or continued studies in lower and upper division programs.

**Business Management - Management**  
College Credit Certificate | Code: 65041 | 24 credits

The Business Management College Credit Certificate program is the third in a series of three College Credit Certificate programs designed to prepare students for the positions of manager trainee, supervisor or small business owner. It also provides supplemental training for persons previously or currently engaged in these activities. The program prepares individuals to become proficient in the planning, organizing, directing and controlling of a business, including organizational and human aspects, with emphasis on various theories of management, managing economic resources and decision making. Emphasis is given to the ownership of small business enterprises. There is only one College Credit Certificate in Business Management. Students may select one of two options, but the certificate in Business Management is awarded only once.

**Business Management - Small Business Management**  
College Credit Certificate | Code: 65042 | 24 credits

The Business Management College Credit Certificate program is the third in a series of three College Credit Certificate programs designed to prepare students for the positions of manager trainee, supervisor or small business owner. It also provides supplemental training for persons previously or currently engaged in these activities. The program prepares individuals to become proficient in the planning, organizing, directing and controlling of a business, including organizational and human aspects, with emphasis on various theories of management, managing economic resources and decision making. Emphasis is given to the ownership of small business enterprises. There is only one College Credit Certificate in Business Management. Students may select one of two options, but the certificate in Business Management is awarded only once.

**Business Operations - Accounting/Budgeting**  
College Credit Certificate | Code: 65021 | 18 credits

The Business Operations College Credit Certificate program is the second in a series of three College Credit Certificate programs designed to prepare students for employment and advancement in the following areas: accounting/budgeting, business/management, customer service, finance, human resources, international business, marketing, nonprofit, real estate, retail and small business. There is only one College Credit Certificate in Business Operations. Students may select one of 6 options, but the certificate is awarded only once.

**Business Operations - Business Management**  
College Credit Certificate | Code: 65022 | 18 credits

The Business Operations College Credit Certificate program is the second in a series of three College Credit Certificate programs designed to prepare students for employment and advancement in the following areas: accounting/budgeting, business/management, customer service, finance, human resources, international business, marketing, nonprofit, real estate, retail and small business. There is only one College Credit Certificate in Business Operations. Students may select one of 6 options, but the certificate is awarded only once.

**Business Operations - Human Resources**  
College Credit Certificate | Code: 65025 | 18 credits

The Business Operations College Credit Certificate program is the second in a series of three College Credit Certificate programs designed to prepare students for employment and advancement in the following areas: accounting/budgeting, business/management,
customer service, finance, human resources, international business, marketing, nonprofit, real estate, retail and small business. There is only one College Credit Certificate in Business Operations. Students may select one of 6 options, but the certificate is awarded only once.

**Business Operations - International Business**
College Credit Certificate | Code: 65026 | 18 credits

The Business Operations College Credit Certificate program is the second in a series of three College Credit Certificate programs designed to prepare students for employment and advancement in the following areas: accounting/budgeting, business/management, customer service, finance, human resources, international business, marketing, nonprofit, real estate, retail and small business. There is only one College Credit Certificate in Business Operations. Students may select one of 6 options, but the certificate is awarded only once.

**Business Operations - Marketing**
College Credit Certificate | Code: 65027 | 18 credits

The Business Operations College Credit Certificate program is the second in a series of three College Credit Certificate programs designed to prepare students for employment and advancement in the following areas: accounting/budgeting, business/management, customer service, finance, human resources, international business, marketing, nonprofit, real estate, retail and small business. There is only one College Credit Certificate in Business Operations. Students may select one of 6 options, but the certificate is awarded only once.

**Business Operations - Small Business**
College Credit Certificate | Code: 65031 | 18 credits

The Business Operations College Credit Certificate program is the second in a series of three College Credit Certificate programs designed to prepare students for employment and advancement in the following areas: accounting/budgeting, business/management, customer service, finance, human resources, international business, marketing, nonprofit, real estate, retail and small business. There is only one College Credit Certificate in Business Operations. Students may select one of 6 options, but the certificate is awarded only once.

**Business Specialist - Accounting/Budgeting**
College Credit Certificate | Code: 65010 | 12 credits

The Business Specialist College Credit Certificate program is the first in a series of three College Credit Certificate programs designed to prepare students for employment in entry-level positions in the following areas: accounting/budgeting, business/management, customer service, finance, human resources, international business, marketing, nonprofit, real estate, retail and small business. There is only one College Credit Certificate in Business Specialist. Students may select one of 8 options, but the certificate is awarded only once.

**Business Specialist - Business Management**
College Credit Certificate | Code: 65011 | 12 credits

The Business Management College Credit Certificate program is the third in a series of three College Credit Certificate programs designed to prepare students for the positions of manager trainee, supervisor or small business owner. It also provides supplemental training for persons previously or currently engaged in these activities. The program prepares individuals to become proficient in the planning, organizing, directing and controlling of a business, including organizational and human aspects, with emphasis on various theories of management, managing economic resources and decision making. Emphasis is given to the ownership of small business enterprises. There is only one College Credit Certificate in Business Management. Students may select one of two options, but the certificate in Business Management is awarded only once.

**Business Specialist - General Business**
College Credit Certificate | Code: 65100 | 12 credits

The Business Specialist College Credit Certificate is the first in a series of three College Credit Certificate programs designed to prepare students for employment in entry-level positions in the following areas: accounting/budgeting, business management, finance, general business, human resources, international business, marketing, and small business. Students may select one of the 8 options, but the certificate is awarded only once.

**Business Specialist - Human Resources**
College Credit Certificate | Code: 65014 | 12 credits

The Business Specialist College Credit Certificate program is the first in a series of three College Credit Certificate programs designed to prepare students for employment in entry-level positions in the following areas: accounting/budgeting, business/management, customer service, finance, human resources, international business, marketing, nonprofit, real estate, retail and small business. There is only one College Credit Certificate in Business Specialist. Students may select one of 8 options, but the certificate is awarded only once.

**Business Specialist - International Business**
College Credit Certificate | Code: 65015 | 12 credits

The Business Specialist College Credit Certificate program is the first in a series of three College Credit Certificate programs designed to prepare students for employment in entry-level positions in the following areas: accounting/budgeting, business/management, customer service, finance, human resources, international business, marketing, nonprofit, real estate, retail and small business. There is only one College Credit Certificate in Business Specialist. Students may select one of 8 options, but the certificate is awarded only once.

**Business Specialist - Marketing**
College Credit Certificate | Code: 65016 | 12 credits

The Business Specialist College Credit Certificate program is the first in a series of three College Credit Certificate programs designed to
prepare students for employment in entry-level positions in the following areas: accounting/budgeting, business management, finance, human resources, international business, marketing, small business. There is only one College Credit Certificate in Business Specialist. Students may select one of the 7 options, but the certificate is awarded only once.

Business Specialist - Small Business
College Credit Certificate | Code: 65020 | 12 credits
The Business Specialist College Credit Certificate program is the first in a series of three College Credit Certificate programs designed to prepare students for employment in entry-level positions in the following areas: accounting/budgeting, business/management, customer service, finance, human resources, international business, marketing, nonprofit, real estate, retail and small business. There is only one College Credit Certificate in Business Specialist. Students may select one of 8 options, but the certificate is awarded only once.

Chef Apprentice
College Credit Certificate | Code: 65059 | 12 credits
The Chef Apprentice Certificate is designed to prepare students with a theoretical and practical foundation for a successful career in the culinary industry. Credits earned can be applied to Associate in Science degree in Culinary Arts Management, which may be transferable to upper division public institutions. *Students will be given opportunity to take the Food Safety exam for ServSafe Florida State Certification (State mandated for food handlers in Florida).

Cisco Certified Network Associate (CCNA)
College Credit Certificate | Code: 66050 | 16 credits
The Cisco Network Associate College Credit Certificate program is designed to provide an opportunity to establish a basic foundation in the field of Cisco network design and implementation, leading to certification as a Cisco Certified Network Associate (CCNA).

Commercial Transport Pilot
College Credit Certificate | Code: 68012 | 24 credits
The College Credit Certificate (CCC) in Commercial Transport Pilot will fill a growing need to train personnel in how to organize, review and classify aircraft records to comply with FAA regulations. Students will receive a wide-range of classroom and hands-on training that will provide the student with the education and knowledge to successfully manage the aircraft records department in an aviation company.

Computer Aided Design Assistant
College Credit Certificate | Code: 66070 | 14 credits
The Computer-Aided Design Assistant College Credit Certificate program is designed to prepare students to work as CAD assistants in an architectural office by acquiring a basic understanding of the architectural graphic skills needed to produce working and presentation drawings.

Computer Aided Design Operator
College Credit Certificate | Code: 66071 | 22 credits
The Computer-Aided Design Operator College Credit Certificate program is designed to prepare students in an architectural office by obtaining intermediate skills in architectural graphics needed to produce working and presentation drawings. After successfully completing the following courses, students can obtain employment assisting architects and drafters with computer-aided drawings and design presentations.

Computer Programmer - Business Applications
College Credit Certificate | Code: 66045 | 36 credits
The College Credit Certificate in Computer Programmer-Business Applications is designed to provide an opportunity to establish a foundation in computer programming for employment in scientific, commercial, industrial and government data processing applications. Graduates are prepared for positions as entry-level programmers, programmer specialists, and software developers for both applications and systems software.

Computer Programmer - Mobile Applications Development
College Credit Certificate | Code: 66036 | 36 credits
The College Credit Certificate in Computer Programmer-Mobile Applications Development is designed to provide an opportunity to establish a foundation in computer programming for employment in scientific, commercial, industrial and government data processing applications. The program additionally offers hands on instruction with current technology for Apple and Android mobile device platforms.

Computer Specialist
College Credit Certificate | Code: 66033 | 27 credits
The Computer Specialist College Credit Certificate program is designed to prepare students to work as Computer Repair Assistants in a computer repair shop or the computer maintenance division of a corporation, by acquiring a basic understanding of computer internal architecture and operations. Students must successfully complete required courses.

Crime Scene Technician
College Credit Certificate | Code: 66072 | 28 credits
The College Credit Certificate in Crime Scene Technician will prepare students for employment in the field of criminalistics with a specialty in Crime Scene Investigation or Forensic Science. The student can serve as, but is not limited to, positions of Forensic Science Technician (SOC 194092), Crime Scene Technician, Medical Examiner Investigator, Medical Investigator, Insurance Investigator, Legal Investigator, Forensic Paralegal, Crime Scene Investigator, and Laboratory Technician. Students may also continue their formal education with the College and AS in Crime Scene Technology.
**Cruise Line Operations**  
College Credit Certificate | Code: 65053 | 18 credits  
All departments unrelated to navigation engine and entertainment, fall under the hotel division. This includes all concessionaires, housekeeping, food and beverage and purser services. Jobs in the hotel department on a cruise ship are very similar to jobs you will find in a hotel or resort. The hotel manager oversees all shipboard services and is responsible for supervising all staff and crew in these departments.

**Culinary Arts Management Operations**  
College Credit Certificate | Code: 65060 | 18 credits  
The Culinary Arts Management Operations College Credit Certificate is designed to prepare students with an in-depth study of food production, and a practical foundation in international cuisine for a successful career in the culinary industry. Credits earned can be applied to an Associate in Arts degree or an Associate in Science degree in Culinary Arts Management, which may be transferrable to upper division public institutions. 

**Digital Forensics**  
College Credit Certificate | Code: 66055 | 24 credits  
The College Credit Certificate (CCC) in Digital Forensics will prepare graduates with the education and skills needed to fulfill roles and positions in the Information Security industry. The coursework will include education and applied technical skills in the criminal justice and information security fields.

**Digital Marketing Specialist**  
College Credit Certificate | Code: 65096 | 12 credits  
The Digital Forensics program prepares students with the skills needed to fulfill forensic positions in the Information Security industry. The coursework prepares students with the technical competencies and knowledge needed to investigate system security breaches and recover lost or compromised data.

**Digital Marketing Strategy**  
College Credit Certificate | Code: 65102 | 18 credits  
The Digital Marketing Strategy College Credit Certificate is designed to prepare students to design, implement, manage and analyze digital marketing strategies and campaigns. Graduates will understand how to connect with consumers using multiple digital platforms to create effective customer-focused promotional campaigns.

**Early Childhood Education - Administrator**  
College Credit Certificate | Code: 60004 | 12 credits  
This is a College Credit Certificate with a specialization in Child Care Management. The purpose of this program is to prepare students as early childhood education administrators with the knowledge and skills to effectively manage a quality childcare program or to provide supplementary training for persons previously or currently employed in these occupations. This CCC will allow its holder to apply for a National Child Development Associate (N-CDA) credential in order to pursue work as a childcare provider nationally or continue their education.

**Early Childhood Education - Child Development Early Intervention Specialization**  
College Credit Certificate | Code: 60007 | 36 credits  
This is a College Credit Certificate (CCC) in Early Childhood Education (ECE) with a specialization in Child Development Early Intervention. The purpose of this program is to prepare students as early childhood educators who can identify learning differences in young children and meet their educational needs.

**Early Childhood Education - Early Childhood Education Inclusion Specialization**  
College Credit Certificate | Code: 60006 | 12 credits  
This is a College Credit Certificate in Early Childhood Education with a specialization in Early Childhood Inclusion. This is an introductory CCC for care practitioners who need training in addition to their initial credentials, i.e., Florida Child Care Professional Certificate (FCCPC) or the National Child Development Associate (N-CDA) credential in order to provide high-quality early childhood education for all children.

**Early Childhood Education - Preschool**  
College Credit Certificate | Code: 60003 | 12 credits  
This is a College Credit Certificate in early childhood education with a Preschool specialization. The purpose of this program is to prepare students as early childhood education caregivers with a preschool specialization or to provide supplementary training for persons previously or currently employed in these occupations. This CCC will allow its holder to apply for a National Child Development Associate credential enabling this student to pursue work as a childcare provider nationally or continue their education.

**Emergency Medical Technician**  
College Credit Certificate - Health Sciences | Code: 63028 | 12 credits  
The Emergency Medical Technician – Basic College Credit Certificate is a one-semester program, which prepares students to function in the hospital and pre-hospital environment. Graduates of this program can perform clinical data collection, patient assessment and provide immediate care and safe relocation of the acutely ill and injured. Satisfactory completion of this program will qualify the graduate to sit for the State and/or National EMT Certification Examination. This program is approved by the State of Florida, Department of Health and Rehabilitative Services.

**Engineering Technology Support Specialist**  
College Credit Certificate | Code: 66052 | 18 credits  
This program offers a sequence of courses that provides students with the relevant technical knowledge and skills needed to prepare for further education and careers in the manufacturing career cluster.
Enterprise Cloud Computing
College Credit Certificate | Code: 66058 | 24 credits
The Enterprise Cloud Computing Credit Certificate program is designed to provide an opportunity to establish a foundation in architecture, scalable, highly available application solutions that leverage cloud computing services utilizing best practices focusing on cloud security, cost, and reliability. Graduates will utilize core design patterns and infrastructure expertise to implement solutions to deploy and maintain workloads and applications.

Entrepreneurship
College Credit Certificate | Code: 65099 | 12 credits
This certificate is designed to provide students with the basic skills of starting and managing a business enterprise.

Film Production Fundamentals
College Credit Certificate | Code: 61001 | 24 credits
The Film Production Fundamentals College Credit Certificate (CCC) is designed to prepare students for entry-level employment in the motion picture industry. Students will understand the fundamentals in the following skills: lighting, grip, camera, audio recording, and editing.

Florida Funeral Director
College Credit Certificate | Code: 63024 | 31 credits
The Florida Funeral Director certificate program is intended for individuals who have obtained a prior degree from an accredited institution and intend to transition into a new career path. Funeral Directors arrange the details and handle the logistics of funerals, assist the family in establishing the location, date, and time of wakes, memorial services, and burials, and determine whether the body should be buried, entombed, or cremated depending on the family’s cultural and/or religious practices. The Florida Funeral Director certificate program will allow students to be eligible for the Florida Funeral Directors State Licensing Exam. This academic program is designed to meet specific state or professional needs. It is not accredited by the American Board of Funeral Service Education. Students graduating from this program are not eligible to take the National Board Examination or any state board examination for which graduation from an ABFSE accredited program is required.

Food & Beverage Management
College Credit Certificate | Code: 65051 | 30 credits
The Food Service Management College Credit Certificate program is designed to prepare students with a theoretical and practical foundation for a successful career in the food and beverage industry. Students enrolled in this program are prepared for positions such as Catering/Banquet Manager, Food & Beverage Manager, Restaurant Manager and Bar/Lounge Manager. Credits earned can be applied to an Associate in Science degree in Hospitality Management, which is fully transferable to public universities within the State of Florida.

Food and Beverage Operations
College Credit Certificate | Code: 65058 | 18 credits
The Food and Beverage Operations College Credit Certificate is designed to prepare students with an in-depth and practical foundation in management for a successful career in the food and beverage industry. Students enrolled in this certificate are prepared for positions such as Shift Supervisor, Restaurant Supervisor, or Bar/Lounge Supervisor. Credits earned can be applied to an Associate in Science degree in Hospitality Management, which is fully transferable to public universities within the state of Florida.

Food and Beverage Specialist
College Credit Certificate | Code: 65057 | 12 credits
The Food and Beverage Specialist College Credit Certificate is designed to prepare students with a theoretical and practical foundation for a successful career in the food and beverage industry. Students enrolled in this certificate are prepared for positions such as Server, Room Service Attendant, or Banquet Set-Up Staff. Credits earned can be applied to an Associate in Science degree in Hospitality Management, which is fully transferable to public universities within the state of Florida.

Graphic Design Support
College Credit Certificate | Code: 61002 | 15 credits
The Graphic Design Support College Credit Certificate (CCC) is designed to prepare students for initial employment as a graphic design assistant, graphic production artist, or to provide supplemental training for persons previously or currently employed in these occupations.

Healthcare Informatics Specialist
College Credit Certificate - Health Sciences | Code: 63029 | 24 credits
This program is designed to prepare students for employment in various healthcare settings where the Electronic Health Record is being implemented or maintained. Students will learn the concepts of collection of health information, integration of technology into the management of healthcare records, basic concepts in health data management, and database management in a healthcare setting.

Help Desk Support Technician
College Credit Certificate | Code: 66037 | 16 credits
The Help Desk Support Technician College Credit Certificate is designed to prepare students with the technical knowledge and skills for employment as entry-level computer help desk and support technicians in commercial, industrial and government institutions. Graduates are also prepared for CompTIA A+ and Network+ industry certifications.

Horticulture Professional
College Credit Certificate | Code: 63025 | 18 credits
The College Credit Certificate in Agriscience for the Horticulture Professional is an advanced certificate for managerial positions in nurs-
ery and landscape technology industries. The certificate will prepare students for employment in horticulture and landscape industries as nursery managers, landscape and grounds keeping managers, nursery supervisors, landscape gardeners, and parks workers. Students will learn concepts of plant physiology and growth, plant classification, plant identification and plant care and maintenance to satisfy the growing needs of the nursery industry with an additional emphasis on management skills. If a student should choose to continue their education in Agriscience, the college credits granted in this program will apply toward an A.S. degree in Landscape and Horticulture Technology.

**Horticulture Specialist**  
**College Credit Certificate | Code: 63026 | 12 credits**  
The College Credit Certificate in Agriscience for the Horticulture Specialist is an introductory certificate designed to prepare students for positions in the nursery and landscape industries at the entry level. The certificate will prepare students for employment as supervisors in grounds keeping, nursery and greenhouse production, landscape gardeners, and parks workers. Students will learn plant physiology and growth, plant classification, plant identification and plant care and maintenance to satisfy the growing needs of the nursery industry. If a student should choose to continue their education in Agriscience, the college credits granted in this program will apply toward an A.S. degree in Landscape and Horticulture Technology.

**Infant/Toddler Specialization**  
**College Credit Certificate | Code: 67014 | 12 credits**  
This program is designed to prepare students as early childhood education caregivers with an infant/toddler specialization or provide supplementary training for persons previously or currently employed in these occupations. Students will learn essential components of quality care and education including, but not limited to early childhood education, guidance techniques, establishing and maintaining a safe and healthy learning environment, rules and regulations, family interactions, nutrition, child growth and development and professional responsibilities. Employment opportunities include in home or center based programs for infants/toddlers.

**Information Technology Support**  
**College Credit Certificate | Code: 66044 | 28 credits**  
The Information Technology Support program is designed to provide an opportunity to establish a basic foundation in computer applications for employment in scientific, commercial, industrial and government institutions. Graduates are prepared for positions as data-entry specialists, software applications specialists and office systems specialists to meet the demands of today’s automated offices.

**Intermodal Freight Transportation**  
**College Credit Certificate | Code: 68011 | 18 credits**  
This certificate provides specialized knowledge in the intermodal transportation of goods. It covers technical skills, procedures, processes and occupation-specific skills that will enhance employ-ability. This certificate is part of the Associate in Science degree in Transportation and Logistics.

**International Freight Transportation**  
**College Credit Certificate | Code: 68010 | 15 credits**  
This certificate provides specialized knowledge in the area international movement of freight. It covers the regulations and policies governing international shipments and border security, the intermodal transportation of international freight, the regulatory agencies and the documents and processes involved. This certificate is part of the Associate of Science Degree in Transportation and Logistics.

**Internet of Things (IoT) Applications**  
**College Credit Certificate | Code: 66057 | 24 credits**  
The Internet of Things (IoT) Applications College Credit Certificate prepares students with multidisciplinary workforce skills and provides an accelerated credential that is useful for immediate employment and career experience. Graduates of the CCC in the IoT Applications acquire a skill-set that leads to producing connected devices by developing applications that can run on microcontroller development boards, simulating the functioning of the devices, and building physical prototypes. Upon completion of the program, the student will have learned how to program in the dominant programming languages used in IoT, completed projects that they can include in their portfolio, and configured different single board computers.

**Lean Manufacturing**  
**College Credit Certificate | Code: 68001 | 12 credits**  
This certificate prepares students for initial employment with an occupational title as a Quality Specialist or Lean Specialist in various specialized areas. It also can provide supplemental training for persons previously or currently employed in these occupations. These courses can be applied toward the Associate of Science in Advanced Manufacturing.

**Logistics and Transportation Specialist**  
**College Credit Certificate | Code: 63019 | 18 credits**  
The Logistics and Transportation Specialist College Credit Certificate (CCC) will prepare students for further education and employment in the Transportation, Distribution and Logistics career cluster. The program content is broad-based to reflect the cross-functional relationships prevalent in supply chain management. Students are exposed to related business practices such as standard operating procedures, negotiation techniques, planning, organizing, and accounting concepts, purchasing, sustainability, warehousing, project management, quality control, import/export, and asset management theory. Emphasis is placed on understanding the planning, acquisition, flow, and distribution of goods and services while managing the complexity of operational linkages in a fast-paced global supply chain.

**Marketing Operations**  
**College Credit Certificate | Code: 65008 | 30 credits**  
The Marketing Operations College Credit Certificate program is designed to prepare students for employment as advertising and
display specialists, marketing, advertising, public relations manager, public relations specialists or to provide supplemental training for persons previously or currently employed in these occupations.

**Mechatronics**  
**College Credit Certificate | Code: 66053 | 30 credits**

This program offers students instruction in maintenance techniques, computer aided drafting/design skills, technical communications, maintenance and operation of various industrial components, quality control and testing, material handling protocols, and proper usage of tools and instrumentation.

**Microcomputer Repairer/Installer**  
**College Credit Certificate | Code: 66032 | 15 credits**

The Microcomputer Repairer/Installer College Credit Certificate program is designed to prepare students to work as Computer Repair Assistants in a computer repair shop or the computer maintenance division of a corporation, by acquiring a basic understanding of computer internal architecture and operations. Students must complete the courses listed below.

**Mortgage Finance**  
**College Credit Certificate | Code: 62004 | 31 credits**

The Mortgage Finance College Credit Certificate program is a 31 College Credit Certificate program, which applies towards an Associate in Science in Financial Services degree. It is designed to develop entry-level professionals to work in Mortgage Finance, with an emphasis in Affordable Housing. A major goal of this program is to increase the role and level of minorities in the Mortgage Finance industry.

**Network Security**  
**College Credit Certificate | Code: 66059 | 20 credits**

The College Credit Certificate (CCC) in Network Security will prepare graduates with the education and skills needed to fulfill roles and positions in the Information Security industry. The coursework will include education and applied technical skills in the networking and information security fields.

**Network Server Administration**  
**College Credit Certificate | Code: 66035 | 24 credits**

The Network Server Administration College Credit Certificate is designed to prepare students with a foundation in how to implement, support, and maintain Microsoft-based servers and clients. Graduates are prepared for employment as entry-level network administrators, network technicians, information technology support specialists, network coordinators and as candidates for industry certifications.

**Network Systems Developer**  
**College Credit Certificate | Code: 66034 | 41 credits**

The Network Systems Developer College Credit Certificate is designed to prepare students to work as Computer Repair Technicians in a computer repair shop or the computer maintenance division of a corporation, by acquiring an in-depth understanding of computer internal architecture, operations and digital systems design operations.

**Oracle Certified Database Administrator**  
**College Credit Certificate | Code: 66048 | 16 credits**

The Oracle Certified Database Administrator College Credit Certificate program is designed to provide an opportunity to establish a basic foundation in the field of database administration for employment in commercial, industrial and government institutions. Graduates are prepared for the position of Oracle Database Administrator.

**Paramedic**  
**College Credit Certificate - Health Sciences | Code: 63027 | 42 credits**

The Paramedic College Credit Certificate provides students with the advanced skills, knowledge, and clinical experience required to provide safe and effective hospital and pre-hospital care to the sick and injured. Satisfactory completion of the program will qualify the graduate to sit for the State and/or National Paramedic Certification Examination. This program is accredited by the Commission on Accreditation of Allied Health Education Programs (HYPERLINK "https://www.caahep.org/" www.caahep.org) upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP) and approved by the State of Florida, Department of Health and Rehabilitative Services.

**Passenger Service Agent**  
**College Credit Certificate | Code: 66028 | 16 credits**

The Passenger Service Agent College Credit Certificate program is designed to give students the skills required to gain employment as a passenger service agent, including gate and ramp responsibilities. Students will be required to do an internship with a commuter or major airline. Contact the Aviation Department at 305-237-5950 for more information and advisement.

**Rapid Prototyping Specialist**  
**College Credit Certificate | Code: 66054 | 12 credits**

This program prepares students for entry level positions as Rapid Prototypers or 3d Modeler/Designer. The program provides the technical skills proficiency and competency-based applied learning that contributes to the academic and career knowledge for students entering the advanced manufacturing industry.

**Rooms Division Management**  
**College Credit Certificate | Code: 65048 | 30 credits**

The Rooms Division Management College Credit Certificate program is designed to prepare students with a theoretical and practical foundation for a successful career in the hotel sales and marketing
industry. Students enrolled in this certificate are prepared for positions such as Front Desk Manager, and Guest Relations Manager. Credits earned can be applied to an Associate of Applied Science degree in Hospitality and Tourism Management.

**Rooms Division Operations**

**College Credit Certificate | Code: 65056 | 19 credits**

The Rooms Division Operations College Credit Certificate is designed to prepare students with a theoretical and practical foundation for a successful career in the lodging industry. Students enrolled in this certificate are prepared for positions such as Front Desk Supervisor or Guest Relations Supervisor. Credits earned can be applied to an Associate in Science degree in Hospitality Management, which is fully transferable to public universities within the state of Florida.

**Rooms Division Specialist**

**College Credit Certificate | Code: 65055 | 13 credits**

The Rooms Division Specialist College Credit Certificate is designed to prepare students with a theoretical and practical foundation for a successful career in the lodging industry. Students enrolled in this certificate are prepared for positions such as Front Desk Agent, Guest Relations Agent, or Reservation Clerk. Credits earned can be applied to an Associate in Science degree in Hospitality Management, which is fully transferable to public universities within the state of Florida.

**Solar Energy Systems Specialist**

**College Credit Certificate | Code: 66056 | 18 credits**

The College Credit Certificate (CCC) in Solar Energy Systems Specialist will fill a growing need to train personnel in how to build and install Solar Photo-Voltaic panels in both commercial and private structures. Students will receive a wide-range of classroom and hands-on training that will provide the student with the education and knowledge of the following grid connect solar power systems, off grid solar-remote power systems, commercial and medium scale solar, solar hot water, solar hydronics/thermal, and solar water pumping.

**Tax Specialist**

**College Credit Certificate | Code: 65076 | 12 credits**

The College Credit Certificate in Tax Specialist will prepare students to fill out the necessary forms for their clients or for the businesses in which they work. In addition, students will learn how to reduce taxable income and discover the current income tax regulations and their impact on individuals, couples, families, and business owners. In addition, students will gain a working knowledge about business income, tax credits, itemized deductions, LLCs and S Corps, retirement plans, and home businesses.

**Television Studio Production**

**College Credit Certificate | Code: 61003 | 12 credits**

The Television Studio College Credit Certificate is designed for students who intend to seek employment in radio, television and production companies, as well as allied fields such as in-house educational and industrial studios. The curriculum stresses hands-on equipment use in TV laboratories. Students will have access to high-end cameras, editing suites and video graphics animation facilities and will complete portfolio-quality productions.

**Translation and Interpretation**

**College Credit Certificate | Code: 64052 | 18 credits**

This College Credit Certificate (CCC) focuses on the basic preparation needed for a career in Translation and Interpretation. Students learn how language functions and apply this knowledge to the development of Sight and Consecutive Interpretation skills. The development of basic translation competencies is also covered with emphasis on the use of Computer Assisted Translation software.

**Virtual and Augmented Reality Technologies**

**College Credit Certificate | Code: 66060 | 19 credits**

The program will teach students the fundamentals of Virtual and Augmented Reality. Students will learn basic concepts, history and tools commonly used for stereoscopic image acquisition and immersive technologies. Students will also learn the origins of Virtual Reality (VR) and its current role in the industry, its applications and opportunities and how to generate and manipulate VR imagery.

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**CAREER TECHNICAL EDUCATION (CTE) CERTIFICATES**

Career Technical Education (CTE) Certificates prepare students to enter a specific career or vocation. To complete a program, students must demonstrate that they have mastered specific job-related performance requirements as well as communication and computation competencies and will be awarded a Career Technical Certificate (CTC) upon completion. CTE certificates vary in length depending on the complexity of the requirements. Students entering CTE certificates greater than 450 hours will be tested for basic communication, computation and reading skills, also known as the Tests of Adult Basic Education (TABE). Students who score below the required Department of Education grade level designated for each program will be required to take appropriate basic skills training prior to the completion of their respective programs (§233.0695, F.S).

CTC students are eligible for financial aid provided they are enrolled in a CTE certificate that is 600 credit hours or greater. Health Science certificates are offered
at the Medical Campus. Students interested in any of the Health Science certificates are encouraged to consult advisors in the New Student Center to receive the most current information regarding program admission.

**Advanced Automotive Service Technology - Tesla Technician**
Career Technical Certificate | Code: 51000 | 26.66 credits
The Tesla Technician Career Technical Certificate, an intensive 15-week electric vehicle service training program designed to provide students with the skills necessary for a successful career with Tesla. During the course of the program, students will develop technical expertise and earn certifications through a blended approach of in-class theory, hands-on labs and self-paced learning. Upon successful completion of the program, graduates have the certification necessary for job placement as Service Technicians at one of Tesla’s Service Centers across the country, including South Florida.

**Aircraft Structural Assembly and Fabrication Apprenticeship**
Career Technical Certificate | Code: T64010R | 143.20 credits
The Career Technical Certificate (CTC) in Aircraft Structural Assembly and Fabrication Apprenticeship will prepare the student to perform scheduled and non-scheduled maintenance and repairs on aircraft. The student will assist aviation maintenance technicians in commercial jet modifications, minor and major maintenance checks and corrosion control and preventions, and line services for a wide array of commercial and military aircraft.

**Business Computer Programming**
Career Technical Certificate | Code: 55023 | 40 credits
The Business Computer Programming program offers a broad foundation of knowledge and skills expanding the traditional role of the Junior Programmer. The content includes converting problems into detailed plans; writing code in computer languages, testing, monitoring, debugging, documenting, and maintaining computer programs; and designing programs for specific uses and machines. Test of Adult Basic Education (TABE) is required.

**Correctional Officer - State**
Career Technical Certificate | Code: 57021 | 14 credits
Correctional Officers in the State of Florida. All criminal justice standards and training, Department of Education, and local standards will be met. Graduates are eligible for employment with any correctional agency in the state upon graduation from the program and successful completion of the State Certification Exam. Topics include human behavior, law, communications, facility operations, first aid and other related topics. There is emphasis on practical applications and competency-based performance. This program is offered at the School of Justice. Students seeking entrance into the MDC School of Justice basic recruit training programs for a career in corrections are required to pass a physical screening, physical agility, Voice Stress Analysis Test, psychological test, fingerprinting and background check and the Basic Abilities Test. For more information please contact the School of Justice and/or visit https://www.mdc.edu/justice/assessment-center.aspx.

**Fire Fighter Minimum Standards**
Career Technical Certificate | Code: 57004 | 15 credits
The purpose of the Fire Fighting program is to prepare students for employment and certification as a firefighter in accordance with Florida Statutes 633. The program is approved by the division of state fire, bureau of fire standards and training. Test of Adult Basic Education (TABE) is required.

**Fire Fighter/Emergency Medical Technician - Combined**
Career Technical Certificate | Code: 58000 | 25 credits
The Combined Fire Fighter/Emergency Medical Technician (EMT) certificate will prepare graduates with the technical skills needed fulfill roles and positions in the fire service and Emergency Medical Services (EMS) industry. The coursework will include applied technical skills in both firefighting and emergency medical services. The combined Fire Fighter/Emergency Medical Technician (EMT) certificate is for School of Justice students only.

**Florida CMS Law Enforcement BRT**
Career Technical Certificate | Code: 57022 | 25.66 credits
The Law Enforcement Officer program prepares students for certification as Police Officers in the State of Florida. All criminal justice standards and training, Department of Education, and local standards will be met. Graduates are eligible for employment with any law enforcement agency in the state upon graduation from the program and successful completion of the State Certification Exam. Topics include law, human issues, patrol, traffic, investigations and communications. There is an emphasis on practical applications and competency-based performance. This program is offered at the School of Justice. Students seeking entrance into the MDC School of Justice basic recruit training programs for a career in law enforcement are required to pass a physical screening, physical agility, Voice Stress Analysis Test, psychological test, fingerprinting and background check and the Basic Abilities Test. For more information please contact the School of Justice and/or visit https://www.mdc.edu/justice/assessment-center.aspx.

**Massage Therapy - Accelerated Option**
Career Technical Certificate – Health Sciences | Code: 53030 | 25 credits
The Massage Therapy program prepares individuals to provide various techniques of massage of the back, head, and feet including reflexology, rolling, trigger point therapy. There is emphasis on the therapist/client relationship and record management for clients and payment. Upon successful completion of this program, the graduate is eligible to sit for the State of Florida Massage Therapy licensure examination.
**Massage Therapy - Generic Option**  
Career Technical Certificate – Health Sciences | Code: 53029 | 25 credits  
The two-semester program prepares individuals to provide various techniques of massage of the back, head, and feet including reflexology, rolling, trigger point therapy. There is an emphasis on the therapist/client relationship and record management for clients and payment. Upon successful completion of this program, the graduate is eligible to sit for the State of Florida Massage Therapy licensure examination. Test of Adult Basic Education (TABE) maybe required.

**Massage Therapy - Transitional Option**  
Career Technical Certificate – Health Sciences | Code: 53031 | 25 credits  
The Massage Therapy program prepares individuals to provide various techniques of massage of the back, head, and feet including reflexology, rolling, trigger point therapy. There is an emphasis on the therapist/client relationship and record management for clients and payment. Upon successful completion of this program, the graduate is eligible to sit for the State of Florida Massage Therapy licensure examination.

**Medical Assisting**  
Career Technical Certificate – Health Sciences | Code: 53027 | 43.30 credits  
The Medical Assisting program, which is 1 year (3 semesters) in length, prepares individuals to provide health services in ambulatory out-patient facilities, including medical offices and clinics. Medical Assistants participate in diagnostic, clinical, and administrative functions. Diagnostic functions include drawing blood, performing basic laboratory tests, and taking EKG’s and X-Rays. Clinical functions include obtaining vital signs, preparing patients for and assisting with examinations and procedures, administering medications and performing treatments. Administrative functions include serving as receptionists, scheduling appointments and diagnostic procedures, managing records, completing insurance coding, and providing for billing and collecting. Medical Assistants use computer technology to manage records, billing and other aspects of a medical office or clinic. Students participate in an externship each semester to gain experience in every aspect of the medical assistant’s practice. Test of Adult Basic Education (TABE) maybe required.

**Medical Coder/Biller**  
Career Technical Certificate – Health Sciences | Code: 53028 | 36.97 credits  
The Medical Coder/Biller program prepares individuals for employment as Medical Coders/Billers. The student will learn to translate diagnoses and procedures into numerical designation (coding) using the International Classification of Diseases (ICD-9-CM) and Current Procedural Terminology (CPT-4). The program involves coding, classifying and indexing diagnoses and procedures for purposes of standardization, retrieval and statistical analysis. The student will also be trained to prepare and file medical insurance claim forms for reimbursement. Electronic claims transmission is included. There is special emphasis on ethical and legal responsibilities, data quality, financial reimbursement, Diagnosis Related Groups (DRGs) and Ambulatory Patient Classification (APCs). Test of Adult Basic Education (TABE) maybe required.

**Medical Record Transcribing**  
Career Technical Certificate – Health Sciences | Code: 53026 | 40 credits  
The Medical Record Transcribing program prepares individuals to transcribe medical records from recorded dictation. The individual prepares and types reports in appropriate format for use by health care facilities, physicians, insurance companies, legal proceedings and research specialists. Test of Adult Basic Education (TABE) is required.

**PC Support Services**  
Career Technical Certificate | Code: 55022 | 30 credits  
The PC Support Services program offers a broad foundation of knowledge and skills to prepare students for employment in PC support services positions. The content includes software applications and operating systems including the use of advanced software/system features and programs; computer networking and network administration. The 900 contact hours include both microcomputer and general business courses. Hands-on experience is an integral part of the program. Activities include the use of microcomputers, and peripheral equipment with widely used business applications software, database and other applications. Test of Adult Basic Education (TABE) is required.

**Pharmacy Technician**  
Career Technical Certificate – Health Sciences | Code: 53025 | 35 credits  
The Pharmacy Technician program prepares individuals for employment as Pharmacy Technicians. The Pharmacy Technician works primarily in retail and hospital pharmacies under the supervision of a registered pharmacist in the packaging and distribution of medication. Test of Adult Basic Education (TABE) maybe required.

**Phlebotomy Technician**  
Career Technical Certificate – Health Sciences | Code: 53024 | 5.50 credits  
The Phlebotomy Technician program is designed to prepare students for employment in a hospital laboratory, blood center, or other health care facility to draw blood by venipuncture and capillary puncture. Students are taught safe and efficient work practices in obtaining adequate and correct blood specimens, labeling specimens, and transporting specimens correctly to the appropriate laboratory sections. The Center for Disease Control (CDC) guidelines for HIV/AIDS, Hepatitis B and other diseases are stressed.

**Private Investigator Intern**  
Career Technical Certificate | Code: 57023 | 1.33 credits  
The purpose of this 40 hour program is to prepare students for employment as Private Investigator Interns as required by Section
Private Security Officer
Career Technical Certificate | Code: 57006 | 2.27 credits

Part A The first 42 hours is designed to prepare students to apply for Class “D” Private Security Officer license in FL. Students will learn regulatory compliance, emergency procedures, ethics and entrepreneurship, courtroom procedures, traffic direction and crowd control, and more. Part B 28 hrs. is designed to prepare the student for compliance with the state minimum training standard for a class “G” (armed) security guard license. Special Fee School License DS 8900048

COLLEGEWIDE ACADEMIC SCHOOLS

The College has adopted a management approach to the delivery of occupational and technical education, including respective transfer options through a system of collegewide schools. The primary objective is to serve students more effectively and efficiently, provide more accessible programs countywide, and be more responsive to the needs of business and industry.

Benjamín León School of Nursing

The Benjamin León School of Nursing is accredited by the Accreditation Commission for Education in Nursing (ACEN) (3343 Peachtree Road NE, Suite 850, Atlanta, Georgia 30326, 404-975-5000, info@acenursing.org) and offers a Bachelor of Science in Nursing (BSN) degree to provide students and practicing nurses with a high-quality, accessible, cost-effective and seamless academic program designed to meet the critical workforce need for baccalaureate-prepared nurses in the state of Florida. Students entering the BSN program must have an earned Associate in Science in Nursing (ASN) from a regionally accredited institution/regionally accredited ASN program and an active license as a registered professional nurse (RN).

The Benjamin León School of Nursing also offers the Associate in Science degree in Nursing, leading to eligibility to apply for the licensing examination for registered nurse practice (NCLEX-RN). The Associate in Science program offers four options designed to meet the needs of individual learners (generic, transitional bridge and accelerated and part-time tracks) and all combine class work with clinical nursing experiences in local hospitals and agencies. Students entering the associate degree program should possess college-level cognitive, communication and computational skills. Specific general education and science courses are included in the curriculum; selected courses are required before admission to these health care programs.

Miguel B. Fernandez Family School of Global Business, Trade and Transportation

The Miguel B. Fernandez Family School of Global Business, Trade and Transportation offers a full range of academic programs to prepare students for careers in business or to start a successful business of their own. Course offerings are available in a wide number of disciplines including accounting, business administration, economics, entrepreneurship, management, marketing, international business, supply chain and logistics, and financial services. The School of Business has a long tradition of preparing students to meet the needs of the local workforce and partnering with industry to offer students cutting-edge instruction in various fields. The School has become known for excellence in providing customized training to meet industry needs. School of Business courses are offered at the North, Kendall, Wolfson, Homestead, Eduardo J. Padrón and Hialeah campuses and West Campus, as well as through Virtual College. Academic options include:

- Bachelor of Applied Science (BAS) in Supervision and Management with emphasis on critical thinking and problem solving, skills in high demand among employers worldwide. The BAS in Supervision and Management provides knowledge in a range of organizational settings such as personnel management, organizational behavior, international and small business, finance, business ethics, and leadership. Graduates in this field will develop effective interpersonal skills, foster decision-making and entrepreneurial thinking, and become familiar with diverse business environments.

- Bachelor of Applied Science (BAS) in Supply Chain Management provides knowledge to the supply chain and explores the risks, logistics, economics, regulatory issues, resource allocation, production planning, inventory management and other functions basic to business. Due to the globalization of business, graduates in this field can find employment within the supply chain, logistics and transportation fields.
• Associate in Arts (AA) with a pathway to a degree in accounting, business administration or economics. The Associate in Arts degree is designed for students wishing to transfer to colleges or universities for upper-division coursework. The areas of concentration parallel university coursework and prepare students to enter their junior year at four-year institutions upon completion of the AA degree.

• Associate in Science (AS) in a broad range of business functions including accounting, entrepreneurship, management and marketing. The Associate in Science is designed to prepare students for immediate employment. Credits earned for many courses in these programs are acceptable to upper-division colleges or universities should the student decide to pursue a four-year degree.

• College Credit Certificates including accounting and financial services, entrepreneurship, international business, management and marketing. Focusing on a specific job or set of skills, these programs require fewer credits than an associate degree and are Florida Department of Education Certified College Credit programs. The credits granted will apply to the related AS degree.

• Eig-Watson aviation programs provide students with the education and skills required for a successful aviation career. Associate in Science degrees include Aviation Administration, Aviation Maintenance Management, Professional Pilot Technology, Transportation and Logistics. Related College Credit Certificates include Air Cargo Management, Airline/Aviation Management, Airport Management, Intermodal Freight Transportation and International Freight Transportation; an Advance Technical Certificate in Certified Flight Instructor is also offered. Additionally, the School offers an aircraft dispatcher course and flight simulation training.

• Training techniques and simulation equipment to provide students with a hands-on approach to their education at Miami International Airport, Miami Executive Airport, and the Homestead Campus. The following flight training courses are offered through contracted flight providers:
  • ATF 2210 Commercial Pilot Flight (3 credits)
  • ATF 2305 Instrument Pilot Flight (3 credits)
  • ATF 2400 Multi-Engine Pilot Flight (1 credit)
  • ATF 2501 Flight Instructor Flight Training (3 credits)

• Miami Culinary Institute. At the Miami Culinary Institute, you will gain the real-world and hands-on knowledge to create a perfect blend of classic skills and innovative techniques used by some of the world's best chefs. Our two-year Associate in Science degree in Culinary Arts Management, has been formulated to prepare students of all ages for dynamic careers in culinary arts. Our core philosophy of Food Culture Innovation requires an examination and understanding of the culture built upon our interaction with food. As culinary professionals, we understand the role we play and the responsibility we must own in elevating our community’s expectations about the food they eat. We help our students understand the value of tracing our foods to their source to evaluate how a particular farm, ranch or fishery impacts our environment, community and economy. We examine how food distribution not only contributes to a significant portion of the world's greenhouse gasses, but also how we can make choices that will improve that process. We analyze how food is prepared to ensure that the best nutrition possible is delivered on each plate. Miami Culinary Institute is training the next great culinary professionals and arming them with the tools to innovate the way we interact with food.

  • Miami Hospitality Center. MDC's four-year and two-year academic programs offer a range of degree pathways that prepare you to enter the modern workforce or pursue higher educational goals.

  • Bachelor of Applied Science in:
    • Supervision and Management-Hospitality Concentration.
  
  • Associate in Arts pathway in:
    • Hospitality & Tourism Management
  
  • Associate in Science in:
    • Hospitality Administration/Travel & Tourism
  
  • College Credit Certificates in:
    • Cruise Line Operations
    • Food & Beverage Management
    • Food & Beverage Operations
    • Food & Beverage Specialist
    • Rooms Division Management
    • Rooms Division Operations
    • Rooms Division Specialist

School of Continuing Education and Professional Development

The School of Continuing Education and Professional Development’s mission is to make the College more accessible to the public and to meet community needs not served by traditional college programs. Through the Continuing Education departments located on each campus, the school offers noncredit courses in recreational, continuing workforce education and adult...
education categories. Recreational courses cover a huge range of topics from aerobics to Zen, and they serve individuals wanting to enrich their cultural experiences, pursue interests or learn alongside others with similar interests.

Continuing workforce education courses are just-in-time courses intended to help students improve their professional or occupational skills. The topics covered include computer workshops, certification courses, preparing oral presentations, building contractor license exam preparation, as well as several hundred workplace-related topics. Adult education courses prepare the student to pass the GED test or master the basic skills needed for success in one of the College’s accredited programs.

The School of Continuing Education & Professional Development endeavors to provide classes both on and off campus. The majority of classes are conducted in the evenings and on weekends at times that are most convenient to the students enrolling. In its effort to meet the diverse needs of a large, multifaceted community, the school also welcomes suggestions and requests for courses that are not being offered.

**School of Education**
Teaching is a vital and dynamic profession. A career in teaching offers the opportunity to influence children and shape the future. Trends in population growth, an aging teacher workforce and the demand for class size reduction will result in ample professional opportunities for prospective teachers. The School of Education provides training and professional development opportunities for pre-service teachers as well as practicing professionals.

The School offers a wide variety of programs in Early Childhood Education, K-12 Teacher Education Preparation, alternative pathways to certification and teacher recertification.

- **Early Childhood Education:**
  Students may earn College Credit Certificates (CCC) with an Infant/Toddler Specialization or Preschool Specialization that may lead to the National Child Development Associate credential and/or the Florida Child Care Professional Certificate (FCCPC). Students may earn a College Credit Certificate with an Administrator Specialization that may lead to the Director’s Credential Level 1 or 2. Students may also earn a CCC in Inclusion or a CCC in Intervention Studies. All CCC lead directly to the AS degree program.

  Students may earn an Associate in Science (AS) degree in early childhood education which will prepare students for immediate employment as early childhood practitioners or professionals in both the public school system or private school sector. All AS degrees as accredited by the National Association for the Education of Young Children. The AS degree leads seamlessly to the Bachelor of Science in Early Childhood Education from birth to grade three with endorsements in English for Speakers of Other Languages (ESOL), Prekindergarten Disabilities, and Reading.

- **K-12 Teacher Education Programs:**
  Students may earn an Associate in Arts with the requisite courses needed for a baccalaureate degree in teaching. Students may complete a Bachelor of Science degree in ESE, secondary math or secondary biology, chemistry, earth/space science, or physics. The School’s courses meet state certification requirements as a state-approved teacher preparation program. Students who complete the A.A. with requisite courses needed for a baccalaureate degree in teaching may transfer to state university colleges of education or private institution with junior-level standing.

  K-12 Teacher Education programs are in the areas of: Exceptional Student Education (K-12), Mathematics Education (Grades 6-12), Biology Education (Grades 6-12), Chemistry Education (Grades 6-12), Earth/Space Science Education (Grades 6-12) and Physics Education (Grades 6-12).

  The baccalaureate programs in education are designed to prepare future teachers to enter the teaching profession immediately after graduation. Upon program completion students meet all Florida Department of Education requirements including the successful completion of the certification exams, an e-Portfolio of art facts that demonstrate Florida Educator Accomplished Practices, clinical experience in a variety of settings and grade levels, and a semester-long internship. Professional development workshops also are provided.

- **Center for Professional Development:**
  The CPD is the post-baccalaureate branch of the School of Education. Students may complete the substitute teacher training or a variety of teacher certification and recertification courses as well as endorsements in Autism Spectrum Disorders, ESOL, Gifted, Prekindergarten Disabilities, and Reading. Career changers who hold a bachelor’s degree can become a state-certified teacher holding a Professional Certificate from Florida Department of Education in one year through the Educator Preparation Institute.

**School of Engineering, Technology, and Design**
The School of Engineering, Technology, and Design provides the dynamic knowledge, skill, hands-on training and industry connection to turn your dreams and imagi-
nation into achievable steps to realize the success you desire. Our vision is to provide students with unmatched opportunities and access to an outstanding curriculum taught by world-class faculty within the information technology and engineering fields. Our programs are strategically formulated to exceed the critical demands of the high-technology marketplace, providing students with a wide variety of options for success in the 21st century.

The School of Engineering, Technology, and Design is a Cisco Regional Networking Academy offering CCNA classes that lead to valuable industry certifications. These courses are available at most campuses. The School also provides instruction using official curriculum from companies like Microsoft, AWS and Oracle. With input from industry partners, including NextEra Energy, Baptist Hospital, Amazon, Visa, IBM, SAS, Dell, Oracle and Microsoft, our courses deliver the knowledge and skills that the nation’s top employers are looking for.

The Engineering Department offers pathways to Associate in Arts programs in ten different fields. It also offers three unique Associate in Science programs in Computer Engineering Technology, Electronics Engineering Technology and Industrial Engineering Technology that provide the skills for high paying jobs. Students looking for short term programs with recognized credentials have access to College Credit Certificates in Mechatronics, Microcomputer Repairer/Installer, Rapid Prototyping Specialist, Engineering Technology Support Specialist and Computer Specialist.

The Technology department offers Associate in Arts degrees in Computer Science and Computer Information Systems, and Associate in Science degrees in emerging technologies. These include: Animation and Game Art, Business Intelligence, Computer Information Technology, Computer Programming and Analysis for Business, Mobile Apps and IoT, Cybersecurity, Database Technology, Game Development and Design, and Network Services Technology with tracks in Cloud Computing and Network Security.

At MDC’s School of Engineering, Technology, and Design, you can earn a bachelor’s degree in fields that are in high demand. Upon completion of an Associate in Arts degree or an Associate in Science, students can transition to the following baccalaureates:

Bachelor of Science in Data Analytics: This was the first undergraduate program in the state of Florida in data analytics. It prepares students for the booming field of big data across all industries. Students learn how to find patterns, apply statistics, and create data visualizations—all necessary skills to acquire positions as Data Analysts, Database Architects and Business Intelligence Analysts.

Bachelor of Science in Electrical and Computer Engineering Technology: This program opens plenty of doors to a variety of technology-related fields. Graduates are trained as engineering practitioners, ready to take on roles as Electronics Engineers, Manufacturing Engineers and Project Engineers.

Bachelor of Science in Information Systems Technology: The field of information systems continues to grow, offering graduates a wide range of lucrative and rewarding career opportunities. The program offers students the skills and knowledge to direct and control computerized information resources within an organization. Three concentrations are available for students to choose from: Cybersecurity, Networking and Applications Development.

Additional disciplines under the School of Engineering, Technology, and Design include:

- Architecture and Interior Design. Offering programs in:
  - Associate in Arts degree with pathways in:
    - Architecture
    - Building Construction
    - Interior Design
    - Landscape Architecture
  - Associate in Science degrees in:
    - Architectural Design and Construction Technology
    - Building Construction Technology
    - Interior Design Technology
  - College Credit Certificates in:
    - Computer Aided Design Assistant
    - Computer Aided Design Operator

- Entertainment & Design Technology. Offering design and media production programs in:
  - Bachelor of Applied Science in:
    - Film, Television & Digital Production
  - Associate in Arts degree with pathways in:
    - Computer Art Animation
  - Associate in Science degrees in:
    - Film Production Technology
    - Radio & Television Broadcasting
    - Music Business
    - Graphic Design Technology
    - Graphic Internet Technology
    - Photographic Technology
  - College Credit Certificates in:
    - Film Production Fundamentals
    - Television Studio Production
    - Graphic Design Support
    - Audio Technology

School of Health Sciences

The Medical Campus is committed to assisting qualified students interested in pursuing careers in the health sciences professions. Health Science professionals provide more than 60 percent of all health care administered in the United States. The School of Health Sciences offers more than 20 challenging vocational, certificate
and degree programs, such as respiratory care, opticianry, clinical laboratory sciences and health information management.

Programs in the School of Health Sciences prepare students for employment in a wide variety of settings including hospitals, clinics, research centers, long term care facilities, physician’s offices and wellness centers. In collaboration with more than 300 health care facilities throughout Miami-Dade County, students receive the necessary theory, laboratory experience and clinical practice. Students use state-of-the-art equipment and are supervised by licensed professional faculty. Health Science programs are fully accredited through their respective state and national associations. Most programs have limited access. Program completion affords the graduate the opportunity to seek employment in high-demand professions while receiving a competitive salary. Interested students are encouraged to contact the Medical Campus at 305-237-4141 to receive current information regarding program requirements, application procedures and selection process for the specific Health Science program of interest.

**School of Justice, Public Safety, and Law Studies**

The School of Justice, Public Safety and Law Studies, located on the North Campus, is a cooperative project between federal, state, county and local government agencies and Miami Dade College. The mission of the Miami Dade College-School of Justice, Public Safety and Law Studies is to offer valuable academic programs to degree seeking students and provide high quality workforce education to public safety professionals.

The School of Justice academic programs consist of:
- A.A. pathway to Criminal Justice Administration
- A.S. in Criminal Justice Technology – Generic
- A.S. in Forensic Science
- A.S. in Crime Scene Technology
- A.S. in Computer Crime Investigations
- BAS with a major in Public Safety Management

The A.A. pathway in Criminal Justice Administration is transferrable. It prepares students for upper division studies, such as transfer into the Bachelor of Applied Science Program. Students wishing to attend law school find this degree an important first step toward achieving their goal.

The BAS is a workforce education degree that combines rigorous academic training with hands-on, practical experience. It is a 120 credit hour program incorporating lower and upper division coursework, including the required 45 credit hours of electives and general education requirements, 30 credit hours of lower division requirements, 30 credit hours of upper division requirements, and 15 credit hours in one of three tracks.

The School of Justice workforce education programs are designed to develop and/or improve the knowledge, skills and abilities of public safety officers and individuals who aspire to hold positions in public safety including law enforcement officer, corrections officer and private sector security officers.

**Basic Recruit Training:** The School of Justice offers Basic Recruit Training Programs (BRTP) in the areas of law enforcement, corrections. Students who successfully complete one of the BRTP in Law Enforcement or Corrections, and who pass the State Officer Certification Exam, are eligible to receive academic credits toward an associate’s degree in criminal justice. Credit conversion occurs in two separate phases.

**Private Sector Security Training:** Private sector training is provided to those who seek D (Security Officer), G (Statewide Firearm) and CC (Private Investigator Intern).

**School of Science**

Offering a variety of degrees and certificate programs, Miami Dade College’s School of Science builds a strong foundation in the study of natural sciences. Whether starting a journey to an advanced degree or building skills for today’s workforce, the School of Science offers a modern approach to learning that opens doors to discovery and success.

A Top Choice - Students choose the school’s programs because of the quality curriculum, undergraduate research experiences, individual attention, small class sizes, internship opportunities and highly qualified and motivated instructors.

Engaging Industry - The School of Science collaborates with industry principally through student internships, a required component of the Bachelor of Science in Biological Sciences. An example is internship in a local biotechnology company. Students typically spend a semester working with an industry partner.

Research Focused - Students at the School of Science are afforded the rich experience of authentic undergraduate scientific research, culminating in presentations at a number of regional, national and international conferences. There is year-round research and the 10-week Summer STEM Research Institute, for which students can apply and receive compensation for their work. Most research opportunities are within MDC, but there are a handful of options conducted at collaborating institutions in South Florida and beyond, including the University of Florida, Florida Atlantic University, Nova Southeastern University, St. Thomas University and the University of Miami.

Talented Teachers - Full-time faculty members at the School of Science are talented facilitators of knowledge and are highly qualified in various science fields.
Faculty selection is a very competitive process as many exceptional instructors want to work here. The school’s faculty is inventive in reaching students and leveraging technology and new teaching methods, resulting in higher success rates in rigorous STEM courses. Furthermore, the school’s professors are frequent recipients of the Endowed Teaching Chair award for excellence at MDC. Many get invited to present the results of their research endeavors at scientific conferences.

- School of Science Programs:
  Bachelor of Science in Biological Sciences Degrees (BS)
  - BSBS – Biopharmaceutical Science Concentration
  - BSBS – Biotechnology Concentration
  - BSBS – Science Education Concentration
  Associate in Arts Pathways (AA)
  - Atmospheric Science & Meteorology
  - Biology
  - Chemistry
  - Environmental Science
  - Geology
  - Physics
  Associate in Science Degrees (AS)
  - Biotechnology
  - Biotechnology – Bioinformatics
  - Biotechnology – Chemical Technology
  - Funeral Services
  - Landscape & Horticulture Technology
  Advanced Technical Certificates (ATC)
  - Biotechnology
  - Biotechnology – Bioinformatics
  - Biotechnology – Chemical Technology
  College Credit Certificates (CCC)
  - Biotechnology
  - Florida Funeral Director
  - Horticulture Professional
  - Horticulture Specialist

SPECIAL ACADEMIC AND OTHER PROGRAMS

In meeting its commitment to serve the community, Miami Dade College offers a variety of programs, both on and off campus, to meet the specific educational needs of the groups involved. These may take the form of specially structured programs on campus, courses, seminars or workshops offered at times and locations that best serve public interests and needs.

For example, MDC offers:
1. Assistance to companies and governmental agencies in conjunction with their own training programs;
2. Workshops, seminars and institutes in cooperation with business, professional or other groups;
3. Recreation, personal improvement and cultural activities;
4. Postsecondary occupational career offerings to serve business, industry, the professions and governmental agencies.
5. MDC Apprenticeship Program
6. Earn While You Learn
7. Miami Dade College is the first academic institution in Florida to receive the designation of Program Sponsor by the Florida Department of Education. As a Program Sponsor, MDC is authorized to register occupations, employers and apprentices to participate in Registered Apprenticeship. Apprenticeships are an earn-and-learn alternative for individuals to be employed while they attend school. Classroom instruction and on-the-job training are structured to complement each other, making apprentices productive in an abbreviated period of time. Through experiential learning, post-secondary credits and industry certifications, apprentices gain technical and high-level academic skills, equipping them to be lifelong learners. Apprenticeship is a promising approach to promoting diversity and equity within companies and the communities they serve; replacing a retiring workforce; keeping pace with technology; and reducing the burden of student loan debt.
8. Miami Dade College has three Registered Apprenticeship programs in the areas of Aviation, Information Technology, and Logistics and Transportation. The College plans to expand its apprenticeships in the areas of Banking and Finance, Creative Design, Hospitality and Tourism, and Life Sciences and Health Care.

MDC WORKS: Career Studio

MDC WORKS Career Studio is a professional development resource that prepares MDC students for the workforce by giving them the skills, information and contacts to successfully launch their careers and create meaningful futures.

Launched in 2018 in collaboration with the U.S. Department of Labor and the Florida Department of Education, MDC WORKS Career Studio was the first program of its kind to integrate interactive, virtual and augmented reality into its career exploration process at an academic institution in Florida. MDC WORKS is free
and automatically available to all MDC students. Students activate their personal Career Portal by signing in with their MDC email address and password. Once the portal is activated, students must confirm their registration via e-mail and then they will have access to apply to the thousands of job and internship postings and networking resources.

The MDC WORKS Career Studio provides the following services to students and alumni up to one year after their last class at MDC:

- Career Coaching
- Career Readiness Workshops & Resources
- Résumé Assistance
- Interview Preparation & Practice
- Networking Events
- Job & Internship Postings
- On-Campus & Virtual Employer Information Sessions
- Interviews with Employers
- Career Fairs and Hiring Events
- Online Career Portal to stay organized

MDC WORKS Career Studio serves all 8 Miami Dade College Campuses and assists all students who are seeking career readiness, internship and job placement assistance who are registered in associate and bachelor degree programs, as well as, GED, ESL and ESOL class's in-person, virtually, and over the phone at 305-237-9675 (WORK), mdcworks@mdc.edu, www.mdcworks.org.

In addition, MDC WORKS Career Studio offers a plethora of career readiness resources, support and downloadable resume templates on their website at www.mdcworks.org.

**Center for Economic Education**  
(Eduardo J. Padrón Campus)

The mission of the Center for Economic Education is to work closely with the educational communities in Miami-Dade and Monroe counties to develop greater awareness of economic literacy. Among the most popular of the Center's programs are the four recertification credit courses offered to area teachers in grades K-12. Of these, the national Stock Market Game is played in grades 5-12 in each of the major semesters. The Free Enterprise Bank Program, available to grades K-12, provides real money for class business activities. The Center works with area educational administrators to create and assist in the development of curriculum materials. These materials have included a tourism and development program, a Civics Teachers Resource Guide, Elementary Program of the Economics of the Stanford Achievement Test and many more program examples at each of the major grade levels.

It is the Center's goal to provide the latest and best materials and programs in economic education to our schools. Through these opportunities the Center seeks to promote greater understanding on the part of our young people about the economy in which they live and the economic climate in which they will work.

**Cybersecurity Center of the Americas**  
(Wolfson Campus)

The Cybersecurity Center of the Americas is an all-in-one resource for those interested in building a career in cybersecurity, offering the most advanced education and hands-on experience in cybersecurity defense systems. The unique, customizable technology in place at the Center caters to all skill levels, allowing for a flexible learning environment for trainees of all backgrounds. The holistic training center provides programs for trainees of all skill levels, from beginners looking to enter the world of cybersecurity, to security experts looking to improve their skills and advance their careers. Dedicated to education and serving the community, the Cybersecurity Center of the Americas also hosts forums, speakers, and events.

**Cloud Computing Center**  
(Eduardo J. Padrón Campus)

The Cloud Computing Center serves as a Cloud Computing hub where technology leaders, industry experts and students can engage and collaborate. The Center houses the College Credit Certificate and Associate of Science degrees in Enterprise Cloud Computing, and exposes students and existing IT professionals to industry leading cloud platforms and industry certifications needed to fill increasing demand of IT cloud jobs in the workplace. The Center also hosts Cloud Computing accelerated training programs, summer camps, forums, speakers and events as Miami Dade College continues to serve the community.

**Center for Financial Training**  
(Wolfson Campus)

The Center for Financial Training Southeastern (CFTSE) is a local training provider of the American Bankers Association (ABA). As the largest industry-sponsored adult education program in the world for financial services professionals, CFTSE benefits more than 3,500 financial services professionals locally and is one of 20 centers located throughout the United States.

CFTSE is a unique source for commercial banking and financial industry training and education. CFTSE is a nonprofit educational organization that conducts college credit courses (live classes, guided self-study and online), seminars, webinars, computer workshops and customized and contract training.

Students can earn CFTSE and/or American Bankers Association (ABA) diplomas and certificates that are recognized throughout the industry and accepted as college credit. Students can also earn Banking College Credit Certificates. CFTSE has established an academic
partnership with Miami Dade College, enabling CFTSE students to achieve degree status while completing their financial services studies. CFTSE courses are offered at all MDC campuses, and at certain financial institutions. All courses are open to the public however, special fees are charged by CFTSE for certification and materials. The fee structure varies depending on whether the student is a member or nonmember of CFTSE. The fee is charged in addition to MDC tuition and is paid to CFTSE. CFTSE also offers special programs in partnership with MDC, to include financial literacy workshops and the Future Bankers’ Camp. The Future Bankers’ Camp is a partnership between CFTSE, MDC - School of Business and Miami Dade County Public Schools - Academy of Finance.

**Continuing Education**

The School of Continuing Education and Professional Development is committed to the philosophy that learning is a lifetime process and that the many years spent in formal education do not complete our learning experience. This philosophy serves as the foundation of our learning experience and values the knowledge we acquire daily and use for the rest of our lives.

Campuses offer recreation and leisure courses and activities for those who wish to enrich their cultural lives or improve their personal efficiency and professional skills. No record of previous education is necessary and little or no homework is required. No grades are given through Continuing Education, no academic credit gained and attendance standards are voluntary.

Continuing Workforce Education training courses are offered to improve employment-related skills for postlicensing and for professional licensing. Training is listed on a student’s transcript. The transcript can be used in lieu of continuing education units (CEU) to show evidence of participation in professional development to employers, and licensing or certification agencies (see below). For additional information, contact the campus Continuing Education department.

The Adult Education program offers students the opportunity to learn basic skills to earn a GED or to pursue further training through the College’s vocational programs.

The College offers courses both on and off campus to meet the needs of the community, and makes every effort to begin a course when an adequate number of people request it.

**Continuing Education Units (CEU)**

Miami Dade provides students with the opportunity to obtain continuing education units (CEUs) for certain non-credit courses. The CEU program encourages long-range education goals and lifelong learning, and permits adult students to aggregate a number of continuing education courses to meet their personal needs.

The CEU is used as the basic means for recognizing an individual’s participation in, and for recording an institution’s offering of continuing workforce education courses. A CEU is defined as 10 contact hours of participation in an organized, continuing education experience under responsible sponsorship, capable direction and qualified instruction. Transcripts indicating completion of continuing workforce education courses designated for CEUs will be provided.

**Contract Training for Business and Industry**

Through the School of Continuing Education and Professional Development, business, industry and government can benefit from workshops and courses offered at the job site or at any of our campuses. These contract training programs are designed to meet the educational and training needs of community businesses and organizations by reaching beyond traditional academic curriculum and offering courses and workshops that focus on practical application. Offered in credit and noncredit formats, these programs are available at times and locations convenient to the participants.

Program topics include computers, management, customer service, communications, foreign languages and English as a Second Language, business English, writing and math and many others. All programs may be customized to the specific needs of the client, with job-related materials included in the curriculum.

**Cooperative Education**

Cooperative Education provides an opportunity for students to obtain career-related work experience and academic credit for such work. It enables students to apply classroom theory to actual work situations. In many instances, it helps students earn needed cash to meet education costs. It gives students work experience that employers look for and it may turn into permanent employment.

Job opportunities are available in many career fields. Transfer students may continue their Cooperative Education program at many four-year colleges and universities. While enrolled at MDC, this work experience may be part time or full time, paid or voluntary, and may continue for one or two terms. The program is flexible and tailored to meet student and employer needs. The volunteer plan provides for one term of six hours or more per week for 12 weeks minimum, and for 10 hours or more per week for 12 weeks during a second term.

Through Cooperative Education, students may earn three elective credits per term for two terms. Application for the program should be made to the Cooperative Education liaison at each campus discipline. A minimum
GPA of 2.0 is required.

**Earth Ethics Institute**  
*(Collegewide; Located on Wolfson Campus)*

Earth Ethics Institute (EEI) is an Earth Literacy and sustainability academic initiative at Miami Dade College (MDC) offering workshops, conferences, courses, and support for MDC administrators, faculty, staff and students as well as the greater South Florida community.

The mission of the Earth Ethics Institute is to foster Earth Literacy in the course objectives of each discipline and all campus operations at Miami Dade College, as well as in the South Florida Community and the extended Earth community beyond. Earth Literacy includes an understanding of cosmology and ecological principles as the basis for sustainable living. The cosmological context is the story of the universe, as contemporary science describes the developmental process out of which Earth and all life emerge.

The Global Sustainability and Earth Literacy Studies (GSELS) Learning Network is EEI’s most recent initiative. GSELS provides inclusive educational opportunities for the Miami Dade College community to explore global citizenship, ecological sustainability, and civic engagement, through understanding planetary challenges and limits and by developing values, skills, and behaviors that promote prosperity and communities of well-being. In addition, the GSELS project is replicable, requires very little funding, and hopes to serve as a national model of best practices.

GSELS acknowledges the interconnections and interdependence of the personal, social, economic, cultural, environmental, and political aspects of our world. Collaboratively, students, faculty, administrators, and staff explore the significance of human activity within an evolving Universe and Earth. Through shared leadership, this nurturing learning community facilitates the emergence of awareness, knowledge, skills and solutions necessary to create sustainable systems that support a healthy and just economy, society, culture and environment, while fostering values of Earth ethics, social justice, cultural diversity, and civic engagement.

GSELS draws on several international documents, including the four pillars of life-long learning detailed by UNESCO, The Earth Charter, and Thomas Berry’s “12 Principles of Understanding the Universe and the Role of the Human in the Universe Process.” Additionally, GSELS is grounded in the principles of ecology, and environmental, sustainability and global education concepts. GSELS course criteria provide the basics to acquire the knowledge and skills needed to cope and constructively engage with the 21st century, including these eight guiding principles of global citizenship (from a consensus of experts in nine countries, East and West, as cited in Sustainable Education by Stephen Sterling):

1. looking at problems in a global context  
2. working cooperatively and responsibly  
3. accepting cultural differences  
4. thinking in a critical and systemic way  
5. solving conflicts non-violently  
6. changing lifestyles to protect the environment  
7. defending human rights  
8. participating in the political process

**EEI Programs for Faculty and Staff**  
*GLOBAL SUSTAINABILITY AND EARTH LITERACY STUDIES*

Earth Ethics Institute grew out of two earlier Miami Dade College programs, Life Lab and the Environmental Demonstration Center. It now offers a series of professional development workshops and programs for Miami Dade College administrators, faculty and staff interested in infusing ecological concepts and a cosmological context into their professions. Through Earth Literacy, one deepens his or her understanding of the interdependent human-Earth relationship and thus broadens the sense of responsibility inherent in the practice of every profession and vocation. Hundreds of MDC faculty and staff have participated in EEI workshops, featuring topics such as incorporating sustainability in existing and new curriculum, biophilia, culture and cosmology, ethics, technology and sustainability, and regenerative, interactive and sustainable design. MDC administrators, faculty and staff are also invited to participate in immersion field trips to explore the unique ecology and hydrology of South Florida. The Institute also collaborates with Genesis Farm in New Jersey, Narrow Ridge Earth Literacy Center in Tennessee, St. Thomas University and Florida International University in Miami in offering courses in Earth Literacy.

Earth Ethics Institute certifies faculty who wish to participate in the GSELS Learning Network. Miami Dade College faculty, who currently hold a Master’s Degree and have taken an EEI professional development workshop or course are encouraged to participate and begin exploring GSELS in their courses. Faculty who currently hold a Master’s Degree can become GSELS-certified faculty in one of four ways:

1. 36 EEI CTD Professional Development hours  
2. 3 Graduate Credits (one course) in Earth Literacy or Sustainability Leadership/Sustainable Education Studies

**Environmental Center**  
*(Kendall Campus)*

The Environmental Center provides noncredit courses to children and adult community members and to our work force. Enrollment is open to everyone, and there are no prior education levels, transcripts or tests required. Most classes meet weekends or evenings and are scheduled...
on and off campus for convenient access. The Center has many programs:

1. Landscape/gardening/home improvement courses encourage the public to utilize environmentally appropriate landscape materials and to maintain their home and landscape in ways that minimize environmental impact. Short-term training certification preparation and opportunities to participate in segments of credit courses improve the skill of landscape professionals.

2. Hands-on, interactive environmental education field trip programs are available for school groups, Kindergarten - grade 9.

3. Nature-based teacher-planning day/holiday camps serve the needs of working parents while sensitizing children in pre-kindergarten through seventh grade to the natural world. Children participate in nature games, crafts, outdoor activities and cooperative games.

4. Scout Days provide Boy and Girl Scout groups opportunities to participate in nature-based activities designed to meet badge requirements as well as to implement Eagle Scout and Gold Award projects.

Field trips, day camps and scout days are held at our Environmental Center, which includes a pine rockland, a lake, a floating dock, chickee huts, butterfly gardens, a butterfly house, organic vegetable sand gardens, a composting demonstration exhibit and an Everglades water flow demonstration exhibit.

The Center also offers courses on the use of natural/alternative healing methods, skills for life change and courses in nontraditional spirituality. Initiatives include Native American cultural programs, expanded pine rockland research, development of community service project opportunities for high school students, weekend recreational and educational programs for adults and families.

**The Center @ MDC**

*(Wolfson Campus)*

The Center @ MDC is a cultural and academic initiative that promotes reading, writing and theater throughout the year by consistently presenting high-quality literary activities open to all in South Florida.

Housed at the Wolfson Campus, The Center serves MDC and K-12 students, as well as the larger South Florida community. Center programs include many reading and writing initiatives, in addition to the prominent Teatro Prometeo, a community theater, and Miami Book Fair International, the largest literary gathering in the U.S. The Miami Writers Institute is a conference that features workshops with bestselling and award-winning authors and publishing professionals.

Field trips, day camps and scout days are held at our Environmental Center, which includes a pine rockland, a lake, a floating dock, chickee huts, butterfly gardens, a butterfly house, organic vegetable sand gardens, a composting demonstration exhibit and an Everglades water flow demonstration exhibit.

The Center also offers courses on the use of natural/alternative healing methods, skills for life change and courses in nontraditional spirituality. Initiatives include Native American cultural programs, expanded pine rockland research, development of community service project opportunities for high school students, weekend recreational and educational programs for adults and families.

**Creative Writing Workshops**

Creative writing workshops offer writers in our community a chance to share their work with a supportive, yet critical community of writers whose goal is continual development. All workshops are noncredit and open to everyone in the community.

Twice a year, the Center’s Writers Institute offers four days of intensive workshops on poetry, fiction, nonfiction, publishing and more. These are complemented by readings and festive gatherings.

**Literacy Initiatives**

The Center’s literacy-based initiatives include One Book,
One Community; One Picture Book, One Community; First Readers; El Club de Lectores; and The Big Read, a nationwide reading initiative funded by the National Endowment for the Arts in partnership with Arts Midwest and the Institute of Museum and Library Services. They encourage an appreciation for books with the goal of fostering dialogue in the community and enhancing the reading skills of children and adults.

**Miami Book Fair**
The acclaimed Miami Book Fair, the nation’s finest and largest literary gathering for more than three decades, held in November to MDC’s Wolfson Campus in downtown Miami.

Attended by more than 200,000 people over eight days, Miami Book Fair features more than 600 authors and poets from around the world with readings from new works in English, Spanish and Kreyol and panel discussions on many topics. Other highlights include author readings, storytelling, and interactive experiences for children and teens, as well as panels on comics and graphic novels.

Founded in 1984 by Miami Dade College and partners, Miami Book Fair engages the community through inclusive, accessible programs that promote reading and support writers year-round. The annual eight-day festival has grown into the largest and most comprehensive community-rooted literary gathering in the United States generating discourse on contemporary literature and current issues of international importance.

**Funeral Service Education (North Campus)**
The Funeral Service Education program was the first public community college program in the southeastern United States to offer a degree in funeral service education. The school has embalming and restorative arts laboratories enabling students to do all training on campus.

An on-campus chapel gives students a unique opportunity to work in all aspects of funeral preparation, including embalming, dressing, cosmeticizing and casketing decedents for viewing and final services. The Funeral Services Education degree program at Miami Dade College is accredited by the American Board of Funeral Service Education Inc. (ABFSE), 992 Mantua Pike, Suite 108, Woodbury Heights, NJ 08097 (816) 233-3747. Web: http://www.abfse.org.

The Funeral Service Education Program requires a separate application to be admitted to the program. Miami Dade College requires that students register for the National Board Exam as administered by the International Conference of Funeral Service Examining Boards in order to graduate with the Associate in Sciences degree in their final semester. The program also offers a college credit certificate to obtain licensure as a funeral director only in the State of Florida. This academic program is designed to meet specific state or professional needs. It is not accredited by the American Board of Funeral Service Education. Students graduating from this program are not eligible to take the National Board Examination or any state board examination for which graduation from an ABFSE accredited program is required.

National Board Examination pass rates, graduation rates, and employment rates for this and other ABFSE accredited programs are available at www.abfse.org. To request a printed copy of this program’s rates, go to the Funeral Service Education Office (Building 3142) by e-mail at funeralservices@mdc.edu, or by telephone 305-237-1244. The annual passage rate of first time takers on the National Board Exam (NBE) for the most recent three year period for this institution and all ABFSE accredited funeral service education programs is posted on the ABFSE website (www.abfse.org).

Funeral service graduates from MDC are qualified to practice in most states provided they have met the requirements for licensure in the given state of choice. The school provides continuing education required for license renewal of Florida funeral directors, embalmers and direct disposers, and conducts special seminars for the enrichment of funeral services personnel.

**The Honors College**
The Honors College is a collegewide community of student and faculty scholars who collaborate in an intellectually stimulating, enriching, challenging and supportive environment. Housed at Wolfson, North, Kendall and Eduardo J. Padrón campuses, The Honors College provides an academically rich curriculum with special scholarship, and social and service opportunities. The Honors College encourages critical thinking and intellectual curiosity in an array of programs and disciplines. The Eduardo J. Padrón Campus offers the Honors Dual Language Program, which mirrors the rigorous curriculum of the other campuses. This program offers courses in English or Spanish for students who demonstrate mastery of both languages. Students study in small class settings and work closely with Honors faculty. The Honors College expects its students to take advantage of the many enrichment opportunities provided. These include cultural and community activities, leadership development programs, internships, national tours, study abroad programs and colloquia.

Students receive personalized guidance in preparing applications for competitive scholarship awards and transfer admission to prestigious private and public universities. In addition, The Honors College offers exemplary models of learning, an impressive speakers series, discipline-specific honors seminars and student forums. Components of the program include:

1. Merit scholarships for superior students, including The Honors College Fellows award for students
who meet The Honors College eligibility criteria;
2. Opportunities to attend an array of cultural events featuring the performing and visual arts;
3. Attendance and participation of students and faculty at the annual meetings of the National Collegiate Honors Council, as well as the Regional and Florida Collegiate Honors Council meetings;
4. Transfer admission and scholarship opportunities by upper-division colleges and universities awarded to graduates of The Honors College;
5. Membership in campus chapters of Phi Theta Kappa International Honor Society for students with a GPA of 3.5 or higher;
6. Opportunities to participate in international study experiences and internships abroad;
7. Recognition as a graduate of The Honors College at commencement and designation on transcript and diploma with 36 credits in honors courses and a 3.5 GPA or higher;
8. Internships and Service Learning opportunities provided in related fields of study.

Additionally, the Honors Dual Language program offers:
1. A global perspective in all classes
2. Proficiency in two languages
3. Requirement of a global experience as an exchange student or intern.

All of the activities associated with The Honors College are designed to inspire and challenge students in their studies and to provide support and encouragement in their quest for knowledge. Students should contact the Dean of The Honors College or the Honors Director on the corresponding campus for specific information. Students may also visit the website for additional information at www.mdc.edu/honorscollege.

**MEED Program**

The MEED Program (Model for Enhanced Employment Development) has served students with disabilities in Miami-Dade County with distinction for more than 20 years and has received a congratulatory Proclamation from the Office of the Mayor saluting its success. The Program has been redesigned as a national model in employability training, enhanced with the development of digital technology skills and achievement of excellence in professional skills.

The MEED Program’s goal is to open doors to competitive employment opportunities. There are three distinct elements of the Program which include (1) employment assistance; e.g., effective résumé development, strategic job searching, defining accommodative needs in the workplace, etc., (2) employment development; e.g., working with business and industry and agencies throughout the County to expand inclusive employment opportunities, and (3) The MEED Academy; which features the MEED Digital Tech Studio and a Professional Studies Institute (featuring workshops and seminars in the study of employability and professional qualities and skills). Students are issued digital equipment and software that enhances accessible learning and work experiences as they participate in internships that provide application of technology and polish professional skills. The length of the Academy Program depends upon the needs of the individual student.

To learn more about the MEED Program, students are invited to call 305-257-3997.

**New World School of the Arts**

*(Wolfson Campus)*

New World School of the Arts is a comprehensive college program and full-time high school preparing students for professional careers in dance, music, theater and the visual arts. The program, created by the Florida Legislature in 1984 as a Center of Excellence in the Arts, is an educational partnership of the University of Florida, Miami Dade College and Miami-Dade County Public Schools. Through its sponsoring institutions, New World School of the Arts awards the Bachelor of Music, Bachelor of Fine Arts degrees and Associate in Arts, as well as high school diplomas. Students are admitted on the basis of talent and commitment as demonstrated through audition or portfolio presentation. The school is located at Wolfson Campus in downtown Miami.

**Outreach Program**

The College endeavors to provide college credit and noncredit classes to residents of Miami-Dade County who find it more convenient to attend a neighborhood center than to travel to a campus. These courses are fully accredited and follow the same curriculum as on-campus courses. Classes are held in community schools, businesses, municipal agencies and other close-to-home locations. The smaller classes provide opportunities for increased interaction with instructors. Students who attend outreach classes also find a strong network of support from fellow classmates.

**Reserve Officers Training Corps**

Miami Dade College, in cooperation with the University of Miami and Florida International University, permits students to enroll in Air Force ROTC (through the University of Miami) and Army ROTC (through Florida International University). An application for admission to the ROTC program, including eligibility information for new and currently enrolled students, may be obtained from the ROTC offices at the University of Miami or Florida International University. MDC credit is awarded for successful completion of ROTC courses. For further information, see “Military Science” in the Course
Online Program Standards
MDC Online subscribing to the following best practice distance learning tenants as prescribed in the following publications:

- Distance and Correspondence Education Policy Statement, Southern Association of Colleges and Schools Commission on Colleges (SACS)
- Principles of Good Practice-The Foundation for Quality of Southern Regional Education Board's Electronic Campus
- Five Pillars of Quality Online Education, Online Learning Consortium
- MDC Online is an active member of the Florida Virtual College

For more information and assistance, please contact:
MDC Online - Student Support Center @ 305-237-3800 or Email Us @ online@mdc.edu

Weekend College
Weekend College is designed for students unable to attend weekday or evening classes, but it is not restricted to these individuals; students wishing to complement their schedules with additional courses are encouraged to enroll. Weekend College offers a selection of core, distribution and elective credit courses to satisfy degree and certification program requirements.

Wellness Center
(North, Kendall and Wolfson Campuses)
The College has several Wellness Centers, located on the North, Kendall and Wolfson campuses. These programs are designed to meet the wellness needs of faculty/staff, students and the community. The centers have the capability to perform a complete health/fitness assessment, including sub-maximal cardiovascular, blood pressure measurement, body composition, muscular strength and flexibility. Each center also has a variety of cardiovascular and strength training equipment as well as an array of free-weights.

Study Abroad Programs
Miami Dade College is a member institution of the College Consortium for International Studies (CCIS). A cooperative consortium arrangement affords reciprocal access for MDC students to participate in study abroad programs offered by other member institutions and earn college credit. The CCIS is a nationwide partnership of more than 100 membership colleges and universities worldwide, including two- and four-year, public and private. This partnership offers American undergraduates a choice of more than 100 study-abroad programs in more than 27 countries. CCIS offers semester and summer programs. MDC students benefit from other institutional
partnerships the college has with international organizations, such as CIEE, that sponsor events and scholarships for our students. Miami Dade College also offers faculty-led short-term study abroad programs in numerous disciplines to various countries around the globe. Program offerings vary yearly. Traditionally, MDC faculty have led programs in the following disciplines:

- Anatomy & Physiology
- Anthropology
- Art & Humanities
- Culinary Sciences
- Environmental Sciences
- Graphic Design
- Literature
- Multicultural Communications & Relations
- Spanish Literature
- World Languages

Participation is not automatic. Students must apply through the MDC Office of International Education located at the Wolfson Campus. Most programs require a minimum 2.5 GPA. No previous study or knowledge of another language is required for most programs. If a student is eligible for financial aid, this aid may be used for study abroad. After acceptance to a program, the restricted registration for courses abroad is completed with the assistance and authorization of the Office of International Education. Some programs offer a “home-stay” option (living with a local family or individual), which accelerates language acquisition and provides in-depth knowledge of the host culture. Course content is usually country-based and many courses are fully compatible with the MDC curriculum. Course descriptions and information on the classes offered in each program are detailed during the application process. For more information about the study abroad programs, please visit www.mdc.edu/studyabroad.

**Time-Saving Degree Opportunities**

Miami Dade College encourages students to accelerate their education by providing time-saving programs to shorten the time necessary to complete an Associate degree. The articulated acceleration mechanism includes dual enrollment, early admission, advanced placement, credit-by-examination and the International Baccalaureate Program among others. These accelerated options can save a student valuable time and money because they provide an alternative way of earning credit at MDC and the opportunity to earn a degree more quickly.

**Prior Learning Assessment (PLA)**

Save money by earning credits for the things you already know. Through military or corporate training, previous learning, or even volunteer experiences, you may already have the knowledge you need to get ahead. Through PLA opportunities, you can prove that knowledge and fulfill the requirements of your degree program. In short, PLA is the evaluation and assessment of an individual’s life learning for college credit, certification, or advanced standing toward further education or training.

**Competency Based Education Programs**

MDC Accelerate competency-based education (CBE) programs are designed in an accelerated and flexible online format for working professionals. Each program was designed with input from industry advisors. While enrolled in the program, students will have opportunities to network with business leaders.

How Does It Work? The first step is to submit an application for admission. After taking the CBE readiness assessment and meeting with a department chair or advisor, the next step is to register for a CBE program. Once in the program, students complete online performance assessments to demonstrate competency. By demonstrating competency, a student sets his or her own pace through the course. MDC Accelerate allows students to spend more time with the material they need and less time with the material they already know. To get started, apply to MDC and register for your CBE program of interest.

**Foreign-Trained Professionals Program**

Let your foreign professional experience work for you. With a longstanding commitment to serving multiple and diverse communities, Miami Dade College (MDC) has initiated the Foreign-Trained Professionals Program (FTP). Designed to assist foreign nationals, as well as U.S. nationals with foreign credentials, FTP helps Foreign-Trained professionals obtain the necessary U.S. credentials to continue their careers. Courses and programs are offered on campuses and online.

Benefits of Foreign-Trained Professionals Program (FTP):

- Evaluation of foreign credentials
- College credit awarded for applicable foreign work experience
- Earn an MDC certificate or degree
- Quick return to your career of choice

**Dual Enrollment and Early Admission**

(See Special Admissions Categories)

The Dual Enrollment program allows high school students (or home education students) to earn college credit and credit toward a high school diploma simultaneously. The college credit may be applied toward a postsecondary diploma, or a certificate or degree at a Florida public institution. The Dual Enrollment program is an opportunity to take challenging courses and accelerate education opportunities. Students who successfully complete
dual enrollment courses will save time in obtaining their college degree, and save money as well, because these students are exempt from the payment of registration, tuition and laboratory fees.

To enroll in courses through the dual enrollment program, students must demonstrate readiness for college-level coursework. Eligibility criteria take both GPA and passing the appropriate sections of the college placement test into consideration. The high school must grant permission for the student to enroll in these courses, thereby agreeing to accept these college courses to meet high school graduation requirements.

Early admission is a form of dual enrollment through which eligible high school students enroll at the college on a full-time basis. The courses these students take are creditable toward a high school diploma and the certificate or associate degree. Students selected for early admission or dual enrollment may begin their studies in any term, provided that they complete the regular admission, advisement and registration procedures and receive permission from their high school.

**Alternative Ways of Earning Credit Through Standardized Examinations**

- Advanced Placement (AP)
- Cambridge Advanced International Certificate of Education Examination (AICE)
- Caribbean Advanced Proficiency Examination (CAPE)
- Certified Professional Secretary Examination (CPS)
- College-Level Examination Program (CLEP)
- DANTES Subject Standardized Tests (DSSTs)
- Defense Language Proficiency Test (DLPT)
- Excelsior College Examinations (formerly Regents or ACTPEP)
- International Baccalaureate (IB)
- UExcel

Miami Dade College awards college credit for standardized examinations that document the required knowledge and competencies for one or more subject areas. Evaluations of examinations are made after the student has been admitted to the College. Official score reports must be sent directly from the testing agencies to the College’s Transcript Processing Services Office. Awarded credit based on the College’s approved course equivalents will appear on the student’s permanent record and on the student’s official College transcript as earned credit only. There will be no indication of grades or quality points and duplicate credit is not awarded (State Rule 6A-10.024 (8)). Miami Dade College uses the minimum scores, credits and guidelines for awarding credit for exams established by the State of Florida’s Articulation Coordinating Committee (ACC). For additional information please visit the Testing Criteria Credit-by-Exam website, accessed from MDC’s Homepage (www.mdc.edu) by clicking on Admissions’, then ‘Testing Information’.

**Institutional (Departmental) Credit-by-Examination**

Students who have been admitted to the College may receive credit for courses through departmental examinations. Applications for this type of credit are available from the Registrar’s Office and must be approved first by the appropriate academic department. Subsequently, the registration must be completed at the Registrar’s Office and fees need to be paid by each term’s published deadline. Credits for departmental examination are not included in any computation of credit load for full-time or part-time student status. Institutional credit-by-examination will become a part of the student’s permanent record at the conclusion of the term in which it is awarded. Grades of A, B, C or D will be assigned for college credits earned by examination and will be computed in the student’s GPA. A nonrefundable fee of $30 per credit will be charged for each examination administered.

**Credit for Specialized Training**

College credit for specialized non-collegiate occupational training may be granted to students enrolled in occupational programs. This credit is granted upon validation of the non-collegiate instruction by the appropriate academic department. A processing fee of $15 per course, up to a maximum of $50 for any single application, will be charged for the evaluation of non-collegiate instruction. Agreements to recognize specialized non-collegiate occupational training must have been previously approved in accordance with College curriculum procedures.

**Certified Professional Secretary (CPS)**

Students passing the complete national examination of the Certified Professional Secretary Examination (CPS) and the CPS Exam Prep courses may be granted credit toward an Office Administration Associate in Science degree at Miami Dade after official score reports are received from the International Association of Administrative Professionals (IAAP). The credit will appear on the student’s permanent record as earned credit only, without any indication of grades.

**Industry Certifications**

Miami Dade College may award college credit to eligible students who have earned a recognized appropriate industry certification which will be applied toward the specific Associate in Science degree.

Evaluations of industry certification(s) are made after the student has been admitted to the College and provides a valid industry certification based on the SBOE, which has approved a statewide list on industry certification.
For a complete list of the approved statewide Career and Technical Education articulation agreements please visit the Prior Learning Assessment Certification Process Web site, accessed from www.mdc.edu/PLA, then clicking on Earning College Credits, and then ‘Certification process’.

Military Service Schools, Defense Activity for Non-Traditional Education Support (DANTES) and United States Armed Forces Institute (USAFI)

Miami Dade College will grant credit toward an Associate degree for properly validated military service training. This includes military service schools, the United States Armed Forces Institute (USAFI) and Defense Activity for Non-Traditional Education Support (DANTES) end-of-course examinations, as well as acceptable College Level Examination Program (CLEP) test scores. The recommendation of the American Council on Education, a guide to the evaluation of education experiences in the armed services, is used in evaluating military service school training. Active duty military personnel must submit DD Form 295 and the Miami Dade military service school training record form. USAFI and DANTES college-level credit courses taken by correspondence, or by extension through other accredited colleges, are accepted under regular transfer credit provisions. Official Reports of Educational Achievement must be mailed directly to the College Admissions Department from each approved organization.

College credit earned through military service schools, USAFI, or DANTES college level end of course tests, will appear on the student's permanent record as earned credit only, without any indication of quality points. Transfer credit evaluations of this work are made after the student has been admitted to the College. Veterans must submit a true copy of the service personnel's separation papers (DD Form 214) and the Miami Dade military service school training record form to the Admissions Office.

Veterans who have earned credit through USAFI or DANTES should request transcripts from Educational Testing Service. Prospective students may contact: Representative for DANTES, P.O. Box 6604, Princeton, New Jersey 08541.

SPECIAL INFORMATION

Computer Services

Miami Dade College provides students and faculty with a state-of-the-art computing and telecommunication infrastructure. The College’s campuses and centers are interconnected by a highspeed gigabit fiber net work backbone supporting voice, video and data. The network currently provides 10Gbps bandwidth connection to the Internet from diverse sites using multiple service providers. Wireless connectivity for mobile computing is available in classrooms, libraries, conference centers, and outdoor locations. All classrooms are augmented with a variety of technological tools including computers and digital projectors that can enhance the learning experience. In addition to extensive computing facilities at each College location, the College also offers a wide array of online services for students. The MyMDC student portal and mobile app allow students to manage their college experience via web or mobile phone. The portal and mobile app provide self-services in admissions, orientation, registration, advising, financial aid, transcript requests, term grades, credit card payments, and many more. The Blackboard Learning Management System facilitates the creation and delivery of online instructions.

Institutional Advancement (District Office)

The College secures essential support for student scholarships, STEM education, arts and culture, entrepreneurship, workforce training, and other programs and projects through the Miami Dade College Resource Development Department, the Office of Alumni Relations, and the Miami Dade College Foundation, Inc.

Resource Development Department

The Resource Development Department identifies external sources of grant funding to support the programs and priorities of the College. The department works with College faculty, staff, and leadership to develop, prepare, and submit innovative grant proposals to public and private funding sources designed to promote excellence in teaching, learning, and institutional effectiveness. Resources obtained through grant awards help fund new and existing programs, special projects, student services, curriculum development, professional staff development, the construction of new facilities, exchange programs, research, new equipment, and student scholarships. The Resource Development Department also encourages public-private partnerships, and collaboration with industry, community-based organizations, and other educational institutions. In addition to handling all pre-award processes for the College, the department serves as the sponsored programs entity, with all grant applications going through it for approval of the College’s authorized organizational representative and College Board of Trustees.
Miami Dade College Office of Alumni Relations

The Office of Alumni Relations advances the goals, objectives and priorities of Miami Dade College by generating private financial support, building and maintaining relationships with alumni and donors, and engaging alumni and students to foster a lifelong intellectual and emotional connection between MDC and its graduates.

Alumni are vital to the long-term success of Miami Dade College and supporting its strategic goals. With the Miami Dade College Foundation, the Office of Alumni Relations fosters and cultivates a common bond of pride, affinity and connectivity among alumni, students, prospective students and friends of the College through quality programs, services, events and programmatic initiatives.

Miami Dade College Foundation Inc.

Miami Dade College Foundation was chartered by the state of Florida in 1965 as a nonprofit 501(c)3 direct support organization of Miami Dade College. Governed and guided by an independent Board of Directors of more than a dozen community leaders, the Foundation raises awareness and financial resources for Miami Dade College to maintain open-door access to anyone who seeks an education, and to provide innovative and multicultural academic and cultural programs, all of which contribute to the vitality of our community.

The Foundation ensures the mission of Miami Dade College is accomplished by pursuing funding opportunities that support MDC’s 2015-2020 Strategic Plan priorities:
• Students Access and Success
• Educational Quality
• institutional Agility

As state support for higher education continues to decline, the Foundation’s efforts to identify alternative funding sources are vital to the future of MDC. The Foundation manages relationships with and seeks funding opportunities from individuals, private and family foundations, civic organizations and corporations. Gifts from these sources have established and continue to support scholarships, new programs, direct faculty support and critical capital improvement funds.

Contributions to the Foundation are tax deductible under Section 170 of the Internal Revenue Code and are administered according to gift agreements and donor intentions. Numerous donations from many generous sources have contributed to the growth of the Foundation’s endowment, which is approximately $132 million. The endowment is comprised of more than 1,000 scholarship and program support donor accounts that directly benefit the College.

Endowed Teaching Chairs

The Miami Dade College Endowed Teaching Chair program is the first of its kind at a community college dedicated solely to recognizing excellence in teaching. Inaugurated in 1992, the Endowed Teaching Chair awards each recipient $22,500 over three years, allowing faculty to explore new teaching methods, develop new projects, purchase specialized or innovative teaching materials, enhance their technological expertise and further their own knowledge for the benefit of students.

The Endowed Teaching Chairs represent our institution’s highest recognition of our faculty. Recipients of this award, past and present, have demonstrated to their peers the absolute definition of excellence in every aspect of teaching. Further, they have made student learning their top priority and, in doing so, help fulfill the mission of Miami Dade College.

The Endowed Teaching Chairs have been made possible through the generous support of individuals, corporations and organizations committed to the art of teaching and are managed by the Miami Dade College Foundation. Since the program’s inception in 1992, the Foundation has awarded more than 300 Endowed Teaching Chairs. A gift of an Endowed Teaching Chair is among the most important contributions that can be made to the College and the thousands who are educated at MDC.
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COLLEGE CREDIT COURSES

Miami Dade College courses are developed and offered to meet the many and varied needs of both individual students and the community. College credit courses are offered in general education, occupational/technical, nursing, allied health, business, and public service disciplines. The following are descriptions of more than 2,000 college credit courses at Miami Dade College. These Courses are applicable to the Baccalaureate, Associate of Arts, and Associate in Science, Associate of Applied Science degree programs and/or certificate programs. They are listed in alphabetical order by title according to the State Course Numbering System directory of taxonomies and are subject to change. Not all courses are offered each term or at each campus. Check the registration handbook of the campus you are attending, or plan to attend, prior to registration each term.

Accounting

ACG1403
Excel for Business
1.00 – 3.00 credits
This course will cover Excel topics relevant to the field of accounting and finance including, but not limited to, VLOOKUP, HLOOKUP, INDEX, MATCH, IF, AND, OR, Pivot Tables, Named Ranges, Array Formulas, Custom Number Formats, Conditional Formatting, Absolute References and Keyboard Shortcuts.

ACG1949
Co-op Work Experience 1
3.00 credits
This is a course designed to provide training in a student’s field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employee. Prerequisite: Co-op Department approval. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Cooperative Education Office to obtain registration approval. (3 hr. lecture)

ACG2001
Principles of Accounting 1
3.00 credits
An introduction to the basic principles of financial accounting with emphasis on basic accounting procedures such as the recording of transactions and the preparation of financial statements. Other topics include inventories, receivables, and cash. ACG 2001 and ACG 2011 can be substituted for ACG 2021. Corequisite: ACG 2001L. (3 hr. lecture)

ACG2001L
Principles of Accounting 1 Lab
1.00 credits
Students will use personal computer software and financial accounting applications to analyze accounting records and prepare financial statements. This course will reinforce, with tutorial help and problem-solving, the concepts needed to achieve the objectives of ACG2001. Corequisite: ACG 2001. Laboratory fee. (2 hr. lab)

ACG2011
Principles of Accounting 2
3.00 credits
Accounting for owners’ equity with emphasis on corporate financial statements. Other topics include plant assets, intangible assets, current and long-term liabilities. ACG 2001 and ACG 2011 can be substituted for ACG 2021. Prerequisite: ACG 2001; corequisite: ACG 2011L. (3 hr. lecture)

ACG2011L
Principles of Accounting 2 Lab
1.00 credits
Students will use personal computer software and financial accounting applications to analyze accounting records, prepare financial statements, and compile EXCEL spreadsheets. This course will reinforce, with tutorial help and problem-solving, the concepts needed to achieve the objectives of ACG2011. Corequisite: ACG2011. May be repeated for credit. Laboratory fee. (2 hr. lab)

ACG2021
Financial Accounting
3.00 credits
An introduction to financial accounting concepts and analysis with emphasis on corporate financial statements and determination of income. Corequisite: ACG 2021L. (3 hr. lecture)

ACG2021L
Financial Accounting Lab
1.00 credits
Students will use personal computer software and financial accounting applications to analyze accounting records and prepare financial statements. This course will reinforce, with tutorial help and problem-solving, the concepts needed to achieve the objectives of ACG2021. Corequisite: ACG2021. May be repeated for credit. Laboratory fee. (2 hr. lab)

ACG2031
Accounting Theory
3.00 credits
Designed primarily for the transferring accounting major, the course covers current topics in both financial and managerial accounting. It exposes the student to a computerized accounting system. It also familiarizes the student with current accounting literature and includes a review of the preparation and analysis of financial statements. Prerequisites: ACG 2071. (3 hr. lecture)

ACG2071
Managerial Accounting
3.00 credits
Managerial Accounting focuses on the accounting information needs of the various levels of internal management within an organization. Internal responsibility is directed at three major areas of management responsibility: cost determination, planning and control, and long-term
decision-making. Prerequisite: ACG 2071; corequisite: ACG 2071L. (48 Contact hrs.)

ACG2071L
Managerial Accounting Lab
1.00 credits
Students will learn to interpret and solve problems related to the managerial accounting field. Additional support will be provided to students in order to achieve the objectives of ACG2071. Prerequisite: ACG2001, ACG2021, ACG2021L, ACG2071L. Co-requisite: ACG2071. Laboratory fee. (2 hr. lab)

ACG2100
Intermediate Accounting 1
3.00 credits
A review of the accounting cycle and advanced work in the area of temporary investments, receivables, inventories, plant assets, and investments in stock and bonds. Prerequisite: ACG 2071. Special fee. (3 hr. lecture)

ACG2170
Financial Statement Analysis
3.00 credits
Basic instruction in analyzing statements in order to make sound judgments on the financial condition of specific businesses. Prerequisite: ACG 2071. Special fee. (3 hr. lecture)

ACG2360
Cost Accounting
3.00 credits
A consideration of the accumulation, interpretation and control of costs by the job order and the process cost systems. Includes the study of break-even analysis, budgeting and other cost control techniques. Prerequisite: ACG 2071. Special fee. (3 hr. lecture)

ACG2450
Microcomputers in Accounting
1.00 - 3.00 credits
Accounting application of electronic data processing including the preparation interpretation and use of computer information in financial decision making. Prerequisite: ACG 2071. Special fee. (1-3 hr. lecture)

ACG2500
Financial Management for Non-Profit Organizations
3.00 credits
This course provides an overview of the way in which a non-profit organization is responsible for the financial management of the organization. Success of many non-profits centers on the feasibility of the groups fiscal policies. This course provides a systematic analysis of the financial and legal ground work for which non-profit administrators, board members, and staff of non-profits are responsible. (3 hr. lecture)

ACG2630
Auditing
3.00 credits
Fundamental principles of audit practice and procedure including the verification of balance sheets and income statement items, the preparation of audit working papers, and the compilation of audit reports. The course includes short problems and audit of accounting records. Prerequisite: ACG 2071. Special fee. (3 hr. lecture)

ACG2949
Co-op Work Experience 2: ACG
3.00 credits
This is a course designed to continue training in a student’s field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-op Department approval and completion of 1949 Co-op Work Experience. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-Operative Education Office to obtain registration approval. (3 hr. lecture)

ACG3103
Intermediate Financial Accounting I
3.00 credits
Theory and methodology underlying financial reporting, including the FASB’s conceptual framework, the accounting process, financial statements, accounting changes, present value applications, and current assets. Prerequisite: ACG 2071, MAC 2233, QMB 2100.

ACG3113
Intermediate Financial Accounting II
3.00 credits
Continuation of ACG 3103. Particular emphasis on analysis of balance sheet accounts through problem solving. Provides students with a more in-depth knowledge of Generally Accepted Accounting Principles (GAAP), including the advance student of accounting fundamentals. Prerequisite: ACG 3103.

ACG3343
Cost Accounting and Controls
3.00 credits

ACG4632
Auditing
3.00 credits
This course provides a sound conceptual foundation of basic auditing process from the perspective of the public accounting profession. Professional standards, ethics, legal responsibilities, and utilization of technology are addressed. Principles and procedures of internal and public auditing are discussed, including professional standards, ethics, legal responsibilities, and the utilization of technology.

TAX2000
Income Tax
3.00 credits
Federal income tax fundamentals with emphasis on individual returns. Topics considered include gross income, capital gains and losses, deductions and exemptions, and tax credits. Special fee. (3 hr. lecture)

TAX2002
Taxation Practices and Procedures
3.00 credits
This course will cover Internal Revenue Service taxation practices and procedures.
Topics covered will convey knowledge of IRS rules and penalties, rules for representing taxpayers before the IRS and in the courts, rules and requirements associated with the tax return filing process and records maintenance rules and basic tax research skills.

**TAX 2010**  
**Business Taxes & Returns**  
3.00 credits  
A practical course on the various tax reports and forms required in an accounting office. Topics include payroll deposits, payroll returns, corporate tax return, annual report, tangible and intangible tax returns, sales taxes, employment forms and licenses. (3 hr. lecture)

**TAX 2021**  
**Taxation of Business Organizations**  
3.00 credits  
This course will cover federal income taxation of corporations, S Corporations, limited liability companies and partnerships. Topics covered include determining the tax consequences of income, expenses, distributions, redemptions and liquidations for business entities. Practical application of the tax law will be emphasized along with analysis of tax procedures.

**TAX 2401**  
**Tax of Estates, Gifts and Trusts**  
3.00 credits  
This course covers definitions and operations of various fiduciary forms of wealth transfer including but not limited to fiduciary accounting principles and concepts; record keeping requirements; and various tax reporting requirements, forms and calculations.

**TAX 4001**  
**Federal Income Tax I**  
3.00 credits  
A survey of federal income tax with emphasis of taxation of individuals and the ethics of income tax accounting, student of the basic theory, concepts, practice and methods of determining the taxable income and tax liabilities. Prerequisite: ACG 3103

**Aeronautiliac Science**

**ASC 1010**  
**Aerospace History**  
3.00 credits  
This course is designed to provide the student with an understanding of the significant events, people, places and technologies of aviation that have occurred as it progressed through history. The course begins centuries before man flew when concepts of flight were first being imagined to the first successful hot air balloons and the first heavier than air attempts at flight and continues to the present day with supersonic aircraft and space vehicles from both a civilian and military perspective. (3 hr. lecture)

**ASC 1210**  
**Aviation Meteorology**  
3.00 credits  
This is a core aviation course. The student will be prepared to understand weather and environmental issues in commercial aviation. Topics covered will be atmospheric phenomena relating to aircraft operations, the analysis and use of weather data as presented by the U.S. National Weather Service. Prerequisite: ATT 1100 or equivalent; corequisite: ATT 2110 or equivalent. Special fee. (3 hr. lecture)

**ASC 1610**  
**Aircraft Engines and Structure Theory**  
3.00 credits  
This is a foundation course in aircraft engines and structure. Students will learn the elements of aircraft engines, engine theory, construction, systems, operating procedures, performance diagnosis, and aircraft structures. (3 hr. lecture)

**ASC 2320**  
**Aviation Laws and Regulations**  
3.00 credits  
Insight pertinent to federal governing bodies, and current local, federal and international laws forming the present structure of aviation law. (3 hr. lecture)

**ASC 2470**  
**Physiology/Psychology of Flight**  
3.00 credits  
This is an introductory course in the physiology and psychology of flight. Students will learn aero-medical facts of significance to pilots, including causes, symptoms, prevention and emergency treatment of ailments common to the aviation environment through a basic understanding of a person’s normal functioning. Cabin pressurization, communications, decompression sickness, hyperventilation, hypoxia, self-imposed stresses, spatial disorientation and vision are examined. (3 hr. Lecture)

**ASC 2670**  
**Aircraft Systems**  
3.00 credits  
As preparation for commercial aviation requirements, this course is concerned with a detailed study of aircraft systems, their various sources of basic power and the functional application of mechanisms operated by these systems. Prerequisite: ASC 1610. (3 hr. lecture)

**ATF 1100L**  
**Private Pilot Flight Accelerated**  
3.00 credits  
This course provides flight training in the areas required to safely perform the duties of a private pilot. This course is to be completed in less than 16-weeks using “total immersion” approach to training to help lower the attrition rates for students. It
fulfills the requirements for private pilot certification outlined in part 141 of the Federal Aviation Regulations as presented in the Jeppesen Sanderson Private Pilot Syllabus. Upon satisfactory completion of this course and the Federal Aviation Administration (FAA) knowledge and practical exams, the applicant will receive an FAA private pilot certificate. Prerequisites: ATT 1100; FAA first class medical certificate; Corequisite: ATT 2120. (3 hr. lecture) Note: This course not approved for Veterans seeking to use Veterans Educational Benefits.

**ATF1601L**
**Flight Orientation/Simulator Lab**
**1.00 credits**
This course will provide the student with an introduction to the environment of operating an aircraft from a pilot’s point of view. It is designed to provide this knowledge to those students such as Air Traffic Controllers and Aviation Administration Students who have no piloting experience. Special fee. (2 hr. lab)

**ATF2210L**
**Commercial Pilot Flight**
**3.00 credits**
This course provides pilot training required to allow the student to safely conduct flight as a Commercial Pilot. The training will be conducted in accordance with FAR Part 141 and in concert with stages 5 and 6 of the Jeppesen Sanderson Instrument/Commercial Syllabus. Upon satisfactory completion of this course, the FAA written exam, and FAA practical exams, the applicant will receive an FAA Commercial Pilot certificate. Minimum approved FAA CFR Part 141 course hours include 35 hours of flight. Cost per hour Wet/Dual at Wayman Flight School $300/$359. Prerequisites: FAA Private Pilot Certificate; Corequisite: ATT 2131. (3 hr. lecture)

**ATF2305L**
**Instrument Pilot Flight**
**3.00 credits**
This course provides the flight training required to safely conduct flights as an instrument rated pilot. The training is conducted in accordance with FAR Part 141 as outlined in stages 1 through 4 of the Jeppesen Sanderson Instrument/Commercial Syllabus. Upon satisfactory completion of this course and the Federal Aviation Administration (FAA) knowledge and practical exams, the applicant will receive an FAA Instrument Pilot certificate. Minimum approved FAA CFR Part 141 course hours include 25 hours of flight. Cost per hour Wet/Dual at Wayman Flight School $359/$418. Prerequisites: FAA Private Pilot Certificate; Corequisite: ATT 2120. (3 hr. lecture)

**ATF2305L**
**Instrument Pilot Flight Accelerated**
**3.00 credits**
This accelerated course of instruction provides training required to allow the student to safely conduct flight as a Commercial Pilot. This course is expected to be completed in less than 4-months. The training will be conducted in accordance with Codes of Federal Regulations (CFR) Part 141. This training will be completed utilizing the Jeppesen Sanderson Instrument/Commercial Syllabus. Upon satisfactory completion of this course, the FAA knowledge test and FAA practical test the student will be awarded an FAA Commercial Pilot certificate. A 1st Class Medical Certificate with Instrument Rating is required. Minimum approved FAA CFR Part 141 course hours include 120 hours of flight. Special Fee. (3 hr. lecture)

**ATF2400**
**Multi-Engine Pilot Flight**
**1.00 credits**
This course provides the flight training required to prepare the student to safely conduct flight as a Multi-Engine Pilot. Upon satisfactory completion of this course and the FAA oral and practical exams, the student will receive an FAA Multi-Engine Rating. Minimum approved FAA Part 141 course hours include 20 hours of flight. Cost per hour Wet/Dual at Wayman Flight School $300/$359. Prerequisites: FAA Private Pilot Certificate; Corequisite: ATT 2131. (1 hr. lecture)

**ATF2501L**
**Flight Instructor-Flight Training**
**3.00 credits**
This course provides flight training for the student to develop the ability to analyze the performance of private and commercial flight maneuvers from the right seat of a training aircraft, in compliance with the Federal Aviation Administration Certified Flight Instructor Certificate. Minimum approved FAA Part 141 course hours include 25 hours of flight. Cost per hour Wet/Dual at Wayman Flight School $359/$418. Prerequisites: FAA Commercial Certificate or ATP; Corequisite: ATT 2131. (3 hr. lecture)

**ATF2501L**
**Flight Instructor-Laboratory**
**1.00 credits**
Provides the student with internship teaching experience based upon the principles of flight instruction learned in ATT 2131 and ATT 2501. Students will learn to develop lesson plans and how to communicate effectively using instructional materi-
ATF2651C
Flight Engineer-Turbojet
4.00 credits
This course will provide ground and simulator training for the purpose of obtaining a turbojet flight engineer license (Boeing 727) in accordance with provisions of FAR 63.64, FAR 63 Appendix C and Exemption 4901. Each trainee must hold a valid Commercial Pilot’s Certificate with an instrument rating. Each trainee must also have successfully completed the FAA Flight Engineer Written Exam in accordance with FAR 63.35(d). (3 hr. lecture, 2 hr. lab)

ATT1100
Private Pilot Theory
3.00 credits
This course introduces basic subjects pertaining to pilot knowledge including: basic aircraft systems, aircraft operation and performance, aerodynamic principles, human factors, and aeronautical decision making. When this course is taken concurrently with ATT 1101, it will prepare students for the FAA (Federal Aviation Administration) Private Pilot Knowledge Examination and allow them to take the FAA exam (IAP047) upon completion of the course. Corequisites: ATT 1100, ASC 1210. (3 hr. lecture)

ATT1101
Private Pilot Applications
3.00 credits
This course, together with ATT 1100, provides the basic knowledge needed by students in the Professional Piloting Technology Program. The two courses must be taken concurrently by students majoring in the professional Piloting Technology Program. The areas of study include: aircraft preflight, the planning and preparations prior to flight, airport operations, airspace, Federal Aviation Regulations, flight information publications, air navigation, cross country navigation, radio navigation, and flight safety. When this course is taken simultaneously with ATT 1100, it will prepare students for the FAA (Federal Aviation Administration) Private Pilot Knowledge Examination and allow them to take the FAA exam (IAP047) upon completion of the course. Corequisites: ATT 1100, ASC 1210. (2 hr. lab)

ATT2110
Commercial Pilot Theory 3
3.00 credits
This course provides students with the aeronautical knowledge required to act as Commercial Pilot. Students will prepare for the FAA Commercial Written Exam. Private Pilot Certificate with Instrument Rating required. Prerequisite: ATT 2200. Corequisite: ATT 2300 or 2210. (3 hr. lecture)

ATT2120
Instruments Pilot Theory
4.00 credits
This course introduces basic theories of instrument pilot operations to prepare students for the FAA Instrument Written Exam. Students will acquire aeronautical knowledge required to act as an Instrument rated Pilot. It will prepare the students for the FAA Instrument Written Exam. Private Pilot Certificate required. Prerequisite: ATT 1100. Corequisite: ATT 2200. (4 hr. lecture)

ATT2131
Flight Instructor Theory
3.00 credits
Provides the student ground instruction to obtain the necessary aeronautical knowledge to meet the FAA written standards for the Certified Flight Instructors Certificate. Preparation for the written exam is included in the course content. Prerequisite: ATT 2300. corequisites: ATT 2501, 2501L. (3 hr. lecture)

ATT2133
Multi-Engine Pilot Theory
2.00 credits
This course introduces basic theories of multi-engine pilot operations to prepare students for the FAA Multi-Engine oral and practical exams. Students will acquire aeronautical knowledge required to act as a multi-engine rated pilot. (2 hr. lecture)

ATT2660
Regional Airline Operations
3.00 credits
This course provides theoretical instruction and practical experience in flight planning inclusive of navigation, weather, fuel management, flight and communication procedures, aircraft performance, crew coordination and simulator procedures. Utilizing flight systems automated panels, the course additionally provides practical instruction in the operation of aircraft systems. Prerequisites: ASC 1610, ATT 2110, 2120. (3 hr. lecture)

ATT2820
Air Traffic Control
3.00 credits
The basic elements of air traffic control operations, providing the necessary foundation for successful completion of the Air Traffic Control Basic Certification Examination. Prerequisite: sophomore standing in major program. (3 hr. lecture)

ATT2821
Air Traffic Control (ATC) Radar
3.00 credits
This course will provide the student with a fundamental knowledge of air traffic control practices, policies and procedures as they relate to the specifics of the controller function in an air traffic radar operating environment, with air traffic controllers utilizing the radar for traffic separation. The liberal use of the figures and example phraseology assist the student in achieving an overall use of understanding of the air traffic control system. A radar air traffic control simulator is utilized to provide realistic training exercises for the students. Prerequisite: ASC1210. (2 hr. lecture, 2 hr. lab)

ATT2822
VFR Tower Operations
3.00 credits
This course expands the knowledge attained from ATT 2820, and is designed to further develop the aviation students skill in the ATC environment. Emphasis is placed on the duties and responsibilities of operational positions in local, ground, flight data, and coordination. Students will also learn the FAA regulations which govern
flight under visual conditions. Optimum use of the Hughes Virtual Tower incorporated into this course. Prerequisite: ATT 2820. Special fee. (3 hr. lecture)

**ATT2823**
**Air Traffic Control (ATC) NON-Radar 3.00 credits**
In this course, future air traffic controllers will acquire an understanding of air traffic control practices, policies and procedures and their application in a non-radar air traffic environment. Throughout this course, (Non-Radar Procedures) appropriate real-life examples are used to illustrate the reasoning behind procedures used by air traffic controllers utilizing the non-radar methods. The liberal use of figures and example phraseology is used to assist the student in achieving an overall understanding of the air traffic control system. Prerequisite: ATT 2820, ASC 1210. Special fee. (3 hr. lecture)

**AVM1010**
**Aviation Industry Operation 3.00 credits**
The course provides insight into the development and present status of aircraft and air transportation, governmental organizations, controls and regulations, and career opportunities in the field. (3 hr. lecture)

**AVM1022**
**Flight Operations 3.00 credits**
An investigation of the occupational duties, responsibilities, and physical facilities required by the positions of pilot, co-pilot, flight engineer, dispatcher and flight attendant. (3 hr. lecture)

**AVM1062**
**Aviation Career Planning 1.00 credits**
This course provides direction and guidance in career planning for all aviation students. Topics of discussion will include the job search education and training requirements, resume writing, business etiquette, interview skills and follow-up techniques. (1 hr. lecture)

**AVM1121**
**Hazardous Materials/Dangerous Goods 3.00 credits**
This course is designed to provide the student with knowledge of dangerous goods/hazardous materials and their effect in air transportation and logistics. The students will be conversant in hazardous material regulations for cargo and passenger transportation. The course will encompass the identification, labeling, packaging and handling of 9 types of dangerous goods in air transportation and general logistics. Prerequisite: AVM 2120. Special fee. (3 hr. lecture)

**AVM 1160**
**Aviation Maintenance Programs and Inspections 3.00 credits**
This course provides an in-depth study of aircraft inspection programs and maintenance scheduling procedures. Students will learn national and international regulations governing aircraft inspection, maintenance evaluation, and the required procedures to update airline and governmental maintenance technical manuals. (3 hr. lecture)

**AVM 1161**
**Aircraft Performance Measures and Maintenance Requirements 3.00 credits**
Students will learn aircraft performance measures and maintenance requirements for airplanes powered by reciprocating, turboprop, and/or jet turbine and turbofan engines. Topics include stability and control, weight and balance, performance charts and graphs, and takeoff and cruise control, airplane performance characteristics, from which they will extract data that maximizes performance. (3 hr. lecture)

**AVM 1162**
**Maintenance Repair and Overhaul (MRO) Interactions with Commercial Airline Operations 3.00 credits**
Students will learn the Maintenance Repair and Overhaul (MRO) Procedures in Commercial Airline Operations. Topics include, airline maintenance operations, engineering, maintenance, repair of structures, systems, and aircraft components. In addition, students will explore MRO financing, domestic and off-shore operations, regulatory requirements, logistics, supply chain support, human resources and industry oversight. (3 hr. lecture)

**AVM 1163**
**Policies and Procedures for Commercial Airlines Maintenance Programs 3.00 credits**
Students will learn the maintenance policies and programs for commercial airlines. Concepts of Maintenance Steering Group (MSG) and Reliability Centered Maintenance (RCM) programs, Maintenance Control by Reliability Methods (MCEM) program, and Operational Availability (OA) for Commercial Aircraft will be discussed. (3 hr. lecture)

**AVM 1164**
**Logistics and Maintenance Programs for Commercial Airlines 3.00 credits**
This course focuses on the concepts and application of logistics and supply chain management utilized within the aviation maintenance industry to increase efficiency in production and maintenance. Students will learn the logistics support from Maintenance Repair Operators and Original Equipment Manufacturers in aviation maintenance operations. (3 hr. lecture)

**AVM1301**
**Aviation Sales and Promotion 3.00 credits**
A presentation and utilization of sales methods, sales tools, sales opportunities and personal sales skills requirements for entry level sales employment in the aviation industry. Included are sales campaign planning and implementation factors of flight, travel and cargo options. (3 hr. lecture)

**AVM1440**
**Aviation/Airport Security 3.00 credits**
This course will provide the student with knowledge of the issues and strategies that are used to protect the national air-
space system, airports and airlines from security threats. The various types of threats and responses to those threats will be covered. In addition, the legal requirements planning issues, physical equipment and facility requirements and personnel issues will also be discussed. (3 hr. lecture)

**AVM1520**
**Airline Reservations**
**3.00 credits**
Prepares students for airline employment opportunities through a familiarization of the procedures involved in airline reservations, cargo reservation and route structures, using the American Airline's SABRE reservations and LATA systems. This course is not approved for the Travel Agency Management degree. A.S degree credit only. Special fee. (3 hr. lecture)

**AVM1521**
**Airline Ticketing**
**3.00 credits**
A preparation for airline employment opportunities requiring the responsibilities of airline ticketing procedures manual and automated (American Airline's SABRE system) for domestic and international ticketing, tele ticketing, boarding procedures, and immigration guides. This course is not approved for the Travel Agency Management Degree. Special fee. (3 hr. lecture)

**AVM1949**
**Co-op Work Experience 1: AVI**
**3.00 credits**
This is a course designed to provide training in a student's field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-operative Education Office to obtain registration approval. Prerequisite: 2.0 minimum GPA, approval of Co-op Program Director, minimum of 6 credits in field or work approved experience. (3 hr. lecture)

**AVM2120**
**Air Cargo**
**3.00 credits**
The course develops a comprehensive grasp of the characteristics and evolution of air cargo, its impact on United States industry, inherent problems and future development. (3 hr. lecture)

**AVM2410**
**Principles of Airport Management**
**3.00 credits**
This course provides the student with a broad background in the Principles of Airport Management. This includes the airport system and its history, planning, land use, community relation issues, financial issues, capacity and growth, operations, organization and administration. Special fee. (3 hr. lecture)

**AVM2431**
**Customer Service Agent**
**3.00 credits**
Covers the generic skills needed for any airline position involving regular contact with the traveling public. Includes human relations, personal appearance enhancement, etiquette, conflict management, speech skills, and the acquisition of attributes that would promote a proper professional image. (3 hr. lecture)

**AVM2441**
**Aviation Safety & Human Factors**
**3.00 credits**
This course will provide the student with an understanding of human factors and safety concepts as they apply to aviation. There will be an evaluation of aircraft accidents and their causal factors. Accident prevention measures are stressed as integral parts of an aviation safety program. (3 hr. lecture)

**AVM2450**
**Airport Facilities/Financial Planning**
**3.00 credits**
This course provides the student with an in depth knowledge of the techniques and strategies of the airport master plan in planning airport facilities and financial resources. Forecasting, demand analysis, sources of funding, planning requirements, environmental issues and requirements and compliance issues will be discussed. Also implementation and control issues, financial management, budgets, costs and revenues as well as airport economics will be discussed. Prerequisite: AVM 2410. Special fee. (3 hr. lecture)

**AVM2510**
**Airline Management**
**3.00 credits**
An insight relative to the business policies and the functions of management in airline operations. Course involves various internal managerial facets and the impact of external regulatory and economic implications. (3 hr. lecture)

**AVM2515**
**Airline Marketing**
**3.00 credits**
A differentiation of the functions of marketing in airline operations; market research, demand analysis, advertising and promotion, sales, traffic, and the theory of price determination. (3 hr. lecture)

**AVM2949**
**Co-op Work Experience 2: AVI**
**3.00 credits**
This is a course designed to continue training in a student’s field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-operative Education Office to obtain registration approval. Prerequisite: 2.0 minimum GPA, approval of Co-op Program Director, completion of AVM 1949. (3 hr. lecture)

**Agriculture & Related Technologies**

**ATE1110**
**Animal Anatomy**
**3.00 credits**
This course explores the physical and functional phenomena that interact to sustain life in animals. The student will learn
the relationships of all of the systems in domestic animals, such as the osseous apparatus, the respiratory, digestive, gential, and nervous systems. The student will also be introduced to the descriptive and topographical terms needed to communicate with the professional staff. Prerequisites: CHM 1033, 1033L, ENC 1101; corequisites: ATE 1110L, 1211, 1650L. (3 hr. lecture)

ATE1110L Animal Anatomy & Physiology Lab 1.00 credits
This introductory course provides a comprehensive understanding of the physiological and anatomical relationships required for further development as a veterinary technician. This course will correlate with lecture material learned in the Animal anatomy and Animal Physiology lecture courses. Anatomical dissection, necropsy examination of live animals will be used as well as the study of radiographs, skeleton models and histological sections. (2 hr. lab)

ATE1211 Animal Physiology 3.00 credits
This course is designed to explore the terminology related to animal physiology, in addition to all aspects of the functions of systems in small and large animals. (3 hr. lecture)

ATE1630 Pharmacology for Veterinary Technicians 2.00 credits
This introductory course reviews drug classifications and office procedures/management. Students will learn methods of calculating appropriate drug dosage, routes of administration, and evaluation of drug efficacy as well as office procedures used in veterinary hospital management. (2 hr. lecture)

ATE1650L Introduction to Clinical Practice 1 1.00 credits
This introductory course is designed to acquaint the student with skills associated with veterinary clinical practice. Students will learn basic office, laboratory and nursing skills, including hospital/office management, restraint, history taking, examination room techniques, administration of medication, basic parasitology, and basic clinical pathology procedures. (3 hr. clinic)

ATE1940 Veterinary Clinical Experience 1 3.00 credits
This entry clinical course provides supervised clinical experience in a veterinary facility. Students will learn and reinforce competencies in clinical laboratory procedures, venipuncture techniques, physical examination of patients, administration of intramuscular and subcutaneous injections and exam room protocol. A.S degree only. (144 hr. clinic)

ATE1941 Veterinary Clinical Experience 2 3.00 credits
This course consists of supervised clinical experience in the veterinary workplace. Students will learn to enhance the competencies from ATE 1940 Veterinary Clinical Experience 1 while adding application of classroom knowledge in pharmacology, clinical laboratory procedures, and radiology. A.S degree credit only. (144 hr. clinic)

ATE2050L Animal Nursing & Medicine Laboratory 2 2.00 credits
The student will practice training a dog, and applying corrections for common behavioral problems. Clinical training in a small animal necropsy is also presented. Prerequisites: ATE 1110, 2631, 2655L; corequisite: ATE 2612. (4 hr. lab)

ATE2612 Small Animal Nursing 2 3.00 credits
A study of the basic concepts of nutrition, obstetric, and pediatric care, as well as the important aspects regarding zoonotic diseases, public health and animal behavior. The student will also be introduced to alternative medicine, including holistic concepts, homeopathic, acupuncture, chiropractic and other emerging specialties. Prerequisites: ATE 1110, 2611, 2631, 2655L; corequisite: ATE 2050L. (3 hr. lecture)

ATE2614 Animal Medicine 2 3.00 credits
This course will explore general pathology, causes and nature of disease, toxicology, and an overview of pathologies of major systems, as well as immunity disease prevention, common vaccinations and diseases relating to small animals. Prerequisites: ATE 1110, 2611. (3 hr. lecture)

ATE2631 Small Animal Nursing 1 3.00 credits
The student will master the technical skills of medicating animals and the taking and processing of radiographs. This course also covers general care, including grooming and bathing, feeding and watering, nail trimming, ear cleaning, anal sac expression, and determination of vital signs. Prerequisites: ATE 1110, 1211; corequisites: ATE 2611, 2655L. (3 hr. lecture)

ATE2636 Large Animal Clinic & Nursing Skills 2.00 credits
This course is designed to acquaint the student with the fundamentals of large animal herd management, reproductive physiology and lactation physiology. Aspects of equine, bovine, ovine and porcine husbandry will be included. Prerequisites: ATE 1110, 1211 corequisite; ATE 2636L. (2 hr. lecture)
ATE2636L
Large Animal Clinic & Nursing Skills Laboratory
1.00 credits
This course is designed to acquaint the student with the fundamentals of large animal husbandry, herd health management, preventive medicine, animal restraint and nutrition as it relates to the bovine, equine, porcine and caprine species. Techniques discussed in the Large Animal Clinic and Nursing skills course such as venipuncture, injections and administration of other oral medications will be reviewed and demonstrated. One laboratory session will be devoted to poultry science. (2 hr. lab)

ATE2638
Animal Lab Procedures 1
3.00 credits
This course is designed to introduce the veterinary technician to common parasites and their life cycles seen in routine veterinary practice. Also, hematology and the kinetics of the hematopoietic system are discussed with emphasis on normal blood smears and common changes seen during disease stages of the domestic animals. Prerequisites: ATE1110, 1211; corequisite: ATE 2638L. (6 hr. lab)

ATE2638L
Animal Lab Procedures 1 Laboratory
2.00 credits
This course is designed to acquaint the student with clinical laboratory procedures covered in the Animal Laboratory Procedures 1 course. Areas of emphasis include hematology, coagulation and parasitology as well as general laboratory etiquette. Corequisite: ATE 2638. (4 hr. lab)

ATE2639
Animal Lab Procedures 2
3.00 credits
This course serves as a continuation of Animal Laboratory Procedures 1 and covers immunology, liver function and diagnostic testing for liver abnormalities, kidney function and testing used in disease states, urinalysis, pancreatic evaluation; normal and abnormal exfoliative cytology; and the evaluation of endocrine disorders. It also will include principles of serological testing and microbiological methods and protocols. Prerequisites: ATE 2638, 2638L; corequisite: ATE 2639L. (3 hr. lecture)

ATE2639L
Animal Lab Procedures 2 Laboratory
2.00 credits
This course provides experience in the practical applications discussed in Animal Laboratory procedures 2. It also will include principles of serological testing and microbiological methods and protocols as well as dentistry for the veterinary technician. Prerequisites: ATE 2638, 2638L; corequisite: ATE 2639. (4 hr. lab)

ATE2652L
Introduction to Clinical Practice 2
1.00 credits
The clinical application of basic veterinary radiology and surgical nursing skills will be the primary focus of this practicum. The student will demonstrate skills under supervised instruction. Prerequisite: ATE 1110, 1650L. (1 hr. lab)

ATE2655L
Animal Nursing & Medicine Laboratory 1
2.00 credits
This course is designed to acquaint the student with the medical care associated with exotic animal and avians. Students will learn types of species that may be encountered in a practice and their associated care techniques. (1hr. lecture; 2 hr. Lab)

ATE2661
Large Animal Diseases
1.00 credits
This course is designed to acquaint the student with the fundamentals of preventative medicine and with the common disease seen in the large animal species. Aspects of equine, bovine, ovine and porcine diseases and common treatments will be emphasized. Prerequisites: ATE 1110, 2636, 2636L; corequisite: ATE 2611. (1 hr. lecture)

ATE2671C
Lab Animal Medicine
2.00 credits
This foundation course provides instruction on laboratory animal care. Students will learn the technical aspects of laboratory animal care, including restraint and handling, common diseases and nutrition. The animals studied include rabbits, rats, mice, guinea pigs, hamsters and primates. (1 hr. lecture; 2 hr. lab)

ATE2710
Animal Emergency Medicine
2.00 credits
This course is designed to acquaint the student with fundamentals of emergency veterinary medicine, including veterinary first aid, toxicology and specialized medical techniques and procedures. Prerequisites: ATE 1110, 1211; corequisites: ATE 2611, 2631, 2655L. (2 hr. lecture)

ATE2722C
Avian & Exotic Pet Medicine
2.00 credits
This course is designed to acquaint students with the medical care associated with exotic animal and avians. Students will learn types of species that may be encountered in a practice and their associated care techniques. (1hr. lecture; 2 hr. Lab)

ATE2942
Veterinary Clinical Experience 3
4.00 credits
This course provides clinical experience to the student, under the supervision of a veterinarian. Students will enhance the competencies learned in ATE 1940 - Clinical Experience 1 and ATE 1941 - Veterinary Clinical Experience 2 and master skills associated with advanced veterinary technology practice. Prerequisite ATE 1941. (192 hr. clinic)

ATE2943
Veterinary Clinical Experience 4
1.00 - 3.00 credits
This course consists of supervised clinical experience in a work place approved by the college. All aspects of critical and non-critical care will be observed and performed under the supervision of a veterinarian. The areas of competency of Veterinary Clinical Experience 1, 2 and 3 will be reinforced. The student receives no monetary compensation for the nine clinical hours.
Prerequisite: ATE 2942; corequisites: ATE 2050L, 2612, 2614. (9 hr. clinic)

HOS1010 Horticulture 1 3.00 credits
This is an introductory course on the principles of horticulture. Students will learn plant structure and function, plant propagation, plant nutrients and fertilizers, potting media, soils, pruning, and plant pests. A survey of various fields in ornamental horticulture will also be covered. (3 hr. lecture)

HOS1011 Horticulture 2 3.00 credits
The student will learn the maintenance and management aspects of horticulture business (nursery facility or landscape maintenance and design) including irrigation systems, plant growing facilities, plant propagation equipment, and landscape maintenance equipment. Hands-on practice in programming of plant production crops and nursery design in our nursery. Prerequisite: HOS1010. A.S. degree only. Special fee. (3 hr. lecture)

IPM2112 Principles of Entomology 3.00 credits
This is an introductory course on the principles of entomology. Students will learn to identify characteristics of arthropods, the insect orders, and the growth cycle of insects. Students will also address insect pest’s specific to South Florida and methods to responsibly manage plant pests. (3 hr. Lecture)

IPM2301 Pesticide Applications 3.00 credits
Students will learn government regulations with regards to pesticide mixing and application, and safety equipment. Preparation for the restricted use applicators license exam will be covered. Special fee. (3 hr. lecture)

IPM2635 Introduction to Plant Pathology 3.00 credits
The students will learn to identify diseases that affect plants and management practices for different types of plant diseases. Environmental factors contributing to a plant’s susceptibility to a particular disease will also be discussed. Methods of prevention, eradication, and control will be given for each specific disease. Special fee. (3 hr. lecture)

LDE2000 Planting Design 1 4.00 credits
Basic principles of design, on-the-job sketching and plan presentation as used by nurseries. Prerequisite: ORH 1510. Laboratory fee. (2 hr. lecture; 4 hr. lab)

LDE2310 Irrigation Design & Maintenance 3.00 credits
The students will learn the design, maintenance, and installation of nursery and landscape irrigation systems. All types of nursery systems will be covered including field, shade house, and greenhouse. Both sprinkle and low volume drip systems will be surveyed for appropriateness in nursery and landscape uses. Includes occasional weekend hands-on activities. A.S. degree only. Special fee. (3 hr. lecture)

ORH1251 Nursery Practices 1 3.00 credits
The student will learn the techniques and practices in commercial production of ornamental plants. Emphasis on types of nurseries. Prerequisite: HOS1010. A.S. degree only. Laboratory fee. (2 hr. lecture; 2 hr. lab)

ORH1510 Landscape Plant Identification 1 3.00 credits
Students will learn the identification and usage of plants used in the horticultural trade in South Florida. Subject matter includes trees, shrubs, and flowering plants for both interior and outdoor use. (3 hr. lecture)

ORH1511 Landscape Plant Identification 2 3.00 credits
The student will learn to identify and classify plants used in the horticulture industry in South Florida. Prerequisite: ORH1510. (3 hr. lecture)

ORH1840C Landscape Construction 2.00 credits
The student will learn to analyze a landscape site, read blueprints, and prepare a site for landscape installation. Basic construction techniques such as creating and maintaining wood structures, mixing concrete, and installing hardscape will be covered. Taught from a hands-on perspective. Occasional Saturday activities. Laboratory fee. (4 hr. lab)

ORH2230 Exterior Plant Usage and Maintenance 3.00 credits
This course emphasizes the maintenance and installation of exterior plants in the South Florida Environment. Students will learn installation procedures for bedding plants, shrubs, trees/palms, and vines. Students will be required to become familiar with all plants and equipment names and uses. Special Fee. (3 hr. lecture)

ORH2277 Foliage Plant Production 3.00 credits
Students will learn plant propagation techniques such as the taking of cuttings, divisions, and seeds, along with aseptic and meristem culture. Students will be required to look for insect diseases, and other cultural problems associated with foliage production and learn how to combat these problems. Environmental factors affecting foliage plants such as water, humidity, light, and temperature will be studied in relation to growing foliage plants specifically in South Florida. A.S. degree only. Special fee. (3 hr. lecture)

Miami Dade College 146 www.mdc.edu
American Sign Language and ASL Interpretation

ASL1000 Survey of Deaf Studies
3.00 credits
This course provides an overview of aspects of deafness including demographics, audiology, education, rehabilitation, assistive devices and organizations on deafness and interpreting. (3 hr. lecture)

ASL1140C American Sign Language 1
4.00 credits
This course provides introductory information on the linguistics of American Sign Language and approximately 500 sign concepts. Course includes lecture, discussion and lab practice. (4 hr. lecture)

ASL1150C American Sign Language 2
4.00 credits
This course provides continued instruction in the linguistic principles of American Sign Language and an additional 500 sign concepts. Course includes lecture, discussion and lab practice which is conducted in ASL. Prerequisite: ASL 1140C. (4 hr. lecture)

ASL1906 Directed Independent Studies
1.00 - 2.00 credits
This course provides continued instruction in the linguistic principles of American Sign Language and an additional 500 sign concepts. Course includes lecture, discussion and lab practice which is conducted in ASL. Prerequisite: ASL 1140C. (4 hr. Lecture)

ASL2160C American Sign Language 3
4.00 credits
This course provides linguistic principles of American Sign Language at the intermediate level and an additional 500 sign concepts. Lecture, discussion and lab practice are included. Students have increased opportunities for interaction with members of the deaf community. Increasingly, class sessions are conducted in ASL. Prerequisite: ASL 1150C, Pre/corequisite: ASL 2210. (4 hr. lecture)

ASL2200C American Sign Language 4
4.00 credits
This course provides linguistic principles of American Sign Language at the advanced level and an additional 500 sign concepts including idioms used in ASL. Lecture, discussion and lab practice are included. Class sessions are conducted predominately in ASL. Prerequisite: ASL 2160C. (4 hr. lecture)

ASL2210 Receptive Skills Development
3.00 credits
This course will focus on increasing the students’ receptive understanding of signed communications. Examples of American Sign Language (ASL) will be presented via videotapes and live interactions with deaf persons. Students will identify all the components and linguistic features of ASL and will provide appropriate English translations either in speech (paraphrasing) or in written form. Prerequisite: ASL 1150C or 2160C. (3 hr. lecture)

ASL2220 ASL Conversational Skills
3.00 credits
The course is designed for persons who already have an understanding of ASL principles. Provides an overview of the various systems of manual communication used in the U.S. including PSE, Cued Speech and signed English. Prerequisite: ASL 2160C. (3 hr. lecture)
ANT2410
Introduction to Cultural Anthropology
3.00 credits
The nature of culture, personality, and social organizations. Emphasis is on the customs of pre-literate people. (3 hr. lecture)

ANT2511
Introduction to Physical Anthropology
3.00 credits
Man as a biological unit in the animal kingdom. The human fossil record, living primates, the criteria of race and races of man, principles of biological evolution and human genetics. (3 hr. lecture)

ARC1113
Sketchbook Studies
3.00 credits
This course focuses on the development of perception and awareness of major architectural monuments, historical sites, and public spaces through two-dimensional architectural renderings performed in situ. Freehand perspective drawings will be created in black and white, with color as applicable. Mediums of presentation will vary from pencil to pen. (3 hr. lecture)

ARC1115
Architectural Communications 1
2.00 credits
Exercises in freehand drawing, sketching and linear perspective are designed to increase the student’s awareness of the architectural environment. This is accomplished through a series of form studies of nature, architectural forms, and abstract elements of composition. Corequisite: IND 1020. Laboratory fee. (1 hr. lecture; 2 hr. lab)

ARC1126
Architectural Drawing 1
4.00 credits
This course exercises the visualization and drafting of architectural objects and construction conditions. Students will learn to draw orthographic projections, isometric and sectional drawings as an expression of architectural communication. Topics include drawing of plans, elevations, details, schedules, and sections of wood frame and masonry structures. (2 hr. lecture 4 hr. lab)

ARC1128
Architectural Drawing 2
4.00 credits
A simulation of an actual architectural drafting room. The instructor issues preliminary design drawings from which the student prepares working drawings. The problems presented have varied materials and structural systems, differing occupancies, etc., offering a series of new experiences in architectural drawing. Prerequisite: ARC 1126. Laboratory fee. (2 hr. lecture; 4 hr. lab)

ARC1301
Architectural Design 1
4.00 credits
Introductory course to architectural design, its scope, methods and vocabulary interfacing graphics and design as a means towards an awareness and understanding of basic organizational principles. Design concepts analyzed through graphical representation and modeling. Pre/corequisite: ARC 1115. Laboratory fee. (2 hr. lecture; 4 hr. lab)

ARC1302
Architectural Design 2
4.00 credits
A continuation of ARC 1301, emphasizing the application of ordering concepts, and aspects and determinants of form and space. An individual design process is developed by the student. Pre-/ Co-Requisites: ARC 1126, 2701; Prerequisite: ARC 1301. Laboratory fee. (2 hr. lecture; 4 hr. lab)

ARC1949
Co-op Work Experience 1: ARC
1-3.00 credits
This course is designed to provide training in the students’ field of study through work experience. Students will learn to make connections between their internship experiences, academic coursework, and career goals. Students are graded on the basis of documentation of learning and goal achievement as reported by
both student and employer. Prerequisite: Departmental Approval (1-3 hr. lecture)

**ARC2053**  
Architectural Computer Applications  
4.00 credits  
Applications of software and computer languages in the fields of architecture, building construction and interior design. Corequisite: ARC2052. Laboratory fee. (2 hr. lecture; 4 hr. lab)

**ARC2056**  
Computer Aided Architectural Presentation  
4.00 credits  
This course is designed to introduce the student to the concept of three-dimensional modeling and rendering for the purpose of producing an animated architectural presentation. Laboratory fee. (2 hr. Lecture; 4 hr. lab)

**RC2171**  
Computer Aided Drafting 1  
4.00 credits  
Computer-aided drafting as it applies in the fields of architecture and interior design using office simulation. Emphasis is on the production of computer-aided drafting of working drawings involving different types of structure. Prerequisite: ARC 1126 or 2461. Laboratory fee. (2 hr. lecture; 4 hr. Lab)

**ARC2172**  
Computer Aided Drafting 2  
4.00 credits  
This course is designed for students with previous computer-aided design knowledge. Students will use both 2-dimensional and 3-dimensional CAD software to further develop their abilities to apply CAD techniques to the solution of architectural, engineering, and interior design problems. Prerequisite: ARC 2171. Laboratory fee. (2 hr. lecture; 4 hr. Lab)

**ARC2178C**  
Introduction to Building Surfacing  
4.00 credits  
A BIM course introducing building surfacing and form finding technology. Students will learn the practice of creating complex building models and non-traditional architectural geometries, exploring design intent modeling, and generating solid models from surface models through AEC related objects. Design drivers, computational geometry, and advanced assembly techniques are explored. Prerequisite: ARC 2180C (2 hr. lecture; 4 hr. lab)

**ARC2180C**  
Introduction to 3D Building Modeling  
4.00 credits  
An introduction to 3D building modeling and generative drafting as it applies to the fields of architecture and interior design. Students will learn current practices in 3D building design by emphasizing the manipulation of commands used for modeling, drawing, editing, dimensioning, basic drawing management, and drawing output. Prerequisites: ARC 2172, CGS 1060, MAC 1105. (2 hr. lecture; 4 hr. lab)

**ARC2201**  
Theory of Architecture  
3.00 credits  
An introduction to the meaning of Architecture to society, the foundation theories of architecture and an exposure to the ways and means of the creative process. Prerequisite: ARC 1115. (3 hr. lecture)

**ARC2303**  
Architectural Design 3  
5.00 credits  
Integration of the natural and built environment with physiological, functional, organizational, spatial and environmental forces. Prerequisites: ARC 2102 and 2461. Laboratory fee (2 hr. lecture; 6 hr. lab)

**ARC2304**  
Architectural Design 4  
5.00 credits  
A continuation of ARC 2303. Introduction to programming and design methods in architecture. Applications of building technology in the design process. Overview of computer applications in design. Prerequisite: ARC 2303; pre/corequisites: ARC 2053, 2681. Laboratory fee. (2 hr. lecture; 6 hr. lab)

**ARC2312C**  
Introduction to Building Assembly Modeling  
4.00 credits  
Introduction to the principles of Building Assembly Modeling. Students will learn to explore a building as an assembly of architectural objects and subassemblies, using virtual design and construction software. In addition, students will learn part modeling, assembly modeling, generative drafting, and general representational and modeling techniques. Prerequisites: ARC 2172, CGS 1060, and MAC 1105. (2 hr. lecture; 4 hr. lab)

**ARC2461**  
Architectural Materials and Construction 1  
4.00 credits  
An introduction to basic materials and methods of building construction. Emphasis is on wood, concrete, unit masonry, and light steel construction. Laboratory projects may include working drawings interpretation, sketching construction details, or field trips to construction sites and fabricant plants. Designed primarily as the initial materials and methods course for Architectural transfer students. Prerequisite: ARC 1126 or BCN 1251. Laboratory fee. (2 hr. lecture; 4 hr. lab)

**ARC2580**  
Architectural Structures 1  
4.00 credits  
A basic structural course, designed primarily for Architectural and Construction majors, covering the fundamentals of statics. Timber design emphasized. Prerequisite: MAC 1114, pre-/corequisites: PHY 2053, 2053L and ARC 1126, 2461. Laboratory fee. (3 hr. lecture; 2 hr. lab)

**ARC2681**  
Environmental Technology  
3.00 credits  
An introduction to technology aspects of building design which relates to human comfort, safety, and building performance. Includes a survey of the fundamentals of water supply, waste lines, plumbing equipment, heat and air conditioning, solar applications; and electrical components
and equipment in the design and construction of buildings. Prerequisite: ARC 1126. (3 hr. lecture)

**ARC2701**  
**History of Architecture 1**  
**3.00 credits**  
A general survey of architecture from primitive times through the 18th century including an integration of art forms, structural forms and ornamental forms used in various cultures of the world during those times. (3 hr. lecture)

**ARC2702**  
**History of Architecture 2**  
**3.00 credits**  
A general survey of architecture from the 19th century through the present, including an integration of art forms, structural forms, and ornamental forms used in various cultures of the world during these times. Fulfills Gordon Rule writing requirement. (3 hr. lecture)

**ARC2765**  
**An Introduction to: Cities of the World**  
**3.00 credits**  
This course is a comparative study of contemporary cities both industrialized, developing and redeveloped and/or reconstructed. This course is conducted abroad. Students will learn about improving the quality of our man-made environment by seeing first-hand, positive progress towards civilizing cities of the world. Separation of pedestrian and traffic ways, and the amenities which result, will be a major element of study. (3 hr. lecture)

**ARC2767**  
**Architectural History: Urban Spaces**  
**3.00 credits**  
Studies in situ of major urban spaces, with accompanying critical analyses of those spaces. An historical overview of the architecture of the places and spaces studied, with specific attention given to the ambiance, color, light, texture, and patterns, will be presented. The history of the community activities occurring in the spaces will be further analyzed, with appropriate urban and regional planning evaluations. Principles of positive planning will be studied, with the intention of developing knowledge of urban planning process and practice. (3 hr. lecture)

**ARC2949**  
**Co-op Work Experience 2: ARC**  
**3.00 credits**  
This is a course designed to continue training in a student's field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-operative Education Office to obtain registration approval. Prerequisite: 2.0 minimum GPA, approval of Co-op Program Director and completion of ARC 1949. (3 hr. lecture)

**Art**

**ARH1000**  
**Art Appreciation**  
**3.00 credits**  
The role of art in everyday living in the home, the school and the community. A lecture course illustrated with films and slides. (3 hr. lecture)

**ARH2050**  
**Art History 1**  
**3.00 credits**  
A world survey of the visual arts from pre-history to 800 A.D. (3 hr. lecture)

**ARH2051**  
**Art History 2**  
**3.00 credits**  
A world survey of the visual arts from 800 to 1850 A.D. Prerequisite: ARH 2050. Fulfills Gordon Rule writing requirement. (3 hr. lecture)

**ARH2740**  
**Cinema Appreciation**  
**3.00 credits**  
An analysis of the cinema as an important social force and an artistic medium. Significant American, British, and foreign language films will be shown and discussed. Prerequisite: HUM 1020. Fulfills Gordon Rule writing requirement. (2 hr. lecture; 2 hr. lab)

**ARH2857**  
**Introduction to Museum Studies**  
**3.00 credits**  
This is a foundation course that offers a practical introduction to the nature, context and operations of museums with the intention of providing practical examples and indicators of good practices. This course introduces students to the history and theory of museums and museum practices, museum administration, exhibition planning, museum education and museum careers. (3 hr. lecture)

**ART1201C**  
**Basic Design**  
**3.00 - 4.00 credits**  
This introductory course is designed to familiarize students with the basic elements and principles of design and to give hands-on opportunity to transform visual and experiential information into basic forms. Creative individual thinking and image making and successful problem solving both aesthetically and technically are ultimate goals. (1-2 hr. lecture; 4 hr. lab)

**ART1202C**  
**Two-Dimensional Design**  
**3.00 - 4.00 credits**  
This course is designed to give students an understanding of advanced concepts of two dimensional design and to give hands-on opportunity to transform visual and experiential information into two-dimensional form. Creative individual thinking and image making and successful problem solving both aesthetically and technically are ultimate goals. (1-2 hr. lecture; 4 hr. lab)
ART1203C  
Three Dimensional Design  
3.00 - 4.00 credits  
This course is designed to give students an understanding of the concepts of three-dimensional design and to provide hands-on opportunity to transform visual and experiential information into three-dimensional form. Creative individual thinking and image making and successful problem solving both aesthetically and technically are ultimate goals. Self-evaluation and safety skills will also figure prominently. Prerequisite: ART 1202C. (1-2 hr. lecture; 4 hr. lab)

ART1205C  
Color and Composition 1  
3.00 - 4.00 credits  
ART 1205C is a studio art course that is focused on learning the theory and practice of color mixing and compositional arrangement. The course will examine the various interactions of color and their creative application so that the student may use color more effectively in fine arts and applied design. (1-2 hr. lecture; 4 hr. lab)

ART1300C  
Drawing  
3.00 - 4.00 credits  
Basic problems in freehand drawing, including perspective, still-life and landscape. Emphasis is on developing a sense of structure through line, form and texture. (1-2 hr. lecture; 4 hr. lab)

ART1330C  
Figure Drawing  
3.00 - 4.00 credits  
Drawing and painting from the live model with emphasis on structure, movement and expression. Laboratory fee. (1-2 hr. lecture; 4 hr. lab)

ART1803C  
Workshop for ART Research and Practice: Studio  
6.00 credits  
Small enrollment sections. Interdisciplinary, team taught, introductory studio experience in a wide variety of media. In-depth exploration of creative processes, principles of artistic integrity, and the nature or artistic meaning. Concepts in two-dimensional and three-dimensional design will be explored through studio experience. (12 hr. lab)

ART1949  
Co-op Work Experience 1: ART  
3.00 credits  
This course is designed to provide training in a student's field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-op Department approval. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-operative Education Office to obtain registration approval. (3 hr. lecture)

ART2142C  
Advanced Metals  
4.00 credits  
Individualized instruction in metal forming specifically oriented toward the students aesthetic concerns. May be repeated for credit. Prerequisites: ART 2150C, 2151C. (2 hr. lecture; 4 hr. lab)

ART2150C  
Jewelry and Metalsmithing 1  
4.00 credits  
An introduction to creative design as applied to jewelry, flatware, and holloware forms. Prerequisite: ART 1202C or 1300C. Laboratory fee. (2 hr. lecture; 4 hr. lab)

ART2151C  
Jewelry and Metalsmithing 2  
4.00 credits  
Advanced techniques in jewelry making and metalsmithing. Prerequisite: ART 2150C. Laboratory fee. (2 hr. lecture; 4 hr. lab)

ART2301C  
Drawing 2  
3.00 - 4.00 credits  
In this course students will execute drawings in various media, working with the figure or from various assigned drawing problems which are more complex and incorporate other design possibilities. Assignments in drawing will go beyond the realistic or literal and will incorporate media not usually used such as painting, collage, mixed media, and found objects. (1-2 hr. lecture; 4 hr. lab)

ART2302C  
Advanced Drawing  
3.00 - 4.00 credits  
An explanation of varied approaches to drawing through studio problems. May be repeated for credit. Prerequisites: ART 1300C, 1330C. Laboratory fee. (1-2 hr. lecture; 4 hr. lab)

ART2400C  
Printmaking 1  
3.00 - 4.00 credits  
Basic techniques of printmaking including relief prints (wood cut and wood engraving), intaglio (dry point and etching) and lithography. Prerequisite: ART 1202C or 1300C. Laboratory fee. (1-2 hr. lecture; 4 hr. lab)

ART2401C  
Printmaking 2  
3.00 - 4.00 credits  
Advanced techniques in printmaking. Prerequisite: ART 2400C. Laboratory fee. (1-2 hr. lecture; 4 hr. lab)

ART2406C  
Advanced Printmaking  
3.00 - 4.00 credits  
Individualized instruction on printmaking concepts specifically oriented toward the student's aesthetic concerns. May be repeated for credit. Prerequisites: ART 2400C, 2401C. Laboratory fee. (1-2 hr. Lecture; 4 hr. lab)

ART2500C  
Painting 1  
3.00 - 4.00 credits  
Studio problems in painting involving contemporary styles, techniques and materials. Prerequisite: ART 1202C or 1300C. (1-2 hr. lecture; 4 hr. lab)
ART2501C
Painting 2
3.00 - 4.00 credits
Advanced techniques in painting. Prerequisite: ART 2500C. (1-2 hr. lecture; 4 hr. lab)

ART2502C
Advanced Painting
3.00 - 4.00 credits
Individualized instruction in painting concepts specifically oriented to the student aesthetic concerns. May be repeated for credit. Prerequisites: ART 2500C, 2501C. (1-2 hr. lecture; 4 hr. lab)

ART2600C
Computer Art
3.00 - 4.00 credits
This course is an introduction to basic theory and skill techniques of visual communications using computers. It gives students a basic understanding of technical devices for the electronic production of visual images. Prerequisites: ART 1201C, ART 1300C. Special fee. (1-2 hr. lecture; 4 hr. lab)

ART2601C
Intermediate Computer Art
3.00 - 4.00 credits
An intermediate computer art course focusing on the integration of computer technology with traditional design and fine art media such as illustration, painting, printmaking and photography. Prerequisite: ART 2600C. (1-2 hr. lecture; 4 hr. lecture)

ART2602C
Advanced Computer Art
4.00 credits
An advanced computer art class which focuses on new and emerging computer technology utilizing multiple platforms to produce advanced computer art portfolio assignments in illustration, fine art, 2D animation and digital photography. (2 hr. lecture; 4 hr. lab)

ART2701C
Sculpture 1
3.00 - 4.00 credits
An introduction to sculpting techniques and materials. Prerequisite: ART 1202C or 1300C. Laboratory fee. (1-2 hr. lecture; 4 hr. lab)

ART2702C
Sculpture 2
3.00 - 4.00 credits
Advanced sculpturing techniques. Prerequisite: ART 2701C. Laboratory fee. (1-2 hr. lecture; 4 hr. lab)

ART2703C
Advanced Sculpture
3.00 - 4.00 credits
Individualized instruction in sculptural concepts specifically oriented to the student's aesthetic concerns. May be repeated for credit. Prerequisite: ART 2701C, 2702C. Laboratory fee. (1-2 hr. lecture; 4 hr. lab)

ART2750C
Ceramics 1
3.00 - 4.00 credits
Basic techniques in poetry designed - forming, decorating, glazing and firing. Prerequisites: ART 1202C or 1300C. Laboratory fee. (1-2 hr. lecture; 4 hr. lab)

ART2751C
Ceramics 2
3.00 - 4.00 credits
Advanced techniques in pottery design and preparation. Prerequisite: ART 2750C. Laboratory fee. (1-2 hr. lecture; 4 hr. lab)

ART2771C
Advanced Ceramics
3.00 - 4.00 credits
Advanced work in ceramics. Emphasis placed on individual concepts and their application in ceramics. May be repeated for credit. Prerequisites: ART 2750C, 2751C. Laboratory fee. (1-2 hr. lecture; 4 hr. lab)

ART2938
Exhibition Design
3.00 credits
Students will be introduced to a basic language of visual elements (line, shape and three-dimensional form, color, space, texture, and value) and principles of design. Students will investigate how and why images are made, and how they are received and experienced. Emphasis will be placed on the exhibition design development processes and the variations in practice across different venues. (3 lecture hours)

ART2949
Co-op Work Experience 2: ART
3.00 credits
This is a course designed to continue training in a student’s field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-op Department approval and completion of 1949 Co-op Work Experience. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-operative Education office to obtain registration approval. (3 hr. lecture)

ART2950
Portfolio Preparation - ART
3.00 credits
Provides students with knowledge and skills to compile a portfolio which prepares them for a college or professional career. Course content focuses on individual development through the use of varied media and styles. Emphasis is placed on selection, evaluation, and presentation. May be repeated for credit. (6 hr. lab)

Banking

BAN1004
Principles of Banking
3.00 credits
In this course the students will learn the foundation, structure and function of financial systems. The course plan includes the review of the role of banks as businesses and their impact on the economy.
The students will receive an overview of the main entities that comprise the financial system: financial intermediaries, investments and financial markets. The students will be able to describe the risk infrastructure of financial institutions, the regulatory environment, and the responsibilities inherent in complying with regulatory requirements associated with safety and soundness of banks. (3 hr. lecture)

**BAN1013**  
**Negotiable Instruments and the Payments Mechanism**  
**3.00 credits**  
This course is designed to provide students with an overview of payment systems, specifically negotiable instruments. The course plan includes a discussion of the requirements defined by Article 3 of the Uniform Commercial code and other laws applicable to negotiable instruments. In this course the students will learn the requirements associated with the transfer of negotiable instruments including but not limited to the parties involved and their rights. (3 hr. lecture)

**BAN1155**  
**International Banking**  
**3.00 credits**  
In this course the students will learn about the evolution of international banking and finance, the processes, the prevailing competition and the issue of cross-border risk exposure. The course plan provides a review of salient global financial events such as the merger of European currencies into a single currency: the Eurodollar and the expansion of high speed electronic global payments. This course is designed for all level bankers, investment bankers or junior officers wishing to pursue a career in international banking. (3 hr. lecture)

**BAN1231**  
**Introduction to Commercial Lending**  
**3.00 credits**  
This course provides an increased awareness of the credit underwriting process. It provides a comprehensive foundation to the lending process including technical and interpretative analysis of financial information from liquidity, solvency, ratio and cash flow analysis to the basics for the completion of a credit approval memorandum. Students will learn the concepts of qualitative analysis including the assessment of industry risk, market risk and management risk. The course provides an understanding of the role of loan policy and the need to summarize the borrowers various risks into an appropriate credit risk rating. Pre-requisites: BAN2210 (3 hr. lab)

**BAN1240**  
**Installment Credit**  
**3.00 credits**  
In this course the student will learn a comprehensive approach to consumer lending, identifying financial risks and the regulatory environment that impact and promote safety and soundness in lending. The course centers around providing a practical approach to the fundamentals of consumer installment lending, including a review of different loan products, their life cycles, the credit application process and the essentials of the closing process (3 hr. lecture)

**BAN1425**  
**Selling Bank Services**  
**3.00 credits**  
Recognizing and meeting bank customer needs through checking accounts, savings services, loans to individuals, safe deposits, travelers checks and cross-selling. Identification of the services their banks offer, the scope and advantages of these banking services, customer needs based on a bank transaction or conversation with the customer and the appropriate service to the perceived customer need. Designed for tellers and new accounts personnel (3 hr. lecture)

**BAN1744**  
**BankSim**  
**3.00 credits**  
Through the use of a sophisticated computer model, participants actually “run” in a competitive society and a changing economy—a $500 million commercial bank. Designed for operations, long term financial strength and asset utilization. (3 hr. lecture)

**BAN1800**  
**Law and Banking**  
**3.00 credits**  
This course is designed to provide students with a comprehensive knowledge base in a range of areas within the commercial banking laws. The students will learn the fundamentals of legal and regulatory principles in the field of banking and their impact and application to bank products, services and client relationships. Through a carefully designed course plan, students new to banking will gain insight and understanding of US laws and regulations impacting the banking industry. (3 hr. lecture)

**BAN2135**  
**Bank Accounting**  
**3.00 credits**  
This course is designed to help the bank employee understand the elements of accounting as they relate to and are applied in the banking environment. Prerequisite: ACG 2001 or ACG 2021. (3 hr. lecture)

**BAN2210**  
**Analyzing Financial Statements**  
**3.00 credits**  
In this course the students will learn the framework and resources available to analyze financial statements and to assess a company’s operation and future performance. The course covers the critical objectives with the assessment of business performance such as: the relationship between the company’s business and financial strategy, their financial statements, ratio, profitability, balance sheet and cash flow analysis. The course plan includes the use of financial and accounting information to make lending/credit and investment decisions.
The course is targeted to a wide range of students including those pursuing careers in banking, general management, investment banking, financial analysis and consulting. Pre-requisites: ACG2021 (3 hr. lecture)

**BAN2211**  
**Applied Financial Statement Analysis 3.00 credits**  
This course provides a comprehensive analysis of business strategy, operating performance, financial condition and cash flow strength. The student will learn basic and advanced financial concepts impacting the viability of a business, including accounting rules, methods of credit analysis, assessment of financial ratios, historical financial analysis, cash flow and financial forecasting. Pre-requisites: BAN2210 (3 hr. lab)

**BAN2253**  
**Residential Mortgage Lending 3.00 credits**  
This course covers all phases of the residential mortgage lending process, including a foundation to the underwriting, credit analysis and servicing of residential mortgage loans. The student will learn the aspects of construction and permanent financing for residential property, real estate and mortgage law, financing options in real estate, appraisals, servicing, regulatory requirements and secondary mortgage markets. The students will become familiar with the critical issues necessary for any individual to operate successfully in the residential mortgage loan market. Target audience for this course includes loan officers, underwriters, loan processors and individuals interested in pursuing a career in the mortgage lending business. (3 hr. lecture)

**BAN2501**  
**Money and Banking 3.00 credits**  
The course is designed to provide students with an overview of the US financial systems including theory and practice of monetary policy and financial instruments. Students will learn about interest rate determination, the structure and role of banks, financial institutions in the intermediation process, the factors impacting inflation, and variables in the economy. The course plan is designed not only for students but individuals working in the financial services industry including junior officers to mid-management and entry level staff who are considering pursuing a career in the banking field. (3 hr. lab)

**BRC1059**  
**Diversity Awareness and Customer Service 3.00 credits**  
This course will consist of invited speakers on selected topics to address cultural norms and values and the resulting impact on customer service in order to help individuals of different cultures become homeowners. (3 hr. lecture)

**BRC2267**  
**Fair Housing and Fair Lending 3.00 credits**  
This course will cover the legislative policies of regulatory and compliance laws, designed to prohibit discriminatory practices in lending. (3 hr. lecture)

**BRC2268**  
**Mortgage Loan Servicing and Quality Assurance 3.00 credits**  
This course will cover servicing of mortgage loans from the close of the loan until the final payment. The student will be provided with an in-depth study of the actual procedures required in the daily operations of mortgage loan servicing. This course will include a study of the quality control technique and an understanding of the importance of the ethics in mortgage lending. (3 hr. lecture)

**BRC2353**  
**Marketing for Financial Institutions 2.00 credits**  
The facts and principles of marketing are set forth in this course. Topic includes: the marketing concept and structure, marketing information and buyer behavior, consumer and intermediate customers’ buying behavior, product packaging and pricing strategy, and developing a marketing program, controlling marketing programs, and the cost-value to society. (2 hr. lecture)

**BRC2266**  
**Affordable Housing and Community Service 3.00 credits**  
This course will cover specialized programs that provide financing opportunities to low and moderate-income households. Students will gain exposure to specific tools and techniques to facilitate homeownership, sources of funds, types of mortgages and various community lending product and non-traditional underwriting guidelines and home buyer education and counseling. (3 hr. lecture)

**BRC2941**  
**Field Experience in Mortgage Finance 3.00 credits**  
Skills learned in the classroom environment are not only reinforced but become instilled in a student when opportunities in the practical work environment are presented. (3 hr. lecture)
Biochemistry

BCH3023
Introductory Biochemistry
3.00 credits
This course surveys the fundamental components of biochemistry. In this course, students will learn concepts such as the structure and function of amino acids, proteins, carbohydrates, lipids, and nucleic acids, together with discussions of oxidative metabolism and regulation. Special fee. Prerequisites: BCH 2010/L, 2011/L, CHM 2200 or CHM 2211/L. Corequisites: BCH 3023L. (3 hr. lecture)

BCH3023L
Introductory Biochemistry Laboratory
2.00 credits
This laboratory course complements the lecture corequisite BCH 3023, which involves the study of the fundamental components of biochemistry. In this laboratory course students will learn and will be provided with hands-on experiences with the concepts addressed in the lecture course. Special fee. Prerequisites: BCH 2010/L, 2011/L, CHM 2200 or CHM 2211/L. Corequisites: BCH 3023. (3 hr. lecture)

Biological Science

BOT1010
Botany
3.00 credits
A survey of the plant kingdom based on a detailed study of the morphology, anatomy and physiology of selected representative specimens. Corequisite: BOT 1010L. (3 hr. lecture)

BOT1010L
Botany Laboratory
1.00 credits
Laboratory for BOT 1010. Corequisite: BOT 1010. Laboratory fee. (2 hr. lab)

BOT2150C
Native Plant Identification and Usage in South Florida
3.00 credits
Plants native to south Florida are identified and presented by their typical ecological community. Emphasis is primarily upon pine-land, tropical hammock, mangrove and costal, Everglades marsh, and cypress swamp communities. Plants appropriate for use in urban landscapes as well as in ecological restorations are covered. A combination lecture and lab course. (2 hr. lecture; 2 hr. lab)

BOT3015
Survey of Plant Diversity
3.00 credits
This course explores the plant kingdom and gives emphasis on structure, function and genetics of plants. Students will learn the evolutionary relations, natural history, ecological adaptations, physiology, morphology and reproductive biology of gymnosperms and angiosperms. Prerequisites: BOT 3010, 3010L, 2011, 2011L. Corequisite: BOT 3015L. Special fee. (3 hr. lecture)

BOT3015L
Survey of Plant Diversity Laboratory
1.00 credits
This course is designed to provide the necessary laboratory experiments and dissection exercises to supplement/accompany the BOT 3015 Survey of Plant Diversity lecture course. Students will learn about the plant kingdom and with emphasis on structure, function and genetics of plants. Dissections and laboratory exercises are designed to explore the fundamental cell and tissue structures of both vascular and non-vascular plants. Prerequisites: BOT 3010, 3010L, 2011, 2011L. Corequisite: BOT 3015. Special fee. (2 hr. lab)

BSC1005
General Education Biology
3.00 credits
This general education biology course covers basic biological concepts, concentrating on selected principles that help explain molecular biology, evolution, genetics, growth, disease, and the problems of humans in the environment. It is designed to stimulate interest in the variety of life that exists on our planet, help students recognize the factors that provide order in this variety, and involve students in the processes of inquiry, observation, and analysis of biological organization in order to give them a foundation for intelligently interpreting and evaluating biological topics. (3 hr. lecture)

BSC1005L
General Education Biology Laboratory
1.00 credits
An optional one-credit lab to provide students with experience in the scientific process. Laboratory fee. (2 hr. lab)

BSC1030
Social Issues in Biology
3.00 credits
Social Issues in Biology develops in students an understanding and appreciation for living systems (including themselves) and the skills and knowledge needed to address biological issues that are important and relative to their lives and the society in which they live. Such issues include, but are not limited to, the origin of biodiversity, advances in reproductive technology, genetic engineering, scientific ethics, advances in the treatment of disease and genetic disorders, environmental problems and sociobiology. (3 hr. lecture)

BSC1050
Biology & Environment
3.00 credits
This course provides students with an understanding and appreciation of how the natural world functions, how human attitudes and actions alter nature systems, creating environmental problems, and how sustainable approaches may resolve these problems. (3 hr. lecture)

BSC1084
Functional Human Anatomy
3.00 credits
Basic human anatomy for the students in allied health and mortuary science programs. Includes the dynamics of gross and functional anatomy, terminology, body
orientation, and systematic relationships. (3 hr. lecture)

**BSC1949**
Co-op Work Experience 1: BIO
3.00 credits
This is a course designed to provide training in a student’s field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-op Department approval. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Cooperative Education Office to obtain registration approval. (3 hr. lecture)

**BSC2010**
Principles of Biology
3.00 credits
This is the first sequence of two courses that deal with the principles of modern biology. It covers scientific process, the chemistry of life, the basics of metabolism, cell theory, cellular respiration, photosynthesis, classical, and molecular genetics. Pre/corequisites: BSC 2010L, CHM 1045. Special fee. (3 hr. lecture)

**BSC2010L**
Principles of Biology 1 Laboratory
2.00 credits
This laboratory course is designed to complement BSC 2010, Principles of Biology 1. It covers the nature of scientific investigation, the chemistry of life, microscopy, cell structure and function, metabolism, and the continuity of life. Corequisite: BSC 2010L. Special fee. (4 hr. lab)

**BSC2011**
Principles of Biology 2
3.00 credits
This is the second in a sequence of two courses that deals with the principles of modern biology. It covers organic evolution, phylogeny, biological diversity, overviews of plant and animal form and function, behavior, as well as population, community, and ecosystem ecology. Prerequisites: BSC 2010, 2010L; corequisite: BSC 2011L. Special fee. (3 hr. lecture)

**BSC2011L**
Principles of Biology Lab 2
2.00 credits
This course is intended for major’s students and complements the lecture course BSC 2011. As such, it functions to provide majors students with hands-on experience with laboratory exercises designed to complement the presentation of the principles of biology as they relate to evolution, biological diversity, form and function in plants and animals, ethnology, ecology and conservation biology. Prerequisite: BSC 2010L; corequisite: BSC 2011L. (4 hr. lab)

**BSC2020**
Human Biology: Fundamentals of Anatomy/Physiology
3.00 credits
This course provides a basic understanding of the human body, its systems and their functions. It includes the dynamics of physiology, terminology, and physiological relationships of the body systems. (3 hr. lecture)

**BSC2085**
Human Anatomy and Physiology 1
3.00 credits
In this course students will learn the structure and function of the systems of the human body, emphasizing those aspects most pertinent to students in the Health Sciences programs. Students are strongly recommended to complete CHM1033/1033L prior to enrolling in this course. Corequisite: BSC2085L. (3 hr. lecture)

**BSC2085L**
Human Anatomy and Physiology 1 Laboratory
1.00 credits
In this laboratory course, student will learn to apply the concepts covered in BSC2085 as it pertains to structure and function of the human body from an experiential approach. Corequisite: BSC2085 (2 hr. lab)

**BSC2086**
Human Anatomy & Physiology 2
3.00 credits
Building on concepts learned in BSC2085, students will learn the structure, function, and physiology of the human body with an emphasis on the Endocrine, Cardiovascular, Lymphatic, Respiratory, Digestive, Urinary, and Reproductive Systems. Prerequisite: BSC2085 Corequisite: BSC2086L (3 hr. lecture)

**BSC2086L**
Human Anatomy & Physiology 2 Laboratory
1.00 credits
In this laboratory course, students will learn to apply the concepts covered in BSC2086, which include the structure and function of the Endocrine, Cardiovascular, Lymphatic, Respiratory, Digestive, Urinary, and Reproductive Systems and development, from an experiential approach. Prerequisite: BSC2085L. BSC2085 Corequisite: BSC2086 (2 hr. lab)

**BSC2250**
Natural History of South Florida
3.00 credits
Integrates and correlates certain features of the natural history of South Florida such as its geology, meteorology, flora, fauna, ecology and conservation. (3 hr. lecture)

**BSC2423C**
Methods & Applications of Cell Culture & Protein Biotechnology
4.00 credits
This course addresses the basic methods and principles of cell culture and protein biochemistry necessary for an understanding of the field and effective applications of cell culture and protein biotechnology are explored with hands-on training in plant and mammalian cell culture and protein purification. Prerequisites: BSC 2427, 2427L. Laboratory fee. (3 hr. lecture, 2 hr. lab)

**BSC2426**
Biotechnology Methods and Applications 1
3.00 credits
This course addresses the basic principles, concepts and techniques of biotechnology necessary for an understanding of the field, and effective work in a pharmaceutical-biotechnology-and/or research laboratory setting(s). Practical applications of biotechnology are explored. Prerequisite:
Previous knowledge of chemistry and biology strongly recommended; corequisite: BSC 2426L. (3 hr. lecture)

**BSC2426L**  
Biotechnology Methods & Applications 1 Laboratory  
2.00 credits  
This laboratory course is designed to complement BSC 2426 Biotechnology Methods and Applications 1. This is a hands-on course that emphasizes the basic laboratory principles, techniques, and instrumentation, necessary for effective work in pharmaceutical, biotechnology, and/or research laboratory settings(s). Prerequisite: Previous knowledge of chemistry and biology strongly recommended. Corequisite: BSC 2426. Laboratory fee. (4 hr. lab)

**BSC2427**  
Biotechnology Methods and Applications 2  
3.00 credits  
This course addresses advanced principles, concepts and techniques of biotechnology necessary for an understanding of the field, and effective work in pharmaceutical-biotechnology-and/or research-laboratory setting(s). The following areas of contemporary biotechnology are covered: forensics, bioremediation, and medical-, animal-, plant-, and marine biotechnology. Prerequisites: BSC 2426, 2426L. Corequisite: BSC 2427L. (3 hr. lecture)

**BSC2427L**  
Biotechnology Methods & Applications 2 Laboratory  
2.00 credits  
This laboratory course is designed to complement BSC 2427 Biotechnology Methods and Applications 2. This is a hands-on course that emphasizes advanced laboratory principles, techniques, and instrumentation necessary for effective work in a pharmaceutical, biotechnology, and/or research-laboratory setting(s). Prerequisite: BSC 2426, 2426L. Corequisite: BSC 2427. Laboratory fee. (4 hr. lab)

**BSC2943L**  
Bioscience Internship  
3.00 - 6.00 credits  
This internship course is a capstone for students majoring in bioscience and related programs. Students will learn to apply acquired knowledge and skills to gain experience in the bioscience workplace (144-288 hr. Internship)

**BSC2949**  
Co-op Work Experience 2: BSC  
3.00 credits  
This is a course designed to continue training in a student’s field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-op Department approval and completion of 1949 Co-op Work Experience. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-operative Education Office to obtain registration approval. (3 hr. lecture)

**BSC3930**  
Biological Sciences Seminar  
1.00 credits  
This course is designed for biological science majors. Students will gain an understanding of the broad range of career options within the biological sciences. Additionally, students will learn how to read, interpret, discuss, and cite selected examples of the scientific literature in different areas of biology. Prerequisites: BSC 2010, 2010L, 2011, 2011L. Special fee. (3 hr. lecture)

**BSC4422**  
Biotechnology Methods and Applications - III  
3.00 credits  
This course will explore biotechnology as a science and its implications in modern society. Students will learn how to make well-designed and controlled experiments. Students will also demonstrate knowledge of data acquisition and interpretation. Prerequisites: BSC 2427, 2427L, PCB 3060, 3060L, BCH 3023, 3023L. Corequisites: BSC4422L. Special fee. (3 hr. lecture)

**BSC4422L**  
Biotechnology Methods and Applications - III Lab  
2.00 credits  
This course provides students with hands-on laboratory experiences to supplement the BSC4422 lecture course. Students will learn how to perform advanced molecular bio techniques that build on previous knowledge. They will perform diagnostic assays, western blots, purifications, etc and determine how to correlate findings with the basic research or clinical data. Prerequisites: BSC 2427, 2427L, PCB3060, 3060L, BCH3023, 3023L. Corequisite: BSC 4422. Special fee. (4 hr. lab)

**BSC4434**  
Bioinformatics for Biologists  
4.00 credits  
The student will be introduced to the basic concepts and tools that scientists use to analyze biological information. Students will learn, through the examination of literature, development of projects and use of available web-based tools, how to store, retrieve and analyze genetic information. Prerequisites: BSC 2010, 2010L, 2011, 2011L, and PCB 3060, 3060L. Special fee. (4 hr. lecture)

**BSC4940**  
Senior Specialty Internship  
3.00 credits  
This course will provide students with hands-on experience in the biological science workplace by conducting an internship. The experience readies the individual for their first position in-field. Prerequisite: Pre-completion of BS-BS core curriculum and approval by BS-BS faculty. Special fee. (3 hr. Internship)

**BSC4950**  
Senior Capstone Research Project  
3.00 credits  
This course will provide students with a capstone research experience in the biological science discipline. The experience readies the individual for their first position in-field. Prerequisite: Pre-completion of BS-BS core curriculum and approval by BS-BS faculty. Special fee. (3 hr. Capstone)
MCB2010
Microbiology
3.00 credits
This course introduces basic principles of morphology, physiology, biochemistry and genetics of microorganisms. The students will learn representative types of microorganisms including bacteria, algae, protozoas and viruses and the roles of various microorganisms in health and disease, modes of transmission and the effects of their activities in our biosphere. Students are strongly recommended to take the laboratory component MCB 2010L. Prerequisites: BSC 2010, 2010L, or BSC 2085/2085L, CHM 1033/1033L or CHM 1045/1045L. (3 hr. lecture)

MCB2010L
Microbiology Laboratory
2.00 credits
This laboratory course to accompany MCB 2010 complements lecture topics. Students will learn and have direct experience with fundamental techniques for observation, isolation, cultivation, counting, identification, and control of microbes. Prerequisites: BSC2010/2010L or BSC2085/2085L, CHM1033/1033L or CHM 1045/1045L, corequisite MCB 2010L. (4 hr. lab)

MCB3023
Principles of Microbiology
3.00 credits
This course offers an introduction to the principles of microbiology. Students will learn the taxonomy, biochemistry, genetics, and ecology of microorganisms and will have an understanding of the impact of microorganisms on the advancement of the biological sciences. Prerequisites: BSC 2010, 2010L, 2011, 2011L, CHM 2211, 2211L. Corequisites: MCB 3023L. Special fee. (3 hr. lecture)

MCB3023L
Principles of Microbiology Lab
2.00 credits
This Laboratory course accompanies MCB3023. Students will learn and have direct experience with fundamental techniques for observation, isolation, cultivation, enumeration, biochemistry, identification, genetics, and control of microbes. Prerequisites: BSC 2010, 2010L, 2011, 2011L, CHM 2211, 2211L. Corequisites: MCB3023. Special fee. (4 hr. lab)

MCB4503
Virology
3.00 credits
This course will cover general virology, including virus structure, replication cycles, infection and mode of transmission of human diseases. Student will learn the major families of the bacterial (bacteriophages), plant and animal viruses and how they influence infection. Prerequisites: MCB 3023, 3023L. Special fee. (3 hr. lecture)

OCB1010
Introduction to Marine Biology
3.00 credits
An introduction to the biology of the sea. Emphasis is placed on the variety of marine organisms and their structural, physiological, and behavioral adaptations within specific marine environments. Special attention is directed to marine communities, e.g., coral reefs and shallow grass flats, and the factors limiting the distribution of organisms within those communities. Discussions will also be directed towards geological, chemical and physical characteristics of the world’s oceans. (3 hr. lecture)

OCB1010L
Introduction to Marine Biology Laboratory
1.00 credits
An optional laboratory class for OCB 1010. This laboratory course stresses understanding, familiarization, and identification of local marine organisms and study of local marine communities through field trips to selected local marine habitats and hands-on laboratory activities. An introduction to field collection methods and various sampling techniques is presented. (2 hr. lab.)

PCB2061
Genetics
3.00 credits
This course provides an understanding of the mechanisms of transmission of heritable information including classical principles of Mendelian genetic analysis, principles of modern genetic analysis, gene mapping change and regulation of gene expression. Quantitative genetic analysis, genomics, genetic basis of cell and cancer development will also be explored. Prerequisite: BSC 2010, 2010L. (3 hr. Lecture)

PCB3043
Fundamentals of Ecology
3.00 credits
This is a fundamentals course in ecology. In this course, students will learn the basic principles of ecology at organismal, population, community, and ecosystem levels, including consideration of Florida's ecosystems and human impact on those systems. Prerequisites: BSC 2011, 2011L. (3 hr. lecture)

PCB3060
Principles of Genetics
3.00 credits
This course is an introduction to the mechanisms of transmission of hereditary information. Students will learn the classical Mendelian principles of heredity, deviation of Mendelian principles, genetic analysis, linkage and mapping, genetics of populations, gene regulation, mutation, the genetic gases of cancer and other genetic disorders will also be studied. Prerequisites: BSC 2010, 2010L. (3 hr. lecture)

PCB3060L
Principles of Genetics Laboratory
2.00 credits
This laboratory course is designed to complement PCB 3060 Principles of Genetics. Students will learn hands-on skills with emphasis on laboratory principles, techniques, and instrumentation within the field of genetics. Prerequisites: BSC 2010, 2010L, 2011, 2011L. Corequisites: PCB 3060. Special fee. (6 hr. lab)
PCB4023  
Molecular and Cell Biology  
3.00 credits  
Students will learn the structure and function of cells and biological membranes, signal transduction pathways, cell cycle and cell division, the flow of genetic information and the regulation of gene expression. Exploration of laboratory techniques and discussion of the cellular basis of human diseases will also occur. Prerequisites: BSC 2010, 2010L, 2011, 2011L. Special fee. (3 hr. lecture)

PCB4097  
Human Physiology  
3.00 credits  
The student studies the physiology of organism's major organ systems with emphasis on humans. Student will learn the principles of physics, cell biology, and anatomy in order to explain how the different organs systems work individually and in the context of the whole organism. Prerequisites: PHY 2054, 2054L, BCH 3023, 3023L, and PCB 4023. Special fee. (3 hr. lecture)

PCB4233C  
Fundamentals of Immunology  
4.00 credits  
Students will learn the immunological processes and concepts as they pertain to human health, disease prevention, development, and treatment. Its primary emphasis is on the cellular and non-cellular components of the immune system, and the ways in which these components interact to provide immunity. This is a combination lecture and lab course. Prerequisites: MCB3023, 3023L. Special fee. (3 hr. lecture; 2 hr. lab)

PCB4674  
Evolution  
3.00 credits  
Students will learn the theory of evolution as it pertains to different fields of modern biology including the theory of natural selection, the evidence for evolution, microevolution, speciation, macroevolution, the origin of life on Earth, major evolutionary trends, and the evolution of humans. Prerequisites: BSC 2010, 2010L, 2011, 2011L, PCB 3060, 3060L. Special fee. (3 hr. lecture)

PHI3633  
Biomedical Ethics  
3.00 credits  
This is a foundation course in biomedical ethics and ethical theory. Students will learn to use methods of effective reasoning to apply to topics in biomedical ethics. These topics may include, but are not limited to, genetic engineering, stem cell research, human cloning, euthanasia, and clinical research ethics. (3 hr. lecture)

ZOO1010  
Zoology  
3.00 credits  
A survey of the animal kingdom based on a detailed study of the morphology, anatomy, and physiology of selected representative specimens. Corequisite: ZOO 1010L. Special fee. (3 hr. lecture)

ZOO1010L  
Zoology Laboratory  
1.00 credits  
Laboratory for ZOO 1010. Corequisite: ZOO 1010. Laboratory fee. (2 hr. lab)

ZOO3021  
Survey of Animal Diversity  
3.00 credits  
This course presents zoology as a scientific discipline. Students will learn the basic principles of zoological nomenclature, taxonomy, systematics, and the basic understanding of the relationships of animals to one another, to humans, their environment and to society. Prerequisites: BSC 2010, 2010L, 2011, 2011L. Special fee. (3 hr. lecture)

ZOO3021L  
Survey of Animal Diversity Laboratory  
1.00 credits  
This laboratory course provides hands-on experience with the concepts covered in the lecture ZOO 3021. Students will learn the basic principles of zoological nomenclature, taxonomy, and systematic, and the basic understanding of the relationships of animals to other organisms and to one another. Prerequisites: BSC 2010, 2010L, 2011, 2011L. Corequisite: ZOO 3021. Special fee. (2 hr. lab)

Building Construction

BCN1272  
Building Construction Plans Interpretation 1  
3.00 credits  
Develops the students’ ability to interpret working drawings. Students will learn the conventions of graphic and symbolic language used by construction professionals to communicate information on drawings. Emphasis is on architectural and structural details with limited coverage on mechanical and electrical aspects. (3 hr. lecture)

BCN1275  
Building Construction Plans Interpretation 2  
3.00 credits  
Plan interpretation of complex working drawings for multi-story residential and commercial buildings. Students will learn to read and understand construction working drawings, identifying structural systems and their details. Familiarity with all aspects of complex working drawings will be addressed. Prerequisite: BCN1272 (3 hr. lecture)

BCT1743  
Building Construction Law  
3.00 credits  
The legal aspects of construction contracts and the responsibilities arising particularly from the field operations. Also includes relationship of the general contractor to owner, architect, and subcontractor; material men and mechanics lien law; bonds; labor law; and other statues and ordinances regulating contractors. (3 hr. lecture)

BCT1750  
Building Construction Financing  
3.00 credits  
A study of building construction financing and related contract requirements. Topics include construction loans, permanent building mortgages, construction bids and contracts, penalty and incentive provisions, progress payments and retention, escala-
tion, escalation provisions, costs extras, performance and bid bonds, company profits, cash flow, and business loans. (3 hr. lecture)

**BCT1770**  
Building Construction Estimating Fundamentals  
3.00 credits  
An analysis and calculation of building construction costs. Students will learn the classification of materials, labor, and subcontracted work into the smallest manageable units. Students will develop a simple estimate for a residential structure. Prerequisite: BCN1272. Laboratory fee. (3 hr. lecture)

**BCT1771**  
Building Construction Advanced Estimating  
3.00 credits  
Estimating more advanced elements of building construction. Students will learn to calculate direct, indirect, and overhead costs, as well as prepare bid proposals and related documents for commercial buildings. Prerequisite: BCN1275, BCT1770. Laboratory fee. (3 hr. lecture)

**BCT2760**  
Building Code Regulations  
3.00 credits  
The restrictions and limitations of the various agencies concerned with the building industry. Provisions of the South Florida Building Code are stressed. (3 hr. lecture)

**BCT2990**  
CBE Building Construction Specialist  
1.00 – 18.00 credits  
The BCT 2990 Building Construction course is designed to assess learner mastery of the competencies and skills necessary for a successful career in the Construction Industry. It provides a foundation in pursuing a career in building inspection and quality control. The course offers a sequence of coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed for further education and careers; provides technical knowledge and skills proficiency, and includes competency-based applied learning that contributes to the academic knowledge, occupation-specific skills, and knowledge of all aspects of the Architecture and Construction career cluster.

**Business Law**

**BUL2131**  
Legal Environment  
3.00 credits  
Law in relation to the proper conduct of business including a consideration of the nature and source of law, courts and courtroom procedure, contracts, sales of goods, negotiable instruments and secured transactions. Special fee. (3 hr. lecture)

**BUL2241**  
Business Law 1  
3.00 credits  
Law in relation to the proper conduct of business, including a consideration of the nature and source of law, courts and courtroom procedure, contracts, sales of goods, negotiable instruments and secured transactions. Special fee. (3 hr. lecture)

**BUL2242**  
Business Law 2  
3.00 credits  
Emphasis on the laws affecting agencies, the formation and operation of partnership and corporation, personal and real property, insurance, surety ship, estates and bankruptcy, and a general review of government regulations affecting usual business operations. Prerequisite: BUL 2241. Special fee. (3 hr. lecture)

**BUL4461**  
Law of International Trade  
3.00 credits  
Students will learn to interpret laws of international trade, licensing, and customer’s regulation. This course also addresses U.S. customs regulations, classification of merchandise, application of tariff rules, duty free treatment, importing and exporting, liquidation inspection, search and seizure, and fines and penalties. In addition, the course will review the general rules and how to interpret the harmonized tariff schedule. Prerequisites: MAN 2021 and GEB 3358. (3 hr. lecture)

**Chemistry**

**CHM1020**  
General Education Chemistry  
3.00 credits  
This course provides the non-science major with an introductory study of the substances central to our daily lives. The students will learn the basic chemistry of nutrition, medicines, cosmetics, household cleaners and the environment. (3 hr. lecture)

**CHM1020L**  
General Education Chemistry Laboratory  
1.00 credits  
This course provides the non-science major with an introductory study of the substances central to our daily lives. Students will learn the basic chemistry of nutrition, medicines, cosmetics, household cleaners and the environment in a laboratory setting. Co-requisite: CHM1020. (2 hr. Lab)

**CHM1025**  
Introductory Chemistry  
3.00 credits  
This course will provide beginning students with certain basic knowledge and skills, which will enable them to be successful in the first semester of General Chemistry I, CHM 1045. The students will learn elementary principles of modern chemistry, including basic measurements, chemical bonding, chemical reactions, stoichiometry, concentration of solutions, and chemical nomenclature. Prerequisite MAT 1033. (3 hr. lecture)

**CHM1025L**  
Introductory Chemistry Lab  
1.00 credits  
This course is an optional beginning chemistry laboratory course, which has been designed for those students who have little or no background in chemistry and are enrolled in CHM 1025. Students will reinforce what they learn in CHM 1025, including basic measurements, chemical bonding, chemical reactions, stoichiometry,
concentration of solutions, and chemical nomenclature. (2 hr. Lab)

**CHM1033**  
Chemistry for Health Sciences  
**3.00 credits**

This course emphasizes chemistry topics related to allied health. Students will learn the essentials of inorganic chemistry, organic chemistry, biochemistry, and their applications to physiological functions. Pre-requisite: CHM1033L, MAT1033. (2 hr. Lab)

**CHM1033L**  
Chemistry for Health Sciences Lab  
**1.00 credits**

This course emphasizes chemistry topics related to the allied health sciences. Students will learn the essentials of inorganic chemistry, organic chemistry, biochemistry, and their application to physiological functions in a laboratory setting. Pre-requisite: MAT1033 Corequisite: CHM1033 (2 hr. lab)

**CHM1045**  
General Chemistry and Qualitative Analysis  
**3.00 credits**

CHM 1045 is the first semester of a two-semester general chemistry course for science, premedical science and engineering students. Students will learn stoichiometry, atomic structure, completing and balancing chemical reactions, nomenclature, bonding, acid-base theories, solutions, gas laws and beginning thermodynamics. Special fee. Prerequisite: CHM1025 or a passing score on the CART exam, MAC 1105. Co-requisite: CHM1045 Corequisite: CHM1046L (3 hr. lecture)

**CHM1045L**  
General Chemistry and Qualitative Analysis Lab  
**2.00 credits**

CHM 1045L is the first semester general chemistry laboratory course. Students will learn to introduce the basic laboratory techniques involved in general chemistry and to re-enforce and illustrate several of the important topics in general chemistry (e.g., stoichiometry, gas laws, atomic structure, and quantitative analysis). The enrollment generally consists of pre-medical, pharmacy, medical technology, physical therapy, engineering, and science majors. Prerequisite: MAC1105, CHM1025 or a passing score on the CART exam. Co-requisite: CHM 1045. (2 Hr. Lab)

**CHM1046**  
General Chemistry and Qualitative Analysis  
**3.00 credits**

CHM 1046 is the second course in the CHM 1045-1046 sequence. Students will learn major topics in modern chemistry including but not limited to thermodynamics, kinetics, solutions, equilibria including acids, bases, and other ionic equilibria and electrochemistry. Special fee. Prerequisite: CHM1045 Corequisite: CHM1046L (3 hr. lecture)

**CHM1046L**  
General Chemistry & Qualitative Analysis Lab  
**2.00 credits**

CHM 1046L is the second semester general chemistry laboratory course. Students will learn the basic laboratory techniques involved in general chemistry and to re-enforce and illustrate several important topics in general chemistry (e.g., qualitative and quantitative analysis, equilibrium, thermodynamics, and kinetics). The enrollment generally consists of pre-medical, pharmacy, medical technology, physical therapy, engineering, and science students. Prerequisite: CHM1045L Corequisite: CHM1046

**CHM1941**  
Principles & Techniques of Peer Tutoring in Chemistry  
**1.00 credits**

Provides an opportunity for outstanding students with at least one semester of general chemistry to assist other students to review and clarify principles and techniques in chemistry. Provides future professionals a chance to sharpen their communication skills. (1 hr. lecture)

**CHM1949**  
Co-op Work Experience 1: CHM  
**3.00 credits**

This is a course designed to provide training in a student’s field of study through work experience. Students are graded in the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-op department approval. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact Cooperative Education Office to obtain registration approval. (3 hr. lecture)

**CHM2124C**  
Survey of Quantitative Analysis  
**4.00 credits**

This course is a one-semester combination lecture-laboratory course covering the theories, calculations, and methodologies used in analytical chemistry. Topics include mathematical treatment of data; aid-base equilibria; and Gravimetric, volumetric, and potentiometric methods of analysis. Prerequisites: CHM 1046, 1046L with a grade of “C” or better. Special fee. (2 hr. lecture; 4 hr. lab)

**CHM2200**  
Survey of Organic Chemistry  
**3.00 credits**

This one-semester course briefly examines the structure, synthesis, nomenclature and reactivity of selected mono- and poly-functional organic compounds. Theories that relate the structure of organic molecules to their chemically reactivity will be presented as a unifying principle. Prerequisite: CHM1046 with a grade of “C” or higher; corequisite: CHM 2200L. (3 hr. lecture)

**CHM2200L**  
Survey of Organic Chemistry Laboratory  
**1.00 credits**

Experiments and exercises will be conducted to introduce students to the basic laboratory techniques that are used in organic chemistry and that re-enforce and illustrate several important topics in organic chemistry. Prerequisite: CHM 1046L
with a grade of "C" or higher; corequisite: CHM 2200. Special fee. (2 hr. lab)

CHM2210
Organic Chemistry 1
3.00 credits
In Organic Chemistry 1, students will learn about aliphatic hydrocarbons and their derivatives. Lectures are supplemented by laboratory preparation of representative compounds. Prerequisite: CHM1046L Corequisite: CHM2210L

CHM2210L
Organic Chemistry 1 Laboratory
2.00 credits
Students will learn to reinforce and illustrate topics learned in CHM 2210. Topics such as nomenclature, preparations, reactions and electronic and structural features of alkanes, alkenes, alkynes, alkyl halides, aromatic hydrocarbons and other organic compounds will be performed in a laboratory setting. Prerequisite: CHM1046L Corequisite: CHM2210 (4 hr. lab)

CHM2211
Organic Chemistry 2
3.00 credits
In organic chemistry 2, students will learn about nomenclature, preparation reactions, and electronic and structural features of alcohols, ethers, phenols, aldehydes, ketones, carboxylic acids, acid anhydrides, amides, esters, and other organic compounds. Prerequisite: CHM2210 Corequisite: CHM2211L (3 hr. lecture)

CHM2211L
Organic Chemistry 2 Laboratory
2.00 credits
Students will learn to reinforce and illustrate topics learned in CHM 2210. Topics such as nomenclature, preparations, reactions and electronic and structural features of alkanes, alkenes, alkynes, alkyl halides, aromatic hydrocarbons and other organic compounds will be performed in a laboratory setting. Prerequisite: CHM1046L Corequisite: CHM2210 (4 hr. lab)

CHM2949
Co-op Work Experience 2: CHM 3.00 credits
This is a course designed to continue training in a student’s field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-op Department approval and completion of 1949 Co-op Work Experience. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-operative Education Office to obtain registration approval. (3 hr. lecture)

CHM3120
Introduction to Analytical Chemistry
3.00 credits
This course requires students to examine the theories, calculations, and methodologies used in analytical chemistry. Topics include: acid-base equilibria and titrations; precipitation and complex formation; electrochemistry; oxidation-reduction; spectrophotochemical analytical methods; chromatographic techniques; statistical treatment of data; and sampling methods. Prerequisites: CHM 1046, 1046L with a grade of "C" or better; corequisite: CHM 3120L. (3 hr. lecture)

CHM3120L
Introduction to Analytical Chemistry Laboratory
2.00 credits
Experiments will be performed to introduce students to various laboratory methods used to analyze and quantify representative samples. Prerequisites: CHM 1046, 1046L with a grade of "C" or better; corequisite: CHM 3120L. (4 hr. lab)

CHM3610
Intermediate Inorganic Chemistry
3.00 credits
This course expands and deepens the student's knowledge of inorganic chemistry. Students will learn about bonding theories, nuclear chemistry, chemical periodicity, and metal and nonmetal chemistry. Prerequisite: CHM 2200. (3 hr. lecture)

CHS1522C
Forensic Science 1
4.00 credits
An introductory course in the principles and techniques of forensic science. Students will learn how forensic science pertains to crime scene investigation and crime laboratory analysis. (3 hr. lecture)

CHS2311C
Analytical Chemical Instrumentation
4.00 credits
An introduction to a variety of chemical instrumentation commonly employed in the chemical and pharmaceutical industries. The course will combine lecture and discussion with laboratory experiences to present the principles of instrumental analysis as well to provide extensive hands-on experience with instrumentation commonly used in the chemical and pharmaceutical industries. Pre/corequisites: CHM 2200, 2200L, 2120C or CHM 2210, 2210L, 2211, 2211L. Laboratory fee. (3 hr. lecture; 2 hr. lab)

CHS2523
Forensic Science 2
3.00 credits
This is a continuation of Forensic Science 1. Students will learn topics which include but are not limited to: drug identification and toxicology; document analysis; death determination; soil examination methodology; forensic anthropology; tool marks and casts/impressions. Prerequisite: CHS 1522C. (3 hr. lecture)

Chinese Language

CHI1120
Elementary Mandarin Chinese 1
4.00 credits
An integrated (multi-media) approach to acquire proficiency in the basic skills of Mandarin Chinese- listening/understanding, speaking, reading, writing, and cross-cultural awareness. Emphasis on practical vocabulary and accurate pronunciation. Practice in class and laboratory in understanding and using the spoken language; reading and writing with progressive grammatical explanations. (4 hr. lecture)
**CHI1121**  
**Elementary Mandarin Chinese 2**  
4.00 credits  
A continuation of Mandarin Chinese 1120. A proficiency-oriented course emphasizing the mastery of the basic skills of the language. (4 hr. lecture)  

**CHI2220**  
**Intermediate Mandarin Chinese 1**  
4.00 credits  
A continuation of CHI 1121. Students will learn Chinese language and culture through a systematic review of reading and writing skills with emphasis on oral as well as written presentations. Students will also learn the use of Chinese radicals and characters rather than pinyin. Prerequisite: CHI1121 or equivalent. (4 hr. lecture)  

**CHI2221**  
**Intermediate Mandarin Chinese 2**  
4.00 credits  
A continuation of CHI2220. Students will learn advanced grammar, together with the introduction of more complex reading materials and an increase in the number of radicals and characters. Students will also be exposed to cross-cultural awareness. Prerequisite: CHI2220 or equivalent. (4 hr. lecture)  

**Computer Science & Related Technologies**  

**CAP1760**  
**Introduction to Analytics**  
4.00 credits  
This course is designed for students who require or are interested in basic aspects of data mining and analytics using domain-specific data. Students learn the computerized techniques by which to organize, manipulate, report, present, depict and analyze domain-specific data in order to find or otherwise derive information. Prerequisites: CGS 1060 and use of a desktop database application, or equivalent experience. Prerequisite: CG1060. Laboratory fee. (3 hr. lecture; 2 hr. lab)  

**CAP1788**  
**Introduction to Data Analytics**  
4.00 credits  
This course offers a broad introduction to data analytics and the role it plays in modern organizations. Students will use business intelligence tools to effectively communicate findings to decision makers. Laboratory fee. (3 hr. lecture; 2 hr. lab)  

**CAP2047**  
**User Interface Design**  
4.00 credits  
This course is for students majoring in game development. Gaining a foundational understanding of programming and the use of Adobe Photoshop or Illustrator is suggested prior to enrolling in this course. It covers designing and developing interfaces for games. Students will learn how to use different input/output hardware devices, how to create and use existing interfaces for different types of hardware, and the development process for different types of gaming systems. (3 hr. lecture, 2 hr. lab)  

**CAP2048**  
**Game Development Project**  
5.00 credits  
This capstone course is for students majoring in Game Development and Game Animation. Students will work in crossdisciplinary teams to develop a working 5-10 min interactive game experience. Students will learn how to apply the skills and knowledge they have acquired in a real world working development environment. Pr-Req: CAP 2048, DIG 1712 or DIG 2113. Special Fee. (3 hr. lecture 2 hr. lab)  

**CAP2920C**  
**Game Development Project II**  
4.00 credits  
This capstone course is for students majoring in Game Development and Game Animation. Students will work in crossdisciplinary teams to develop a working 5-10 min interactive game experience. Students will learn how to apply the skills and knowledge they have acquired in a real world working development environment. Pr-Req: CAP 2048, DIG 1712 or DIG 2113. Special Fee. (3 hr. lecture 2 hr. lab)  

**CAP3330**  
**Programming R for Statistics**  
4.00 credits  
This upper division course is for students majoring in data analytics. Students will learn the R programming language and use it to perform intermediate-level statistical analysis. Techniques used in data analysis, such as analysis of variance and regression, will be emphasized. Prerequisite: STA 2023. Laboratory fee. (3 hr. lecture, 2 hr. lab)  

**CAP3770**  
**Predictive Analytics Algorithms**  
4.00 credits  
This course is for students majoring in Data Analytics. Students will learn the fundamental algorithms used in data mining and analysis. Students will learn various methods and techniques used in data mining, clustering and classification. Prerequisite: STA2023. (3 hr. lecture, 2 hr. lab)  

**CAP4631C**  
**Machine Learning for Data Analytics I**  
4.00 credits  
This upper division course is for students majoring in data analytics. Students will learn why machine learning is crucial for data analytics and why regression analysis is a foundation of supervised machine learning. Using Python programming, students will use a variety of packages to create regression models that make predictions.
Prerequisites: COP1047C; STA3164 or CAP3330. Laboratory fee. (3 hr lecture; 2 hr lab)

**CAP 4633C**  
**Machine Learning for Data Analytics II**  
4.00 credits  
This upper division course is for students majoring in data analytics. In this second-level course, students will use the Python programming language to create additional machine learning models for classification. In addition, students will explore various applications of multi-layer neural networks. Prerequisites: CAP4613C. Laboratory fee. (3 hr lecture; 2 hr lab)

**CAP4744**  
**Data Visualization**  
4.00 credits  
This course is for students majoring in Data Analytics. Students will learn to utilize the tools and techniques required to present complex data in visually meaningful representations. Students will learn how to organize raw data, to analyze and interpret data, and to draw and present conclusions. Prerequisite: CTS3452. (3 hr lecture; 2 hr lab)

**CAP4767**  
**Data Mining**  
4.00 credits  
This course is for students majoring in Data Analytics. Students will learn how to extract information from data sets, transform it into an understandable structure for further use, and apply this knowledge to solve real-world business scenarios. (3 hr lecture; 2 hr lab)

**CAP4784**  
**Big Data**  
4.00 credits  
This course is for students majoring in Data Analytics. Students will acquire the skills and the tools to manage Big Data. Students will learn to design and to implement cloud-based data warehouses and to manage massive amounts of data in the creation of meaningful reports. Students will also learn basic visualization techniques. Prerequisite: CTS4347 and CTS4433. (3 hr lecture; 2 hr lab)

**CAP4910**  
**Data Analytics Capstone**  
4.00 credits  
This upper-division course is for students majoring in Data Analytics. Students will initiate a business-driven data analytics solutions to a real-world problem utilizing acquired skills in statistical analysis, machine learning, data mining, and data visualization. Must be taken during the last semester before graduation. Departmental approval required. Prerequisites: CAP4767, CAP4744, CAP4613C. Laboratory fee. (3 hr lecture; 2 hr lab)

**CAP4936**  
**Special Topics in Data Analytics**  
4.00 credits  
This upper division course is for students majoring in data analytics. The course centers around topics of current interest or of special interest to students or instructors. Topics or focus may vary from semester to semester. Prerequisite: Department permission. Laboratory fee. (3 hr lecture; 2 hr lab)

**CEN2111**  
**C/C++ Programming for Embedded Devices**  
4.00 credits  
This course teaches the principles of programming in the C/C++ languages for embedded devices. The student will learn how to create programs to control open source hardware for building digital devices that can sense and control the physical world around them and communicate with the Internet. Prerequisite: COP1334. (2 hr lecture; 4 hr lab)

**CEN2212C**  
**Introduction to Programming the Internet of Things (IoT)**  
4.00 credits  
This course teaches the principles of programming Internet of Things devices using a computer language. The student will learn fundamental programming concepts and systematic design techniques. At the end of the course, the student will be able to write programs that control development boards, with sensors, connected to the Internet. Prerequisite: COP1334. (2 hr lecture, 4 hr lab)

**CGS1005C**  
**Computing Fundamentals for Entrepreneurship**  
4.00 credits  
This interactive discovery course for non-computer majors teaches how to apply computational thinking to solve real-world problems. Students will learn basic computer programming, web design, mobile application development, project management, and desktop publishing through the use of case studies and scenarios that simulate real-world business applications. (3 hr lecture; 2 hr lab)

**CGS1021**  
**Scientific Computing**  
4.00 credits  
This course explores the special features of common computer desktop applications as applied to biotechnology data. Through hands-on practical assignments, students will study and practice the computerized techniques by which to organize, manipulate, report, present, depict and analyze biomolecular data and information. Laboratory fee. Corequisite: STA 2023. (3 hr lecture; 2 hr lab)

**CGS1060C**  
**Introduction to Computer Technology & Applications**  
4.00 credits  
This course provides the skills required for personal, academic, and professional success. Students will learn essential computer concepts and skills including mobile productivity, cloud services, security, ethics, general programming concepts, email, web, operating systems, and the use of an office suite. The course satisfies the College’s computer competency requirement. Laboratory fee. (3 hr lecture; 2 hr lab)

**CGS1081**  
**Introduction of Computing for the Visually Impaired**  
4.00 credits  
This course is designed to provide students with an overview of access technology, experience using it with applications and a chance to explore the wide range of opportunities that computers can offer to people who are blind. It will cover,
the components of the computer, access technology, screen reading software, disk operating systems. DOS versus Windows, WordPerfect for DOS, and accessible software, including shareware and freeware. Prerequisite: Departmental Approval. (3 hr. lecture; 2 hr. lab)

**CGS1145**
**Introduction to Bioinformatics**
4.00 credits
This course introduces the basic concepts and techniques of Bioinformatics. Through research papers, hands-on projects and use of common computational programs, students will apply aspects of Information Technology and Computer Science in order to analyze biological/bimolecular/bioinformatics data. Laboratory fee. (3 hr. lecture; 2 hr. lab)

**CGS1501**
**Word-processing Applications**
4.00 credits
A comprehensive course in the use of a word processor for microcomputers. The concepts, features, and commands of a word processor are applied to a variety of applications. Programming concepts will be introduced. Classes are conducted in a hands-on-lecture/laboratory environment where a microcomputer is available for each student. The content of this course will continually change to keep pace with current technology. CGS 1060 or computer experience is required. Laboratory fee. (3 hr. lecture; 2 hr. lab)

**CGS1511**
**Spreadsheet Applications**
4.00 credits
A comprehensive course in the use of a spreadsheet for microcomputers. The concepts, features, and commands of a spreadsheet are applied to a variety of applications. Programming concepts will be introduced. Classes are conducted in a hands-on-lecture/laboratory environment where a microcomputer is available for each student. The content of this course will continually change to keep pace with current technology. CGS 1060 or computer experience is required. Laboratory fee. (3 hr. lecture; 2 hr. lab)

**CGS1540C**
**Database Concepts Design**
4.00 credits
This course is designed for computer science majors and non-majors who require a fundamental knowledge of databases and database management systems. Students will learn how to design, implement and use databases to maintain and manipulate data. Students should have knowledge of basic computer concepts or seek faculty advisement. (3 hr. lecture; 2 hr. lab)

**CGS1541**
**Database Applications**
4.00 credits
A comprehensive course in the use of a database for microcomputers. The concepts, features, and commands of a database are applied to a variety of applications. Programming concepts will be introduced. Classes are conducted in a hands-on-lecture/laboratory environment where a microcomputer is available for each student. The content of this course will continually change to keep pace with current technology. CGS 1060 or computer experience is required. Laboratory fee. (3hr. lecture; 2hr lab)

**CGS1560**
**A+ Computer Operating Systems**
4.00 credits
This is a comprehensive course in the use of operating systems for microcomputers suitable for students seeking preparation for A+ operating system certification. Students will learn how to install, configure, use, manage, and troubleshoot the Disk Operating System (DOS), Microsoft Windows, and other microcomputer operating systems. Prerequisite: CGS 1060 or computer experience is required. Laboratory fee. (3 hr. lecture; 2 hr. lab)

**CGS1580**
**Desktop Publishing**
4.00 credits
A comprehensive course in the use of desktop publishing for microcomputers. The concepts, features, and commands of desktop publishing are applied to a variety of applications. Programming concepts will be introduced. Classes are conducted in a hands-on-lecture/laboratory environment where a microcomputer is available for each student. The content of this course will continually change to keep pace with current technology. CGS 1060 or computer experience is required. Laboratory fee. (3 hr. lecture; 2 hr. lab)

**CGS 1700**
**Introduction to Operating Systems**
4.00 credits
This course examines the role of operating systems as the interface between the hardware, the software and the users of a computer system. It explores the concepts such as processes and threads, file systems, virtual memory, interrupt handling, virtualization and security. (3hr. lecture; 2hr lab)

**CGS2091**
**Professional Ethics and Social Issues in CS**
4.00 credits
This course is designed to provide computer science majors and others with an introduction to professional ethics & social issues in Computer Science. Students will learn theories associated with the legal, ethical, and social issues relevant to information technology, and the roles and responsibilities of computer professionals in today's technological society. Laboratory fee. (3 hr. lecture; 1 hr. lab)

**CGS2108**
**Advanced Desktop Applications**
4.00 credits
This is an advanced level course for major and non-major students who have completed CGS 1060, Introduction to Microcomputer Usage. Students will learn advanced computer skills using software applications, such as word processing, spreadsheets, database, presentation graphics, and communications and scheduling software. Students will also learn advanced file management techniques, deal with security issues, and troubleshoot hardware and software. Prerequisite: CGS1060. Laboratory fee. (3 hr. lecture; 2 hr. lab)
CGS2172
Implementing a Commerce-Enabled Web Site
4.00 credits
Students will learn to implement, support, maintain, optimize, and troubleshoot Web sites using Microsoft Site Server, focusing particularly on electronic commerce (e-commerce) sites. Prerequisite: COP 2823 or CTS 2463. Recommended Preparation: CGS 2547. Laboratory fee. (3 hr. lecture; 2 hr. lab)

CGS3763
Operating System Principles
4.00 credits
This upper division course, for students majoring in Information Systems Technology, introduces fundamental operating system topics and includes both computer system and operating system structure. Students will learn how processes, threads, concurrent programming, interrupt handling, CPU scheduling and process synchronization, and I/O system memory management affect the system structure. Additionally, students will learn how virtual memory, deadlocks, file system, and command interpreter relate to client/server systems. Prerequisite: COP 1334. Special fee. (3 hr. lecture; 2 hr. lab)

CIS1000
Introduction to Data Processing
4.00 credits
An introductory course for data processing majors covering the fundamentals of data processing and computer programming. Elementary programming applications are included. Laboratory fee. (3 hr. lecture; 2 hr. lab)

CIS1321
Introduction to Systems Analysis and Design
4.00 credits
This course introduces computer science and non-majors to fundamental skills of analysis and design of management information systems. Students learn the concept of charting, investigating, documenting and reporting using current information systems, system analysis tools and system design tools. The related concept of management, organization, computers, information processing and the system approach are combined and applied to case studies. Prerequisites: CGS 1060. Knowledge of business accounting is recommended. Laboratory fee. (3 hr. lecture; 2 hr. lab)

CIS 1531
Introduction to Secure Scripting
4.00 credits
This course provides students with the knowledge and skills to: create secure scripts and programs using system shells and programming languages; implement and debug algorithms to solve problems; automate and perform administrative tasks; manage data handling, and backup and storage. (3 hr. lecture; 2 hr. lab).

CIS1949
Co-op Work Experience 1: CIS
1.00 - 4.00 credits
This course is designed as a work experience for students majoring in computer information systems programs. Students will learn to apply the skills and knowledge they have acquired through their program of study in a real work environment. Prerequisite: Successful completion of required program course work. Department approval required. (1-4 hr. lecture)

CIS2322
Systems Analysis and Design Implementation
4.00 credits
This course is designed for students majoring in computer programming. Students build on the concepts learned in CIS 1321 by applying detailed design and analysis techniques to implementing an information system. Students will learn to synthesize concepts of management, organization, computers, information processing, and the system approach to analyze case studies. Prerequisites: CGS 1060 and CIS 1321. Knowledge of business accounting is recommended. Laboratory fee. (3 hr. lecture; 2 hr. lab)

CIS 2350
Cybersecurity Analysis
4.00 credits
This course provides students an intermediate skills-level approach to cybersecurity analysis. Students learn to identify the phases of an attack, the motivations of the adversary, the resources and techniques they use, the intended effect, or end-game, and how to mitigate threats. Topics include intrusion detection and response, analytics and advanced threat visibility. Prerequisites: CTS 1120 and CTS 1134. Laboratory Fee. (3 hr. lecture, 2 hr. lab)

CIS 2619
Secure Software Development
4.00 credits
This course provides an introduction to Secure Software Development in modern languages such as Java, C and C++. Common weaknesses exploited by attackers are discussed, as well as mitigation strategies to prevent those weaknesses. Students practice programming and analysis of software systems through testing and static analysis. Prerequisite: COP 2800. Corequisite: COP 2805C Laboratory fee. (3 hr. lecture; 2 hr. lab)

CIS2900
Directed Study IT
1.00 credits
This course is for students majoring in Information Technology. Students will complete projects and make presentations based on self-directed research and related experiences. Prerequisite: Successful completion of required program course work. Department approval required. (2 hr. lab)

CIS2949
Co-op Work Experience 2: CIS
1.00 - 4.00 credits
This course is designed as a second-level capstone for students majoring in computer information systems programs. Students apply advanced skills and knowledge that they have acquired through their first capstone course in a real work environment. Prerequisite: CIS 1949. Successful completion of required program course work. Department approval required. (1-4 hr. lecture)
CIS 3215  
Ethics in CyberSecurity  
4.00 credits  
This course provides the study of the risk factors for digital and ethical misconduct and it explores ethics, relevant laws, regulations, policies, standards, moral, and social issues and responsibilities faced by CyberSecurity professionals. Coverage includes examination of CyberSecurity policies; Federal Laws and Authorities and International Standards; ethical and legal compliance and enforcement; business issues; contractual management of assets and liabilities; and issues involving privacy, disclosure, free speech and individual rights. Laboratory fee. (3 hr. lecture, 2 hr. lab).

CIS 3360  
Principles of Information Security  
4.00 credits  
This upper division course, for students majoring in Information Systems Technology, provides an overview of information systems security principles, practices, methods, and tools for organizational and institutional computing. Students will learn about the relationship between policy and security; the mechanisms used to implement policies; and the methodologies and technologies for assurance and vulnerability analysis and intrusion detection. Students will be required to perform security analyses, and set up protection schemes. Prerequisites: CTS 1134 or CTS 1650. Special Fee. (3 hr. lecture, 2 hr. lab)

CIS 3361  
Information Security Management  
4.00 credits  
This course covers how to manage, design, oversee and assess an organization’s information security. The student will learn how to develop an information security strategy, how to write information security policies, and how to manage information risk. Other topics include security program development and management, business continuity planning and disaster recovery planning. Prerequisite: CIS3360. (3 hr. lecture, 2 hr. lab)

CIS 3368  
Data Security & Governance  
4.00 credits  
This upper division course is for students majoring in Data Analytics. Students will gain an understanding of how analytics can be applied to a variety of security-related problems across organizations. In addition, students will explore various ethical, legal, and data governance issues that affect data analysts. Laboratory fee. (3 hr. lecture, 2 hr. lab)

CIS 3510  
Information Technology Project Management  
4.00 credits  
This upper division course, for students majoring in Information Systems Technology, covers the general aspects of project management and emphasizes the important special considerations which apply to information technology projects. Students will learn the principles, processes and practices of information technology project management, including techniques for planning, organizing, scheduling, and controlling software projects with a substantial focus on cost estimation and risk management. Special fee. (3 hr. lecture, 2 hr. lab)

CIS 4204  
Ethical Hacking I  
4.00 credits  
This upper division course introduces students to penetration testing techniques. The student will learn how to footprint, scan, and enumerate networks; how to hack web applications, wireless networks, and mobile platforms; and how to evade IDS, firewalls and honeypots. Other topics include denial of service attacks, social engineering, malware and relevant laws. Prerequisite: CIS3360. Laboratory fee. (3 hr. lecture, 2 hr. lab)

CIS 4205  
Ethical Hacking II  
4.00 credits  
This upper division course introduces students to penetration testing techniques. The student will learn how to footprint, scan, and enumerate networks; how to hack web applications, wireless networks, and mobile platforms; and how to evade IDS, firewalls and honeypots. Other topics include denial of service attacks, social engineering, malware and relevant laws. Prerequisite: CIS3360. Laboratory fee. (3 hr. lecture, 2 hr. lab)

CIS 4347  
Information Storage Management  
4.00 credits  
This upper division course, for students majoring in Information Systems Technology, introduces challenges and solutions for data storage and data management. Students will learn how to manage advanced storage systems, protocols, and architectures, including storage area networks (SAN), network attached storage (NAS), fiber channel networks, internet protocol SAN (IPSAN), iSCSI, and content-addressable storage (CAS). Prerequisite: CGS 1540. Special fee. (3 hr. lecture, 2 hr. lab)

CIS 4364  
Intrusion Detection and Incident Response  
4.00 credits  
This upper division course addresses the underlying principles and techniques for detecting and responding to current and emerging cybersecurity threats. Students will learn how to handle various types of malware, email, web, network, cloud and internal network incidents, as well as risk assessment methodologies, and policies related to incident handling. Prerequisite: CIS 3360. Laboratory fee. (3 hr. lecture, 2 hr. lab)

CIS 4366  
Computer Forensics  
4.00 credits  
This upper division course, for students majoring in Information Systems Technology, provides the student with knowledge and skills to conduct formal incident investigations. The student will learn how to collect and analyze evidence from Windows and Linux computer systems. Other topics include legal issues, evidence analysis, and report writing. Prerequisite: CIS3360. (3 hr. lecture, 2 hr. lab)

CIS 4617  
Knowledge Management  
4.00 credits  
This upper division course, for students majoring in Information Systems Technology, explores how an enterprise gathers, organizes, shares, and analyzes its knowledge in terms of resources, documents, and people skills. Students will learn how to gather, organize, refine and disseminate information needed in a small business or corporation using technical applications to house and mine the data.
CIS4378
Ethical Hacking II
4.00 credits
This upper division course is a continuation of Ethical Hacking I. Students will focus on how web applications, wireless networks, and mobile platforms can be hacked, and how intrusion detection systems (IDS), firewalls and honeypots can be evaded. Other topics include cloud computing security, Internet of Things (IoT) security, and cryptography. Prerequisite: CIS4204. Laboratory fee. (3 hr. lecture, 2 hr. lab)

CIS4388
Advanced Computer Forensics
4.00 credits
This upper division course is a continuation of Computer Forensics. The course examines forensics techniques necessary to investigate and analyze network traffic. The course covers packet capture and analysis, log file analysis, and flow analysis. Other topics include mobile forensics, cloud forensics, malware forensics, database forensics, and investigating email crimes and web attacks. Prerequisite: CIS 4366. Laboratory fee. (3 hr. lecture, 2 hr. lab)

CNT1512
Introduction to Wireless Networking
4.00 credits
This course provides the student with a complete foundation of knowledge for entering into or advancing in the wireless networking industry. Topics include: an introduction to wireless LANs; RF theory; spread spectrum technologies; wireless LAN infrastructure devices; antennas and accessories; wireless LAN standards; and wireless LAN organizations to link budget math, troubleshooting, and performing a site survey. This course delivers hands-on training that benefits the novice as well as the experienced network professional. Prerequisites: CGS1060 and CTS 1134. Laboratory fee. (3 hr. lecture; 2 hr. lab)

CNT4603
System Administration and Maintenance
4.00 credits
This upper division course, for students majoring in Information Systems Technology, explores UNIX and Microsoft Windows systems and their administration and maintenance within the network setting. Students will learn how to install, maintain, and extend multi-user computer systems and how to develop administrative policies and procedures. Students will also learn how to apply troubleshooting and problem solving skills to resolve user and system issues. Prerequisite: CTS 1134 or 1650. Special fee. (3 hr. lecture; 2 hr. lab)

COP1047C
Python Programming
4.00 credits
This is a course in Python programming available for students at all levels. Students will learn the syntax and rules of the Python language, including how to code, compile, and execute programs. Students study program design, structured modular programming arrays, report generation, and file processing. Laboratory fee. (3 hr. lecture; 2 hr. lab).

COP1120
Introduction to COBOL Programming
4.00 credits
This is an introductory course in COBOL programming recommended for students majoring in Information Technology and Computer Information Systems. Students will learn how to design, code, compile,
and execute structured programs for business applications. Recommended preparation: CGS1060 or experience working with computers and knowledge of elementary algebra. Pre/Co-requisite: CGS1060. Special Fee. (3 hr. lecture, 2 hr. lab).

COP1332
Introduction to Visual Basic Programming
4.00 credits
This course introduces computer science and non-major students to fundamental programming skills using the Visual Basic Integrated Development environment. Students will learn program design, the fundamentals of event driven object-oriented programming, arrays, validation of user input, and how to create menu driven programs and multiple form applications. Pre/Co-requisite: CGS1060. Knowledge of high school algebra is recommended. Laboratory fee. (3 hr. lecture; 2 hr. lab)

COP1334
Introduction to C++ Programming
4.00 credits
This course is designed for students in technology majors who require a foundation in computer programming. Students will learn the syntax and rules of the C++ language, including how to code, compile, debug and execute programs. Students will learn program design, structured and modular programming, arrays, and file processing. No previous computer courses are required although CGS 1060C is recommended. Laboratory fee. (3 hr. lecture; 2 hr. lab)

COP1670
Introduction to Computing through Mobile Application Development
4.00 credits
This course is designed for students pursuing a degree in STEM. Students will learn basic computing principles and computational thinking through the development of mobile applications. They will work in teams to develop applications for mobile computing devices using a graphical software development environment, such as App Inventor and Snap. Special fee. (3 hr. lecture; 2 hr. lab)

COP2129
Advanced COBOL Programming
4.00 credits
This is a second level course in COBOL programming recommended for Information Technology and Computer Information Systems majors. Students will learn advanced techniques of structured programming. Emphasis will be on design and execution of structured programming using various access methods. Special Fee. Prerequisite: COP1120. (3 hr. lecture, 2 hr. lab)

COP2270
"C" for Engineers
4.00 credits
This course is intended for students majoring in Computer Engineering Technology, Electronics Engineering Technology, or any engineering discipline. Students will learn the C programming language, MATLAB, and the Engineering Problem Solving Method to analyze, design, code, compile and execute programs that solve engineering related problems. Pre/Corequisite: MAC1105. Recommended Preparation: CGS1060 or knowledge of computer skills. Laboratory fee. (3 hr. lecture; 2 hr. lab)

COP2333
Advanced Programming Concepts using Visual Basic
4.00 credits
This course provides Microsoft Visual Basic developers with the knowledge and skills needed to develop Microsoft .NET-based applications using Visual Basic.NET. Students use advanced programming and object oriented tools to create enterprise applications for the .NET Platform and to create more traditional Visual Basic applications that take advantage of the enhancements to the language. Prerequisite: COP1332. Laboratory fee. (3 hr. lecture; 2 hr. lab)

COP2335
Object Oriented Programming using C++
4.00 credits
This second course in C++ programming is recommended for Computer Science and Computer Information Systems majors. Students will learn techniques and skills of object oriented programming including object-oriented modeling, analysis, and design. Prerequisite: COP1334. Knowledge of high school algebra is recommended. Laboratory fee. (3 hr. lecture; 2 hr. lab)

COP2654
iPhone Application Development 1
4.00 credits
This is an introduction to iOS programming course using the Objective C computer language, recommended for Computer Science and Computer Information Systems majors. Students will learn to code, compile and execute mobile iOS applications while learning advanced programming concepts and object oriented programming design concepts and principles. Prerequisite: COP 1332 or COP 1334. Special Fee. (3 hr. lecture, 2 hr. lab)

COP2658
iPhone Application Development 2
4.00 credits
This intermediate iOS course teaches the principles of iPhone application development for majors in Computer Science, Computer Information Systems, and related disciplines. Students will learn how to create mobile applications that can be deployed to iPhone smartphones, tablets or simulators utilizing Cocoa and X Code for development. Emphasis will be placed on learning the underlying iPhone framework and components in order to create quality mobile applications. Prerequisite: COP 2654. Special Fee. (3 hr. lecture, 2 hr. lab)

COP2660
Android Application Development 1
4.00 credits
This course teaches the principles of Android application development for majors in Computer Science, Computer Information Systems, and related disciplines. Students will learn how to create mobile applications for deployment to Android smartphones, tablets or simulators utilizing open source software (Java, Eclipse IDE, Android Plug-In and Android SDK) for development. Emphasis will be placed on the underlying Android framework to create quality applications. Prerequisite: COP
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1332 or COP 1334. Special Fee. (3 hr. lecture, 2 hr. lab)

COP2662
Android Application Development 2
4.00 credits
This course for majors in Computer Science, Computer Information Systems, and related disciplines teaches how to develop advanced Android applications. Students will learn how to create applications utilizing the advanced capabilities of Android smartphones, including interfacing the application to the devices content provider’s databases, GPS and location based services, notifications, background threads, audio, video, SMS, motion sensors and network connectivity. Prerequisites: COP2660, 2800. Special fee. (3 hr. lecture; 2 hr. lab)

COP2700
Database Application Programming
4.00 credits
Current database management software is featured. Emphasis is on analysis, design, and programming of systems rather than data structures. This course is designed for individuals interested in developing programmed applications. Prerequisites: Completion of all basic skills or acceptable scores on the Placement Test, CGS 1060, (Introduction to microcomputer Usage), and proficiency in any programming language. Laboratory fee. (3 hr. lecture; 2 hr. lab)

COP2701
Advanced Database Programming
4.00 credits
Current database management is featured. Emphasis’s on analysis, design, programming real world applications and integration of database and the internet applications. This course is designed for individuals interested in developing programmed database applications. Prerequisite: CTS 2433. (3 hr. lecture; 2 hr. lab)

COP2800
Java Programming
4.00 credits
This is an intermediate level programming course using the Java computer language, recommended for Computer Science and Computer Information systems majors. Students will learn to code, compile, and execute programs while learning advanced programming concepts and object oriented programming and design concepts and principles. Prerequisite: COP 1334. Laboratory fee. (3 hr. lecture; 2 hr. lab)

COP2805
Advanced Java Programming
4.00 credits
This is an advanced level programming course using Java. Students will learn how to code, compile and execute programs. Topics include object serialization, Java Collection, sorting/searching algorithms, multithreading and networking capabilities, and Java databases. Prerequisite: COP2800. (3 hr. lecture; 2 hr. lab)

COP2812
Extensible Markup Language Programming (XML)
4.00 credits
The prospective e-commerce professional will learn the skills necessary to create applications using XML technologies. Building, maintaining, and implementing these applications allow the student an opportunity to create business-to-business web applications that solve everyday business problems. Prerequisites: CGS 1060, COP 2822, and COP 2800. Laboratory fee. (3 hr. lecture; 2 hr. lab)

COP2822
Web Page Design and Programming
4.00 credits
This is an intermediate level programming course that prepares students for web development. Students will learn client-side programming skills and technologies, such as JavaScript, XML, and Ajax. Prerequisite: COP1332 or COP1334, and CTS1800. Special fee. A.S. credit only. (3 hr. lecture; 2 hr. lab)

COP2823
ASP/Script Language Programming
4.00 credits
This course will teach Microsoft Visual Basic programmers and beginning Web developers the fundamentals of Web application development by using Microsoft ASP.NET and Microsoft Visual Basic.NET. Students will learn how to use the Microsoft Visual Studio.NET environment and the Microsoft.Net platform to create an ASP.NET Web application that delivers dynamic content to a Web site. Prerequisites: CGS 1060 and COP 1332 or COP 1334. Laboratory Fee. (3 hr. lecture; 2 hr. lab)

COP2825
Implementing an Internet Server
4.00 credits
Students will learn to implement, support, and maintain Internet servers. Both Microsoft and Apache servers are covered. Recommended preparation: Prior knowledge of operating systems and managing network resources is recommended. Laboratory fee. A.S. degree credit only. (3 hr. lecture; 2 hr. lab)

COP2842
Developing Websites using PHP/ MYSQL
4.00 credits
This is an intermediate course for students preparing to become web developers. Students will learn to develop dynamic, interactive web sites using PHP, an open source programming language and MYSQL database. Prerequisites: COP 1332 or COP 1334. Laboratory fee. (3 hr. lecture; 2 hr. lab)

COP2843
Implementing Open-Source Databases
4.00 credits
This course is an introduction to open-source database programming for students majoring in database and internet technologies. Students will learn to use and implement MYSQL for the purpose of storing and retrieving information from the MYSQL database. In conjunction with knowledge of open-source technologies such as Linux, Apache and PHP (LAMP), students will develop highly available, dynamic, web-based applications. Prerequisite: CGS 1060. Laboratory Fee. (3 hr. lecture; 2 hr. lab)

COP3530
Data Structures
4.00 credits
This upper division course is for students majoring in B.S. in Information Systems
Technology. The student will learn the fundamentals of data structures using the Java programming language. The students will learn to design, implement and use data structures to organize and store data in a computer so that it can be accessed and modified efficiently. Prerequisite: COP 2800. (3 hr. lecture, 2 hr. lab)

**COP4656**
**Mobile Applications Development**
**4.00 credits**
This upper division course, for students majoring in Information Systems Technology, covers project-oriented development of applications for mobile computing devices. Students will learn how to develop mobile applications utilizing memory management, user interface design, user interface building, input methods, data handling, network techniques, URL loading, and GPS and motion sensing. Students will develop a project that produces a professional-quality deployable mobile application. Prerequisites: COP 2800 and 4723. Special fee. (3 hr. lecture; 2 hr. lab)

**COP4723**
**Database Administration**
**4.00 credits**
This upper division course, for students majoring in Information Systems Technology, builds a deeper understanding of how databases work, including topics in database theory and architecture, data modeling, query languages, and security. Students will learn the fundamentals of SQL, including how to create and maintain database objects, and how to store, retrieve, and manipulate data, and the basics of managing the database environment. Prerequisite: CGS 1540. Special fee. (3 hr. lecture; 2 hr. lab)

**COP4807**
**Web Programming with Java**
**4.00 credits**
This is an upper division course for students majoring in Information Systems Technology. It introduces students to the design, implementation and testing of web-based applications using the Java language. The student will learn about the three-tier architecture, the Model View Controller architecture, servlets, and Java Server Pages, JDBC/JPA, and Web Services. Prerequisite: COP3330. (3 hr. lecture, 2 hr. lab)

**COP4834**
**Data Driven Web Applications (Web Administration)**
**4.00 credits**
This upper division course, for students majoring in Information Systems Technology, utilizes modern three-tier application development to build web-based applications that use relational database systems. Students will learn how to integrate client-side and server-side scripts and database server to build a transaction processing and report generating data-driven web application system. Prerequisites: COP 1334 and 4723. Special fee. (3 hr. lecture; 2 hr. lab)

**CTS1111**
**Linux +**
**4.00 credits**
This course is designed to help students prepare for the CompTIA Linux+ Certification Exam and to teach the skills needed to administer GNU/Linux-based work-stations and servers. Students learn how to plan, install, maintain, document, and troubleshoot GNU/Linux operating system services. Prerequisite: CGS 1060 or computer experience is required. Special fee. (3 hr. lecture; 2 hr. lab)

**CTS1120**
**Cybersecurity Fundamentals**
**4.00 credits**
This course provides a foundation of knowledge in the information technology security field. The student will learn general network security concepts, compliance and operational security; threats and vulnerabilities; application, data, and host security; access control and identity management; cryptography. Hands on training benefits the novice as well as the experienced network professional. No prerequisite but prior knowledge in Networking Technologies recommended. Laboratory fee. (3 hr. Lecture; 2 hr. lab)

**CTS1131**
**A+ Computer Essentials & Support**
**4.00 credits**
This is an intermediate level course designed for students preparing for A+ certification as a support technician. Students will learn how to install, configure, upgrade and replace computer system components; how to troubleshoot processors, memory, storage devices, adapter cards, peripherals and other system components; how to install, configure and troubleshoot operating systems, laptops, portable devices, printers, scanners, network devices, security measures and virtualization and cloud computing; and how to provide professional IT support and customer service. Prerequisite: CGS 1560. Laboratory fee. (3 hr. lecture; 2 hr. lab)

**CTS1134**
**Networking Technologies**
**4.00 credits**
This course will provide an introduction to the technical areas of network connectivity, data communications, and communication protocols. Emphasis on understanding the foundation of networking technologies and data communication concepts. Topics covered will include an exploration of computer networking development, the OSI reference model, data signaling, data translation, standards, protocols, transport and transmission, and network topologies and access methods. Laboratory fee. (3 hr. lecture; 2 hr. lab)

**CTS1145**
**Cloud Essentials**
**4.00 Credits**
This course prepares the student to demonstrate knowledge of Cloud computing from a business and technical perspective, including Cloud concepts, services, architecture, system integration, connectivity, data center migration, administration, security, and technical support. Coverage includes preparation for the CompTIA and AWS certification examinations. Corequisite: CTS1134. (3 hr. lecture; 2 hr. lab)

**CTS1328**
**Supporting Microsoft Clients**
**4.00 credits**
This course is intended for students preparing for IT careers as desktop and net-
work support specialists and server administrators, as well as candidates for industry certification. Students will learn how to implement and maintain a Microsoft client operating system. Prerequisite: CGS1060 or Previous Computer Experience Laboratory Fee. (3 hr. lecture; 2 hr. lab)

**CTS1437**
*Microsoft SQL Administration*
*4.00 credits*

This is an introductory database administration course for students majoring in Internet Services, Database Technology Microsoft Database Administrator (DBA), Computer Programming and Analysis, and for students preparing for Microsoft DBA certification exams. Students will learn to install, administer, and optimize an enterprise-level database system, and how to use SQL to define databases, tables, stored procedures, and constraints. Recommended Preparation: CGS1540 or CGS1541. Laboratory fee. (3 hr. lecture; 2 hr. lab)

**CTS1650**
*CCNA 1: Cisco Fundamentals*
*4.00 credits*

This is the first course of the four-course Cisco curriculum that will prepare students for professional certification as a Cisco Certified Network Associate (CCNA). Students will learn networking concepts and practices, network terminology and protocols, the OSI reference model, cabling, cabling tools, routers, router and switch configurations, LAN/WAN topologies, IP addressing, and network standards. Special Fee. (3 hr. lecture; 2 hr. lab)

**CTS1651**
*CCNA 2: Routing and Switching*
*4.00 credits*

This is the second course of the four-course Cisco curriculum that will prepare the student for professional certification as a Cisco Certified Network Associate (CCNA). Students will learn the architecture, components and operation of routers and switches, LAN (Local Area Networks) switch protocols and operations, VLANs (Virtual Local Area Networks), network routing protocols and concepts, static and dynamic routing, router and switch configuration and troubleshoot-}

ing, and IP Address services. Prerequisite: CTS 1650. Special Fee. (3 hr. lecture, 2 hr. lab)

**CTS1800**
*Introduction to Web Page Development*
*4.00 credits*

This introductory course covers the basics of web design and development. Students will learn about the World Wide Web, Hypertext Markup language (HTML), Extensible Hypertext Markup Language (XHTML), Cascading Style Sheets (CSS) and JavaScript using popular web authoring tools such as Dreamweaver. Students will also learn the basic functions of HTML, XHTML, CSS and JavaScript and how to develop and maintain a website. Prerequisite: CGS 1060. Laboratory fee. (3 hr. lecture)

**CTS1801**
*Multimedia and Animation*
*4.00 credits*

This course introduces computer science and non-majors to the tools and techniques to create multimedia and animated presentations. Students will learn how to make appropriate hardware and software decisions, how to select and use various authoring systems and tools, and how to publish their work to the Web. Prerequisite: CGS1060. Laboratory fee. (3 hr. lecture; 2 hr. lab)

**CTS2102**
*Operating System Principles*
*4.00 credits*

Students will become familiar with operating system functions and commands. Windows and UNIX operating systems are covered. Topics include file management, backup and recovery procedures, multiuser functionality, communications and establishing interfaces. Prerequisites: CGS 1060, COP 1332, and COP1334. Laboratory fee. (3 hr. lecture; 2 hr. lab)

**CTS2153**
*Supporting Windows Users & Applications*
*4.00 credits*

This is an advanced course designed to help students prepare for the Microsoft Certified IT Professional Support Technician Certification. Students will learn how to install, configure and manage Windows applications in a networked Windows environment and how to support enterprise users. Students will also deploy Windows and applications using various methods, resolve installation and compatibility issues, establish group policies and user profiles, perform support functions, troubleshoot user and application issues, secure the desktop and network from unauthorized use, install software upgrades and updates, perform systems monitoring and documentation, and develop customer service skills. Prerequisite: CTS 1328. Laboratory fee. (3 hr. lecture; 2 hr. lab)

**CTS2154**
*IT Help Desk Support*
*4.00 credits*

This course is designed to prepare students as entry-level help desk computer support technicians. Students will learn skills needed to support computer users within the business organization and to provide exceptional customer service, including how to identify the appropriate tools, technologies, and processes to assess and meet computer user needs, essential communications skills, the IT function within the business organization, and career opportunities in computer user support. Prerequisites: CGS 1060, CGS 2108. Laboratory fee. (3 hr. lecture; 2 hr. lab)

**CTS2215**
*PowerPoint/Outlook*
*4.00 credits*

The student will be provided the opportunity to develop the skills necessary to prepare for the core level Microsoft Office User Specialist (MOUS) Certification exam in MS PowerPoint and MS Outlook. Prerequisite: CGS 1060. Laboratory fee. A.S degree credit only. (3 hr. lecture; 2 hr. lab)

**CTS2300**
*Planning Network Infrastructure*
*4.00 credits*

This course provides the information and skills necessary to successfully plan and maintain a Microsoft server operating sys-
Managing a Windows Networking Environment
4.00 credits
This course will provide the knowledge required by System and Network Administrators who implement, manage and troubleshoot existing network and server environments based on the Microsoft Windows network operating system. This course focuses on performing desktop and server installation and configuration tasks, how to perform troubleshooting tasks, hardware and software installations, configurations and upgrades, and perform network and system operation tasks. Typical network services and resources that would be managed include messaging, database, file and print servers, proxy server of firewall, Internet and intranet, remote access, and client computer management. Recommended Preparation: CTS 2306. Laboratory fee. (3 hr. lecture, 2 hr. lab)

CTS2334
Configuring Advanced Windows Servers
4.00 credits
This course is intended for the student majoring in Information Technology (IT) as network support specialists and/or server administrators. The student will learn how to perform the advanced configuration tasks required to deploy, manage, and maintain a Windows Server infrastructure. In addition, the student will be eligible for industry certification. Recommended Preparation: CTS 2303 and CTS 2306 or equivalent knowledge. (3 hr. lecture, 2 hr. lab)

CTS2310
Design, Implement, Manage Network Security
4.00 credits
This course provides the information and skills necessary to design, implement, manage, maintain, and troubleshoot security in a Microsoft Windows Server network infrastructure. It is intended for students preparing to be IT systems engineers and security specialists who are responsible for implementing and managing security policies and procedures for an organization. Prepares students for the MCSE Security specialization. Pre/corequisite: CTS 2306; may be waived for individuals with current MCSA certification or equivalent experience. Laboratory fee. (3 hr. lecture, 2 hr. lab)

CTS2314
Network Penetration Testing and Forensics
4.00 credits
In this course, students will take an in-depth look at network defense concepts and techniques. Coverage includes network defensive concepts; policy development; problem solving; and implementation of firewalls, DMZ, VPN, IDS, NAT and proxy servers. Prerequisites: CTS 1120 and CTS 1134. Laboratory Fee. (3 hr. lecture, 2 hr. lab)

CTS2317
Advanced Network Security
4.00 credits
This advanced network course covers the CISSP domains for security professionals. The student will learn security and risk management; asset security; security architecture and engineering; communication and network security; identity and access management; security assessment and testing; security operations; and software development security. Prerequisite: CTS 1120. (3 hr. lecture, 2 hr. lab)
Microsoft SharePoint. Prerequisite: CTS1437. Special fee. (3 hr. lecture; 2 hr. lab)

**CTS2375C**
**Cloud Infrastructure and Services**
**4.00 credits**
This course helps students develop technical expertise in Cloud computing and prepares them for Cloud computing industry certification. Students will learn the essentials of Cloud computing, business security and compliance considerations, migrating to the Cloud, architecting a Cloud server, and how to troubleshoot Cloud services. Prerequisite: CTS 1145, Corequisite: CTS 2960. (3 hr. lecture, 2 hr. lab)

**CTS2404**
**Distributed Applications with Visual Basic**
**4.00 credits**
This course will teach Microsoft Visual Basic programmers how to build N-tier client/server solutions for Microsoft Windows using Windows DNA and Com+ technologies. It includes developing distributed applications that conform to the Microsoft Solution Framework, and is designed to teach Visual Basic programmers, who currently develop desktop applications, how to build n-tier, client/server solutions. Also it will prepare students to take Microsoft's Certification Exam for Distributed Applications with Microsoft Visual Basic; it is a required course for MCSD and elective for MCDBA. Prerequisites: COP 2333. Laboratory fee. (3 hr. lecture; 2 hr. lab)

**CTS2433**
**Microsoft SQL Implementation**
**4.00 credits**
A comprehensive course in learning how to design and implement enterprise database solutions using SQL. Working through a system of modular lessons and hands-on labs to comprehend SQL Architecture. Prerequisite: CTS 1437. Laboratory fee. (3 hr. lecture, 2 hr. lab)

**CTS2440**
**Introduction to Oracle: SQL and PL/SQL**
**4.00 credits**
This is an introductory level course for students majoring in the Oracle Database Administrator and/or Solutions Developer programs. Students will learn the fundamentals of SQL and PL/SQL programming languages including the concepts of relational databases, how to create and maintain database objects, and how to store, retrieve, and manipulate data. Students will also learn to create PL/SQL blocks of application code that can be shared by multiple forms, reports, and data management applications. Prerequisite: CGS 1060. Laboratory fee. (3 hr. lecture; 2 hr. lab)

**CTS2441**
**Introduction to Oracle Database Administration**
**4.00 credits**
This course is designed to give students who are preparing to become Oracle database administrators (DBA) a firm foundation in basic administrative tasks. Students will learn through instructor-led learning, structured hands-on practices, and challenge-level exercise labs, the necessary knowledge and skills to set up, maintain and troubleshoot an Oracle database. Prerequisite: CTS 2440. Laboratory fee. (3 hr. lecture; 2 hr. lab)

**CTS2442**
**Intermediate Oracle Database Administration**
**4.00 credits**
This is the second course in Oracle database administration. Students will learn basic network administration, including techniques to backup and to recover an Oracle database. The skills developed in this class will help prepare students for the Oracle database administrator (DBA) certification exam. Prerequisite: CTS 2441 Laboratory fee. (3 hr. lecture, 2 hr. lab)

**CTS2444**
**Oracle Database Performance Tuning**
**4.00 credits**
This course teaches students tuning steps which can be used to improve database performance. Students will learn through a combination of demonstrations, lectures, and lab exercises, gaining practical experience tuning an Oracle database. Students will also learn how to recognize, troubleshoot and resolve common performance related problems in administering an Oracle database. Pre-requisite: CTS2442. Laboratory fee. (3 hr. lecture, 2 hr. lab)

**CTS2450**
**Business Intelligence: Analysis Services and Data Mining**
**4.00 credits**
This is one of two sources in business intelligence designed to provide students with the skills necessary for advanced web-based applications. This course provides an introduction to various data mining and business intelligence techniques. Students will learn Analysis Services and Data Mining, including database and problem-solving skills. The course focuses on how these techniques are applied in the corporate environment to better manage business processes and how data analysis is utilized to achieve business success. Prerequisite: CTS1437 or CTS2433 or CTS2451. Laboratory fee. (3 hr. lecture, 2 hr. lab)

**CTS2451**
**Business Intelligence: Integration Services & Reporting**
**4.00 credits**
This course is designed to provide students with the skills necessary for advanced web-based applications. Students will learn how to analyze business requirements to determine data access and data transfer requirements and how to apply database and problem solving skills to build data flow, design integration services, and reporting services. Prerequisite: CTS1437 or CTS2433. Laboratory fee. (3 hr. lecture, 2 hr. lab)

**CTS2463**
**C# Web Application Development**
**4.00 credits**
This course is designed to provide AS degree students majoring in computer information technology, database technology, or Internet services technology with skills necessary for web-based programming. Students will learn C# programming for ASP.NET, including database skills and problem-solving, using modular design techniques. The skills developed in this class will help prepare students for MCTS certification. Prerequisites: COP 1332 or COP 1334. Laboratory fee. (3 hr. lecture, 2 hr. lab)
**CTS2466C**  
Internet of Things (IoT) Development with C#  
4.00 credits  
This course teaches the principles of Internet of Things applications development using the C# language. The student will learn how to write programs in C# and deploy the applications to devices running Windows IoT Core. The student will also develop advanced working programs that connect the devices to cloud services. Prerequisite: CEN2211. (2 hr. lecture, 4 hr. lab)

**CTS2652**  
CCNA 3: Advanced Routing and Switching  
4.00 credits  
This is the third course of the four-course Cisco curriculum that will prepare the student for professional certification as a Cisco Certified Network Associate (CCNA). Students will learn how to create virtual local area networks (VLANS), configure inter VLAN routing, and implement wireless network access and VLAN security. Prerequisite: CTS1651. Special Fee. (3 hr. lecture, 2 hr. lab)

**CTS2653**  
CCNA 4: Connecting Networks  
4.00 credits  
This is the fourth and final course of the four-course Cisco curriculum that will prepare the student for certification as a Cisco Certified Network Associate (CCNA). Students will learn how to implement a hierarchical network design, configure wide area networks (WANS), including point-to-point and frame relay connections, implement IP addressing services such as Network Address Translation, VPN and broadband solutions, monitoring and troubleshooting enterprise networks. Prerequisite: CTS 2652. Special Fee. (3 hr. lecture, 2 hr. lab)

**CTS2664**  
CISCO Certified Network Associate (CCNA) Security  
4.00 credits  
This course is designed for students specializing in Cisco Network Security. Students will learn how to master core security concepts, secure network infrastructure, manage secure access, recognize threats and vulnerabilities, and mitigate security threats. The course prepares students for the Cisco IINS Exam 210-260 certification. Prerequisite: CTS1651. (3 hr. lecture, 2 hr. lab)

**CTS2670**  
Check Point Security Administration  
4.00 credits  
This course is designed for students specializing in network security, prepares students for the Check Point Certified Security Administrator (CCSA) certification exam. Students will learn how to install security gateways; configure rules on servers; create a rule base; assign user permissions; schedule backups and upgrades; monitor and troubleshoot common network traffic. Prerequisite: CTS1134, CTS1220. (3 hr. lecture, 2 hr. lab)

**CTS2671**  
Check Point Security Engineering  
4.00 credits  
This course, for students specializing in network security, prepares students for the Check Point Certified Security Expert (CCSE) certification examination. Students learn how to configure, build, modify, deploy and troubleshoot a secure network utilizing firewall technologies. Topics include clustering, software acceleration, advanced VPN concepts and implementation, and monitoring and reporting tools. Prerequisite: CTS1220, CTS1134, CTS2670. (3 hr. lecture, 2 hr. lab)

**CTS2672**  
Developing Internet Applications Using Apache  
4.00 credits  
This course is designed for students who are preparing to become web developers. Students will learn to build dynamic, web-based applications using open-source technologies such as Linux, Apache, MySQL, and PHP (LAMP). Prerequisites: CTS 1111, COP 2842, COP 2843. Laboratory Fee. (3 hr. lecture, 2 hr. lab)

**CTS2960**  
Cloud Computing Capstone  
4.00 credits  
This course requires students to demonstrate their competence to analyze, design, develop, and test a cloud based complex system. Each student will create and present a cloud based solution proposal that includes: design documentation, implementation plan, cloud resources required, projected cost analysis, basic security plan and project test plan to create an operational cloud based system solution. Must be taken during the last semester before graduation and with a departmental permission. Prerequisite: Departmental Approval. (3 hr. lecture, 2 hr. lab)

**CTS3452**  
Business Intelligence  
4.00 credits  
This course is for students majoring in Data Analytics. Students will learn how to organize, manage and analyze massive amounts of data on servers. Students will learn how to create reports and present information to optimize business decisions and performance. (3 hr. lecture, 2 hr. lab)

**DIG1111**  
Digital Character Design  
3.00 credits  
This course, for students majoring in Animation and Game Art, covers the observation and translation of three-dimensional form into two-dimensional drawings. The student will learn the interpretation of the human body, based on major masses organized by gestural lines. The student will create original characters and create design elements to support them. Students will transition to draw on digital tablets. Knowledge or proficiency in Adobe Photoshop recommended. (1 hr. lecture, 4 hr. lab)

**DIG1132**  
Digital art and Design  
3.00 credits  
This course is for students majoring in Animation and Game Art and introduces environmental design. Students will learn the concepts, hardware, and software related to digital image acquisition, image
DIG1302
3D Modeling
4.00 credits
This course, for students majoring in Animation &Game Art introduces students to the basic tools, techniques and applications for feature 3D animation and game development. Students will learn how to manipulate objects, build models, employ lighting, design movement, work with materials and textures and render a final image. (3 hr. lecture; 2 hr. lab)

DIG1430
Storyboarding
3.00 credits
This course is for students majoring in Animation and Game Art. It introduces the necessary tasks in the storytelling phase of an animation project. Students will learn how to develop and design visual storyboards and how to sell their storyboard ideas. Prerequisite: DIG 1437 with a minimum grade of “C” or higher. (1 hr. lecture; 4 hr. lab)

DIG1437
Narrative Storytelling
3.00 credits
This course is for students majoring in Animation and Game Art. It introduces the conceptual structure and design of visual storytelling. Students will learn principles of animation, mechanics, cinematics, character development, structure of story and adapting movement for the animation medium. (2 hr. lecture, 2 hr. lab)

DIG1705
3D Programming 1
4.00 credits
This course, provides students with a foundation in 3D programming which will allow them to develop programs using popular graphics libraries such as DirectX, OpenGL, and GLSL. Gaining a strong foundation in math (including advanced concepts of algebra and vector math) is suggested prior to enrolling in this course. Students will learn basic image progressing, geometric transformations, geometric modeling of curves and surfaces, 3D viewing, shaders, and ray tracing. Prerequisite: COP2335 and MACT105. (3 hr. lecture, 2 hr. lab)

DIG1710
Introduction to Game Development
4.00 credits
This course is an introduction to the computer game design and development industry. Gaining strong foundational writing skills and a knowledge of word processing and presentation software is suggested prior to enrolling in this course. Students will learn about game development careers, game development and design processes, marketing themes, copyright laws, game company structures, programming languages used by different types of games, the impact of video games on modern society, general programming concepts, how to create game design documentation, and how to use common game development environments. (3 hr. lecture, 2 hr. lab)

DIG1712
Level Building & Design
4.00 credits
This is a core course for students majoring in game development and design. Gaining a good foundation in math is suggested prior to enrolling in this course, a basic understanding of vector math and advanced concepts in algebra is preferred. Students will learn how to develop game environments in industry standard engines, how to create documentation to plan out effective game play experiences, and the requirements to create virtual worlds. Prerequisite: CAP2047, COP2335, and DIG1430. Special Fee. (3 hr. lecture 2 hr. lab)

DIG1772C
Introduction to Virtual & Augmented Reality Technologies
3.00 credits
This course introduces students to basic concepts, history and tools commonly used for stereoscopic image acquisition and immersive technologies. Students will learn origins of Virtual Reality (VR) and its current role in the industry, its applications and opportunities and how to generate and manipulate VR imagery. Prerequisite: CGS1060C. (2 hr. lecture 2 hr. lab)

DIG1729C
Game Engines
4.00 credits
This course is an introduction to game engines and their uses. Students will learn the basic techniques for creating interactive applications and how these techniques can be used for Virtual Reality (VR) and Augmented Reality (AR) projects. Prerequisite: CGS1060C. (2 hr. lecture 4 hr. lab)

DIG2113
Post Production & Editing
4.00 credits
This course, for students majoring in Animation &Game Art, equips students with skills required in post-production editing. Students will learn how to combine computer-generated imagery with matte painting and backgrounds and the core principles of proper compositing, color correction, and editing. Prerequisite: DIG1437 (3 hr. lecture, 2 hr. lab)

DIG2304
Character Animation 3
3.00 credits
This course, for students majoring in Animation &Game Art, equips students with the skills needed to create animated characters. Students will learning-depth character design, development, rigging, and animation techniques, how to create segmented and solid model mesh of bipeds and quadrupeds, and techniques used to create facial expressions and lip syncing. Prerequisite: DIG2790 (2 hr. lecture 2 hr. lab)

DIG2318
Animation Studio 1
3.00 credits
This course is for students majoring in Animation and Game Art. Students will learn to design and implement a project involving computer animation, game production, VFX or scientific/architecture visualization. Students will work in col-
DIG2319  
Animation Studio 2  
3.00 credits
This is a capstone course for students majoring in Animation and Game Art. Building on skills learned in Animation Studio 1, students will learn enhanced skills in the areas of 3D modeling, texturing, lighting, and animation. Working in groups, students develop a project plan and produce a short, 3D animated movie. (2 hr. lecture 2 hr. lab)

DIG2370  
Character Modeling & Rigging  
4.00 credits
This course focuses on the modeling and rigging of characters for performance. The student will solve complex issues of character articulation with an emphasis on skeleton, skin, and binding techniques. Prerequisite: DIG 1302 (4 hr. lecture)

DIG2391C  
Animation Studio 3  
4.00 credits
This is a capstone course for students majoring in Animation and Game Art. Students develop a project plan and produce a short, 3D animated movie. Students also create a website for the project, social media and market campaigns, and submit the short animated movie to festivals. Prerequisite: CAP 2920C or DIG 2318. (3 hr. lecture 2 hr. lab)

DIG2396C  
Motion Capture  
4.00 credits
This course is for students majoring in Animation and Game Art. Students will learn to digitize motion and clean-up and editing techniques. They will also learn how to set up motion capture and shooting, data tracking, skeleton retargeting, as well as animation correction and enhancements. Prerequisite: DIG1302. (3 hr. lecture; 2 hr. lab)

DIG2625  
Network Programming for Game Development  
4.00 credits
This course is for students majoring in game development. It introduces network programming and communication in a distributed computing environment for game development. Students will learn network technologies, architecture, protocols, programming across different environments. Prerequisite: COP2335 (3 hr. lecture; 2 hr. lab)

DIG2626  
Artificial Intelligence  
4.00 credits
This course covers key aspects of Artificial Intelligence (AI) for students majoring in game development. Gaining a strong foundation in math (including advanced concepts of algebra and vector math) is suggested prior to enrolling in this course. Students will learn the origins and history of Artificial Intelligence, current and future uses of AI, AI methods algorithms such as: path planning, stimulus-response agents, agent architectures, decision-making systems, game trees, neural networks, and genetic algorithms. Students will create and modify existing games to include an AI system. Pre/Corequisite: COP1334 (3 hr. lecture; 2 hr. lab)

DIG2717C  
Game Systems Design  
4.00 credits
This is a core course for students majoring in game development and design. Gaining a strong foundation in college level algebra and the use of spreadsheet software (such as Excel) is suggested prior to enrolling in this course. Students will learn how to develop game systems like combat, economy, and social. They will learn how to model and test systems before incorporating them into development, and how to use probability to create more interesting gameplay. Prerequisite: DIG1710, DIG1712, and MAC1105. Special Fee. (3 hr. lecture 2 hr. lab)

DIG2771  
3D Programming 2 - Virtual Reality  
4.00 credits
This course is for students majoring in game development and covers key aspects of advanced 3D programming. Students will learn how to program special effects and create realism for games by using: illumination, shading, reflections, collision detection/ reaction, light mapping, sound, music, alpha blending, fog, and applying basic Newtonian physics to objects. Prerequisite: DIG1705 Pre/Corequisite: COP2335 (3 hr. lecture; 2 hr. lab)

DIG2776C  
Virtual Reality Platform Development  
4.00 credits
Students will learn the fundamentals of Virtual Reality (VR) gaining practical experience using state of the art technology. This course mixes together knowledge from a variety of correlated topics, including computer graphics, tracking systems, and perceptual psychology. Prerequisite: DIG1729C, DIG1772C. (2 hr. lecture 4 hr. lab)

DIG277C  
Augmented Reality Platform Development  
4.00 credits
This course provides a comprehensive curriculum that targets the key areas of augmented reality (AR). Students will learn how to enhance real life objects and environments with digitally generated image overlays. Prerequisite: DIG1729C, DIG1772C. (2 hr. lecture 4 hr. lab)

DIG2790  
Texturing & Environment Design  
4.00 credits
This course is for students majoring in Animation & Game Art. Students will learn advanced 3D animation job skills used in creating 3D feature animation and game development, including advanced texturing, lighting and rendering a final image. Prerequisite: DIG1302 (3 hr. lecture 2 hr. lab)
Criminal Justice & Related Technologies

**CCJ1010**  
Introduction to Criminology  
3.00 credits  
Theories and causes of criminal and delinquent behavior, including its variations, ramifications, explanations and measures of prevention, control and treatment. (3 hr. lecture)

**CCJ1020**  
Introduction to Criminal Justice  
3.00 credits  
History, development, philosophy, constitutional aspects, introduction to and survey of the agencies and processes involved in the administration of criminal justice in a democratic society. (3 hr. lecture)

**CCJ1191**  
Human Behavior in Criminal Justice  
3.00 credits  
Human behavior and how it relates to the duties and responsibilities of the criminal justice practitioner. (3 hr. lecture)

**CCJ1949**  
Co-op Work Experience 1: CCJ  
3.00 credits  
This is a course designed to provide training in a student's field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-op Department approval. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-operative Education Office to obtain registration approval. (3 hr. lecture)

**CCJ2053**  
Criminal Justice Ethics and Professionalism  
3.00 credits  
This course will provide students with an overview of moral, ethical, and professional issues and dilemmas facing individuals and organizations within the criminal justice system. Students will learn to define and implement ethical and professional standards by examining what they will be confronted with and how to respond appropriately. Prerequisite: PHI 2604. (3 hr. lecture)

**CCJ2358**  
Criminal Justice Reporting  
3.00 credits  
This course prepares students through instruction and practice to properly prepare written reports common to the criminal justice community. Students will learn a variety of criminal justice scenarios presented and students will be instructed as to proper report format and presentation. Prerequisite: ENC 1101. (3 hr. lecture)

**CCJ2650**  
Narcotics and Drug Education  
3.00 credits  
The general problems created by illegal use of narcotics and dangerous substances, with emphasis upon classification, description and history of drugs, etiology of addiction, extent of drug use and its relationship to criminal behavior and methods of control. (3 hr. lecture)

**CCJ2760**  
Cannabis Policy & Regulation  
3.00 credits  
In this course students will gain knowledge of the history, the control, and the regulations of cannabis as a recurring legal and social problem. Course completion will result in an understanding of the changing state-level law reforms, the ability to analyze the consequences of new legal, political, and practical issues, with a particular focus on the implications and impact of Florida’s new cannabis laws. Students will examine the social and historical backdrop of cannabis usage and regulation, and will assess the reforms and debates impacting the control and regulations of cannabis distribution and use in Florida. (3 hr. lecture)

**CCJ2949**  
Co-op Work Experience 2: CCJ  
3.00 credits  
This is a course designed to continue training in a student’s field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-op Work Experience. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-operative Education Office to obtain registration approval. (3 hr. lecture)
CCJ4450
Criminal Justice Administration
3.00 credits
An analysis of leadership styles, management principles, supervisory techniques, policies and procedures within Law Enforcement agencies. (3 hr. Lecture)

CCJ4641
Organized Crime
3.00 credits
An analysis of organized crime in today’s society, as well as, past, present, and future perspectives of the topic. (3 hr. Lecture)

CCJ4651
Drugs and Crime
3.00 credits
An analysis of the interrelationship among drug usage, crime and the criminal justice system. (3 hr. lecture)

CCJ4660
Crime, Violence, and Schools
3.00 credits
An examination of comprehensive and proven theoretical models of explaining, predicting, and preventing school-based violence. (3 hr. lecture)

CCJ4678
Race, Gender, Ethnicity & Crime
3.00 credits
Focuses on the challenges and controversies of managing and treating special offender populations such as juvenile, elderly, disabled, mentally ill, pregnant inmates, etc. (3 hr. lecture)

CJC1000
Introduction to Corrections
3.00 credits
A comprehensive view of the historical and philosophical treatment programs and developments in the field of juvenile and adult corrections. Emphases on understanding the offender in the correctional system; an examination of the correctional client, the non-institutional correctional systems, agencies and recidivism. (3 hr. lecture)

CJC1005
Operations & Procedures in Correctional Institutions
3.00 credits
A basic survey of the operational routines that prevail in correctional facilities and the procedures used by officers in upholding these routines. The focus is on the preliminary knowledge needed by correctional officers before they can acquire the skills and techniques to perform job-related tasks. (3 hr. lecture)

CJC1162
Parole and Probation
3.00 credits
The history, current practices and the consideration of philosophical concepts in the areas of probation and parole. (3 hr. lecture)

CJC2301
Interpersonal Skills for Correctional Officers
3.00 credits
The interpersonal skills needed by officers to understand the incarcerated society is explored, with emphasis on supervision methods. Inmate adjustment and the various segments of inmate society are studied. This course is limited to School of Justice students only. (3 hr. lecture)

CJC2350
Correctional Operations
3.00 credits
The operation of correctional facilities is studied including the intake of new inmates, all aspects of their daily care, and institutional procedures. This course is limited to School of Justice students only. (3 hr. lecture)

CJC4163
Advanced Probation & Parole
3.00 credits
A study of the process in which a convicted person can be released into society by means of probation or parole. (3 hr. lecture)

CJC4310
Correctional Theory
3.00 credits
An analysis of corrections relative to punishment and rehabilitation strategies utilized at penal institutions throughout the United States. (3 hr. lecture)

CJC4311
Contemporary Issues and Trends in Corrections
3.00 credits
Focuses on and analyzes of major changes in incarceration philosophies and policies, prison populations, and operational costs. (3 hr. Lecture)

CJC4351
Correctional Operations
3.00 credits
Focuses on challenges the correctional staff faces in their critical role in the day-to-day operations of a correctional facility. (3 hr. lecture)

CJE1003
Career Exploration in Criminal Justice
1.00 - 3.00 credits
To provide an overview of the various careers in criminal justice, and to help students define their career interests and physical abilities. (1-3 hr. lecture)

CJE1640
Crime Scene Technology 1
3.00 credits
This is an introductory course in Crime Scene Technology. Students will learn the techniques, materials and instrumentation used in securing, searching, recording, collecting, and examining physical evidence. There will be special emphasis on the tools, instruments, and techniques used in the studies of crime scene reconstruction, fingerprints, firearms, tool marks, and blood stain pattern analysis. (3 hr. lecture)

CJE1642
Crime Scene Technology 2
3.00 credits
This course covers advanced principles, theories and applications in crime scene technology. Students will learn specialized collection procedures of weapons, arson, gunshot residue, blood spatter, and recovery of buried bodies and surface skeletons are also included. Data analysis, reporting and plan of action development are emphasized. Prerequisite. CJE 1640. (3 hr. lecture)
CJE1673  
Crime Scene Photography 1  
3.00 credits  
This is an introductory study of the history of photography including basic photography skills. Students will learn camera operations, exposure control, relational photographs and flash control for crime scene and evidentiary documentation. (3 hr. lecture)

CJE1680  
Introduction to Computer Crimes  
3.00 credits  
This course provides the student with an overview of crimes involving the use of computer technology and the internet. The course will cover computer related crimes, how they are committed and investigated, computer crime scene management, and the legal issues involved in the prosecution of computer crimes and legislation enacted to protect the public. (3 hr. lecture)

CJE1772  
Crime Scene Photography 2  
3.00 credits  
This course expands upon concepts, knowledge and skills taught in Crime Scene Photography 1. Students will learn to include specialty light sources, darkroom techniques and procedures, filters and specialized equipment including black and white and color enlargers. Prerequisite: CJE 1673. (3 hr. lecture)

CJE2302  
Management of Police Functions  
1.00 - 3.00 credits  
The administration of line activities of law enforcement agencies, with emphasis on the patrol functions and the prevention of crime, including traffic, investigations, juvenile, vice, and other specialized units. (1-3 hr. lecture)

CJE2400  
Criminal Justice and the Community  
1.00 - 3.00 credits  
A general orientation to the concepts of criminal justice and community relations. Group relations for criminal justice personnel. A survey of the field of criminal justice and community relations, emphasizing the role and influence in the management and resolution of conflict. (1-3 hr. lecture)

CJE2600  
Criminal Investigation  
3.00 credits  
Fundamentals of criminal investigation, theory and practice, including crime scene search, preservation, collection and transportation of physical evidence investigating, interrogating, statement taking, and case preparation, with investigation of specific offenses, relationship with the police science laboratory. (3 hr. lecture)

CJE2601  
Law Enforcement Investigations for Police Officers  
3.00 credits  
Fundamentals of criminal investigation, theory and practice, including crime scene search, preservation, collection and transportation of physical evidence are topics included in this course. Techniques are developed from the initial observation methods through the processing of the crime scene and case preparation. Florida’s computer network is studied as an information source. This course is limited to School of Justice Basic Law Enforcement students only. (3 hr. lecture)

CJE2644  
Crime Scene Safety  
3.00 credits  
This course provides the fundamentals of protecting and preserving the crime scene and identifies the essential techniques of properly handling physical evidence. Students will learn the understanding of various hazards and safety issues and provides basic techniques for preserving evidence as it relates to various hazardous chemical and biological materials. (3 hr. lecture)

CJE2671  
Basic Fingerprinting  
3.00 credits  
This course provides a foundation in basic fingerprinting. Students will learn topics which include classification, identification, filing and rolling of fingerprints, problems and practices associated with post mortem fingerprinting and proper presentation of fingerprint evidence. (3 hr. lecture)

CJE2672  
Fingerprint Development  
3.00 credits  
This course provides a continuation of CJE 2240 Basic Fingerprinting. Students will learn different methods involved in detection, enhancement, and recovery of latent fingerprints. Techniques will involve chemical and mechanical methods on substrates and evaluation for proper application in both theory and practices. Prerequisite: CJE 2671. (3 hr. lecture)

CJE3110  
Law Enforcement Systems  
3.00 credits  
An analysis of the different law enforcement systems in Criminal Justice. Focuses on the different law agencies and their mission at the local, state, and federal levels. (3 hr. lecture)

CJE3115  
Police and Society  
3.00 credits  
Identifies police roles and philosophies, the nature of police work, community policing, and the debates pertaining to police discretion, community relations, and police misconduct. (3 hr. lecture)

CJE3444  
Crime Prevention  
3.00 credits  
Provides students with strategies of how to develop, implement and maintain a crime prevention program. Includes the history of crime prevention, homeland security programs, public speaking, media relations, crime against the elderly, sexual assault programs, youth crime prevention, and telemarketing fraud and scams. (3 hr. Lecture)
CJE4310  
Police Administration  
3.00 credits  
An analysis of corrections relative to punishment and rehabilitation strategies utilized at penal institutions throughout the United States. (3 hr. lecture)

CJE4615  
Advanced Criminal Investigations  
3.00 credits  
The understanding, interpretation, and application of criminal investigative procedures in the U.S., based upon constitutional issues and legal precedent. (3 hr. lecture)

CJE4647  
Advanced Crime Scene Technology  
3.00 credits  
An application of crime scene investigation techniques to include recording, preserving, and documenting a crime scene. (3 hr. lecture)

CJE4648  
Crime Scene Safety  
3.00 credits  
A study of how to properly handle crime scenes and hazardous crime scenes relative to various hazardous materials, to include chemical and biological. (3 hr. lecture)

CJE4650  
Advanced Crime Scene Investigations  
3.00 credits  
A study of advanced search techniques, crime scenes reconstruction, computer sketching, laser mapping, DNA evidence, trajectory, and blood spatter evidence. (3 hr. lecture)

CJE4668  
Computer Crime  
3.00 credits  
Synthesizes knowledge of crime elements, legal issues, investigative techniques, and computer skills used in the prevention and investigation of computer-generated crime. (3 hr. lecture)

CJL1000  
Street Law  
3.00 credits  
This course will cover the evaluation, debate, and critical analysis of law and legal issues that affect individuals, their families, and communities. Students will learn about practical aspects of civil, criminal, constitutional, family, immigration, and consumer law in a diverse society with an orientation toward civic involvement in the local community. (3 hr. lecture)

CJL1100  
Criminal Law  
3.00 credits  
Historical background and foundations of American criminal law, including United States Constitutional requirements, Federal and State court organization and jurisdiction, criminal law basics, Florida statutes, rules of evidence and procedure. (3 hr. lecture)

CJL2062  
Constitutional Law and Legal Procedure or Evidence  
3.00 credits  
An examination of the United States and Florida Constitutions, with emphasis on leading cases dealing with arrest, search and seizure, confessions and the rules of evidence. (3 hr. lecture)

CJL2100  
Criminal Procedure & Evidence 1  
3.00 credits  
This course explores the history, principles and applications of criminal law procedures for criminal justice officers. This course is limited to the school of justice students only. (3 hr. lecture)

CJL2130  
Criminal Procedure and Evidence  
3.00 credits  
Criminal Procedure and Evidence as they relate to the law enforcement profession will be examined. Constitutional provisions applicable to arrest, search and seizure, and interrogation will be covered. In addition, evidentiary principles will be taught emphasizing those provisions applicable to law enforcement. (3 hr. lecture)

CJL2610  
Courtroom Presentation  
3.00 credits  
This course introduces students to proper courtroom presentation and procedures. Students will learn the appropriate techniques for proper attire, grooming, speaking, listening and stress control during courtroom proceedings, visual aid preparation, and presentations of all evidence (commonly referred to as "scientific evidence") collected at the crime scene are also included. (3 hr. lecture)

CJL3044  
Civil Law  
3.00 credits  
A study of civil liability for damages caused by breach of an imposed duty, which includes intentional torts, negligence, strict liability, product liability, civil nuisance, defamation, civil wrongful invasion of privacy, and damages. (3 hr. lecture)

CJL3564  
Judicial Policy Making  
3.00 credits  
An analysis of the components, policies, and procedures of the court structure of the United States and various components. An analysis of local, state, and federal courts in the Criminal Justice System. (3 hr. Lecture)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CJL4064</td>
<td>Corrections Administration &amp; Law</td>
<td>3.00</td>
<td>An overall view of the nature, philosophy, operations and goals of secure and non-secure correctional institutions and programs. (3 hr. lecture)</td>
</tr>
<tr>
<td>CJL4133</td>
<td>Criminal Evidence</td>
<td>3.00</td>
<td>A study of evidentiary principles and rules of evidence, and their application in a courtroom setting. (3 hr. lecture)</td>
</tr>
<tr>
<td>CJL4170</td>
<td>Corrections Legal System</td>
<td>3.00</td>
<td>An analysis of contemporary legal decisions regarding the rights and responsibilities of prisoners, correctional administrators, and correctional officers. (3 hr. lecture)</td>
</tr>
<tr>
<td>CJL4514</td>
<td>Criminal Sentencing</td>
<td>3.00</td>
<td>An examination of the various pre-trial and post-trial community based treatment and supervision programs. (3 hr. lecture)</td>
</tr>
<tr>
<td>DSC1002</td>
<td>Terrorism</td>
<td>3.00</td>
<td>This course is a study of domestic and international terrorism as it relates to domestic security. Through focused topics, students will learn about terrorist organizations and motivations, investigating terrorism threats, conducting vulnerability assessments of potential terrorist targets, and the role of government agencies in response to a terrorist incident and recovery afterwards. (3 hr. lecture)</td>
</tr>
<tr>
<td>DSC1590</td>
<td>Introduction to Intelligence Studies</td>
<td>3.00</td>
<td>This course will provide a comprehensive overview of intelligence for the purpose of national security for the entry-level intelligence practitioners and beginning students. The student will learn security issues, define critical terms and review the history of intelligence as practiced in the United States. (3 hr. lecture)</td>
</tr>
<tr>
<td>DSC1700</td>
<td>Introduction to Emergency Management</td>
<td>3.00</td>
<td>This course focuses on the philosophical and theoretical underpinnings of the emergency management profession, and the principles that define effective practice. The student will learn the current definitions of emergency management, including the mission and vision of the profession. (3 hr. lecture)</td>
</tr>
<tr>
<td>DSC2242</td>
<td>Transportation and Border Security</td>
<td>3.00</td>
<td>This course introduces students to global supply chains and intermodal transportation systems. Students will learn the threats to these systems, their vulnerabilities and potential for terrorist attacks, and the measures being undertaken to secure them. (3 hr. lecture)</td>
</tr>
<tr>
<td>DSC2501</td>
<td>Writing &amp; Reporting for the Intelligence Community</td>
<td>3</td>
<td>This course will provide a focused review and practice for effective writing within the intelligence community. The student will learn the basic elements necessary for effective writing in any situation or any type of report specifically within the intelligence community. Prerequisite: ENC1101. (3 hr. lecture)</td>
</tr>
<tr>
<td>DSC2590</td>
<td>Intelligence Analysis and Security Management</td>
<td>3.00</td>
<td>This course examines intelligence analysis and its indispensable relationship to the security management of terrorist attacks, man-made disasters and natural disasters. Students will learn substantive issues regarding intelligence support of Homeland Security measures implemented by the United States and explore how the intelligence community operates. (3 hr. lecture)</td>
</tr>
<tr>
<td>DSC4012</td>
<td>Terrorism</td>
<td>3.00</td>
<td>A study of the causes and effects of domestic and international terrorist events. (3 hr. lecture)</td>
</tr>
<tr>
<td>DSC4014</td>
<td>Domestic &amp; International Terrorism</td>
<td>3.00</td>
<td>A study of the causes and effects of domestic and international terrorist events. (3 hr. lecture)</td>
</tr>
<tr>
<td>DSC4214</td>
<td>Catastrophic Event Response Management</td>
<td>3.00</td>
<td>An analysis and evaluation of domestic and international terrorism, the events, the responses, and the outcomes. (3 hr. lecture)</td>
</tr>
<tr>
<td>DSC4215</td>
<td>Emergency Planning &amp; Security Measures</td>
<td>3.00</td>
<td>A study of empirical vs theoretical approaches; human behavior in disasters; myths and realities; group disaster behavior; community social systems, and disaster; cultures, demographics and disaster behavior distinctions; and model-building in sociological disaster research. (3 hr. lecture)</td>
</tr>
<tr>
<td>FES4003</td>
<td>Public Policy in Emergency Management</td>
<td>3.00</td>
<td>An exploration of public policy used in emergency management, including how policy is made and conveyed. (3 hr. lecture)</td>
</tr>
</tbody>
</table>
FES4823
Integrated Emergency Management Planning Systems
3.00 credits
An analysis of technology applications and its role in emergency planning, responses, recovery, and mitigation. (3 hr. lecture)

SCC1000
Introduction to Security
3.00 credits
Students will explore and learn various aspects of security, including community retail, corporate, business and industrial problems and concerns. In addition, to legal elements as it pertains to crime prevention in a commercial environment. (3 hr. lecture)

SCC2020
Problem Solving in Security
3.00 credits
This course provides the student with an overview of problem solving concepts within the field of private security. Students will examine and learn the critical processes underlying problem solving and the application of the process through the use of scenarios. The scenarios encompass a wide range of private security problems and venues that require the student to conduct risk analysis, propose viable solutions, and evaluate the utility of those initiatives. (3 hr. lecture)

SCC4111
Special Security Problems
3.00 credits
A study of executive level security measures pertaining to dignitary protection, client confidentiality, and legal issues. (3 hr. lecture)

SCC4210
Private Investigations
3.00 credits
An analysis and interpretation of the role of the private investigator within the legal environment. (3 hr. lecture)

SCC4311
Security Administration
3.00 credits
An analysis and evaluation of leadership styles best suited for success in the field of security. (3 hr. lecture)

SCC4410
Risk Management
3.00 credits
A study of risk management theories as it pertains to insurance coverage, facility assessment, as well as employee and pre-employment background investigations. (3 hr. Lecture)

SCC4612
Hospital Security Management
3.00 credits
An analysis of hospital organizational structure, environment, personnel, visitors, and the requirements of regulatory agencies within the security area. (3 hr. lecture)

SCC4612
Hospital Security Management
3.00 credits
An analysis of hospital organizational structure, environment, personnel, visitors, and the requirements of regulatory agencies within the security area. (3 hr. lecture)

Dance

DAA1100
Modern Dance 1
2.00 - 3.00 credits
Beginning exploration of techniques, creative aspects, and theoretical concepts of modern dance which includes but is not limited to proper alignment and mechanics of breathing and phrasing, verbal and movement vocabulary, including structural improvisation. (1 hr. Lecture; 2-4 hr. lab)

DAA1104
Modern 1
2.00 - 3.00 credits
Beginning exploration of techniques, creative aspects, and theoretical concepts of modern dance which includes but is not limited to proper alignment and mechanics of breathing and phrasing, verbal and movement vocabulary, including structural improvisation, and exercises utilizing Laban’s movement analysis. (1 hr. lecture; 2-4 hr. lab)

DAA1105
Intermediate Modern
2.00 - 3.00 credits
Further development of modern dance techniques, creative aspects, theoretical concepts emphasizing components based on Graham, Cunningham and Limon techniques. Prerequisite: Completion of DAA 1104 or permission of the department. Dance Majors only. (1 hr. lecture; 2-4 hr. lab)

DAA1200
Ballet Dance 1
2.00 - 3.00 credits
Designed to provide experiences relative to the various aspects of ballet techniques and terminology at a primary level. Special fee. (1 hr. lecture; 2-4 hr. lab)

DAA1201
Intermediate Ballet Dance
2.00 - 3.00 credits
The continued development of various aspects of ballet technique terminology. Prerequisite: DAA 1200 or permission of the department. May be repeated for credit. (1 hr. lecture; 2-4 hr. lab)

DAA1204
Ballet 1
2.00 - 3.00 credits
Beginning exploration of techniques and theoretical concepts of ballet increasing awareness of proper alignment, balance, coordination and application of various musical meters. No previous experience required. Dance Majors only. (1 hr. lecture; 2-4hr. lab)
COLLEGE CREDIT COURSES

DAA1205
Intermediate Ballet
2.00 - 3.00 credits
Continuing exploration of techniques and theoretical concepts of ballet placing further emphasis on precision of lines and exactness of movement. Prerequisite: DAA 1204 or permission of the department. Special fee. Dance Majors only. (1 hr. lecture; 2-4 hr. lab)

DAA1290
Ballet for the Theater 1
1.00 - 3.00 credits
Music Theatre students will be receiving a systematic training of the body through a progressive study of the traditional classic ballet vocabulary. Stress is on placement, flexibility and coordination. (2-6 hr. lab)

DAA1291
Ballet for the Theater 2
1.00 - 3.00 credits
A continuation of the systematic training of the body through a progressive study of the traditional classic ballet vocabulary. More bare exercises and simple adagio jumps and turns will further the concentration on flexibility and coordination. Prerequisite: DAA 1290. (2-6 hr. lab)

DAA1330
Afro-Caribbean Dance
1.00 - 3.00 credits
Designed for those students wishing to learn the dance skills and techniques of the dance from Africa and the Caribbean. Special fee. (1 hr. lecture; 2-4 hr. lab)

DAA1500
Jazz Dance Technical 1
2.00 - 3.00 credits
Designed to provide experiences in the styles of theatrical jazz dance at a primary level. (1 hr. lecture; 2-4 hr. lab)

DAA1504
Jazz Dance 1
2.00 - 3.00 credits
This course is designed to introduce the student to the vocabulary and technique of jazz dance, incorporating a fusion of styles from popular, Afro-Caribbean, and contemporary modern jazz choreographers.

For majors only. Audition required. May be repeated for credit. (1 hr. lecture; 2-4 hr. lab)

DAA1505
Jazz Dance 2
2.00 - 3.00 credits
This course continues the student’s introduction to the vocabulary technique of jazz dance, incorporating a fusion of styles from popular dance, Afro-Caribbean, and traditional and contemporary modern Jazz choreographers. For majors only. Audition required. (1 hr. lecture; 2-4 hr. lab)

DAA1520
Tap Dance
2.00 - 3.00 credits
Designed for students interested in learning the skills and techniques of tap dancing. (1 hr. lecture; 2-4 hr. lab)

DAA1680
Repertory 1
2.00 - 3.00 credits
A special workshop course designed to provide the student with experience relative to the performance of dance concerts. Works choreographed by students as well as faculty will be featured. (1 hr. lecture; 2-4 hr. lab)

DAA2103
Advanced Modern Dance 2
2.00 - 3.00 credits
Further development of modern dance techniques, creative aspects and theoretical concepts based on Graham, Cunningham, and Limon techniques. Prerequisite: DAA 2106 or permission of the department. May be repeated for credit. Dance Majors only. (1 hr. lecture; 2-4 hr. lab)

DAA2107
Advanced Modern 2
2.00 - 3.00 credits
Further development of modern dance techniques, creative aspects and theoretical concepts based on Graham, Cunningham, and Limon techniques. Prerequisite: DAA 2106 or permission of the department. May be repeated for credit. Dance Majors only. (1 hr. lecture; 2-4 hr. lab)

DAA2202
Ballet Dance 2
2.00 - 3.00 credits
The continued development of various aspects of ballet technique and terminology. Prerequisite: DAA2201 or permission of the department. (1 hr. lecture; 2-4 hr. lab)

DAA2203
Advanced Ballet Dance
2.00 - 3.00 credits
The continued development of various aspects of ballet technique and terminology. Prerequisite: DAA2202 or permission of the department. May be repeated for credit. (1 hr. lecture; 2-4 hr. lab)

DAA2206
Ballet 2
2.00 - 3.00 credits
Continuing exploration of techniques and theoretical concepts of ballet placing further emphasis on precision of line and exactness of movement. Prerequisite: DAA 1204 or permission of the department. Dance majors only. (1 hr. lecture; 2-4 hr. lab)

DAA2207
Advanced Ballet
2.00 - 3.00 credits
Continuing exploration of techniques and theoretical concepts of ballet placing further emphasis on precision of line and exactness of movement. Prerequisite: DAA 2206 or permission of the department. May be repeated for credit. Dance majors only. (1 hr. lecture; 2-4 hr. lab)

DAA2293
Ballet for the Theater 2
1.00 - 3.00 credits
Music theatre students will continue receiving an advanced systematic training...
of the body through a study of the traditional classic ballet vocabulary. Emphasis will continue on longer and more advanced combinations in the center and developing different kinds of movements. (2-6 hr. lab)

**DAA2570**
**Modern Dance for Theater 1**
*1.00 - 3.00 credits*
Music theatre students will be receiving training of the body through the study of modern dance vocabulary as developed by the originators of this dance form in the twentieth century. In the first semester concentration will be put on alignment, rhythm and phrasing, introducing the students to the fundamentals of jazz techniques. (2-6 hr. lab)

**DAA2571**
**Modern Dance/Jazz for the Theater 2**
*1.00 - 3.00 credits*
Music theatre students will continue receiving training of the body through the study of modern dance vocabulary. In the second semester emphasis will be on developing carriage, rhythm and more advanced phrasing through jazz techniques and styles. Prerequisite: DAA 2570. (2-6 hr. lab)

**DAA2610**
**Dance Composition and Improvisation 1**
*2.00 - 3.00 credits*
Individual experience in developing movement phrases and combinations based on solving problems within a form and a movement framework, as well as the movement imagery designed to develop the dancer’s creative imagination. Individuals will experience composition using the basic elements of movement theory in an improvisational framework. (1 hr. lecture; 2-4 hr. lab)

**DAA2611**
**Dance Composition and Improvisation 2**
*2.00 - 3.00 credits*
Further exploration of choreographic tools with emphasis on group forms, usage space, and orchestrations of movement. The formal study of compositional principles of choreographic invention with emphasis on developing personal style. Prerequisite: DAA 2610. (1 hr. lecture; 2-4 hr. lab)

**DAA2680**
**Repertory 1**
*2.00 - 3.00 credits*
Dance works in both ballet and many different styles of modern and ethnic dance vocabularies are studied. Works include both standard repertory and commissioned dances. Students work with choreographers, directors and reconstructors of classic works, giving the dancer the experience of being choreographed on and being directed in repertory works. The works learned are performed by the students in workshop and public performances throughout the year. (1 hr. lecture; 2-4 hr. lab)

**DAA2681**
**Repertory 2**
*2.00 - 3.00 credits*
A continuation of DAA 2680. Prerequisite: DAA 2680. (1 hr. lecture; 2-4 hr. lab)

**DAN1500**
**Practicum in Dance Production 1**
*1.00 credits*
Emphasis is on the production aspects of dance. Along of all dance activity and concerns culminating in studio performance will be required. Admission by audition or department placement. (2 hr. lab)

**DAN2100**
**Dance Appreciation**
*3.00 credits*
This course is a comprehensive overview of dance as an art form, as entertainment, and as a social activity. Specific dance genres such as ballet, modern dance, jazz dance, and world dance forms and the importance of the roles of dancers, choreographers and the audience will also be the focus of this course. This course is designed to give the student a foundation level understanding of dance as an art form and its historical and cultural significance from ancient times into the 21st Century. (3 hr. lecture)

**DAN2130**
**Dance History 1**
*3.00 credits*
Study of origins and development of dance as an art form from its inception in primitive cultures to present. Fulfills Gordon Rule writing requirement. (3 hr. lecture)

**DAN2131**
**Dance History 2**
*3.00 credits*
Examine the dance through the ages from the Stone Age participatory dances to the spectator dances of the Orient, the Classical period in Greece and Rome and the Early Middle Ages. Concluding with the historical development of dance forms from the late Middle Ages through the Renaissance into the 20th Century. Emphasis is on the dance as a spectator event and a participatory art in relationship to other arts forms. Prerequisite: DAN 2130. (3 hr. lecture)

**DAN2430**
**Laban Movement Analysis 1**
*3.00 credits*
An introduction to Rudolf Laban’s basic principles of effort, shape and space harmony. The class will explore ways of varying movement dynamics, and will assist the student in discovering the many ways that the body can shape itself and project into space. Prerequisite: Permission of department chairperson. (3 hr. lecture)

**DAN2431**
**Laban Movement Analysis 2**
*3.00 credits*
A further study of Laban’s basic principles, this course provides insights into one’s personal movement style and increases awareness of what movement communicates and expresses. Prerequisite: DAN 2430 or permission of department chairperson. (3 hr. lecture)

**DAN2630**
**Literature & Materials of Music for Dance 1**
*2.00 - 3.00 credits*
This course serves to develop the personal musical interest of choreographers and dance artists. The composition and performance of simple musical works will be
taught. Actual hands on skills with dance accompaniment will be developed. (2-3 hr. lecture)

**DAN2631 Literature & Materials of Music for Dance 2**
2.00 - 3.00 credits
This course provides an intensive survey of the history of music and music for the dance. Touching on the Greek heritage, important composers of the Renaissance to the common practice period will be covered. Careful study of the 20th-Century masterworks concludes the course. Prerequisite: DAN 2630. (2-3 hr. lecture)

**Dental Hygiene**

**DEH1002 Pre-Clinical Dental Hygiene**
2.00 credits
Introduction to procedures relevant to the practice of dental hygiene. Corequisites: DEH 1002L, 1133, 1133L (2 hr. lecture)

**DEH1133 Dental Anatomy, Histology and Physiology**
2.00 credits
This course covers specific tissues of the oral cavity, head, neck and their embryonic development. The students will learn structure, morphology and function of the primary and permanent dentitions. (2 hr. lecture)

**DEH1400 General and Oral Pathology**
3.00 credits
Processes of inflammation, necrosis, retrograde changes, diseases caused by bacteria, viruses, and other organisms. Emphasis will be placed on differentiating between normal and abnormal conditions of the oral cavity. Prerequisite: DEH 1130, DES 1200. (3 hr. lecture)

**DEH1710 Oral Health Literacy**
1.00 credit
Students will learn the concepts of oral health literacy. Students will also identify how to improve patient’s oral health literacy and the barriers that impede oral health care. (1 hr. lecture)

**DEH1720 Preventative Dentistry**
2.00 credits
This is a foundation course in dental hygiene preventive care. Students will learn the concepts of oral health and how to prevent future disease. Students will become engaged in developing their own prevention strategies by selecting with a rationale, appropriate oral health devices used for self-care. A.S. degree only. (2 hr. lecture)

**DEH1800 Dental Hygiene 1**
2.00 credits
Theory of the removal of hard and soft deposits from the teeth, and other related postoperative and preventive procedures. Prerequisites: DEH 1002, 1002L, 1133; corequisite: DEH 1800L. (2 hr. lecture)

**DEH1800L Dental Hygiene 1 Clinic**
3.00 credits
Clinic for DEH 1800. Corequisite: DEH 1800. Laboratory fee. (144 hr. clinic)

**DEH1820L Dental Hygiene 2 Clinic**
1.00 credits
Continuation of clinical skills from DEH 1802L. Prerequisite: DEH 1800, 1800L. Laboratory fee. (48 hr. clinic)

**DEH1840L Advanced Radiographic & Clinical Assessment Techniques**
1.00 credits
A laboratory course introducing advanced digital radiographic techniques, the intraoral camera, periodontal probing and dental charting software and other clinical assessment tools. These skills will enable the student to provide comprehensive patient treatment and enhance their ability to interpret intraoral conditions. (48 hr. clinic)

**DEH1940L Dental Hygiene 1 Optional Learning Support**
1.00 credits
DEH 1940L runs concurrently with DEH 1800L and is designed to enhance student’s basic clinical skills and critical thinking abilities. Special emphasis is placed on collaborative learning techniques, effective decision-making, proper time management and self-assessment as students interact with their peers and apply their skills and knowledge in the treatment of clinical patients. (3 hr. clinic)

**DEH2202 Nutrition and Dental Health**
2.00 credits
This course provides a study of nutrients, their nature, source, and utilization. Students will learn the relationship between diet and oral health care and oral manifestations of nutritional deficiencies. (2 hr. lecture)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>DEH2300</td>
<td>Pharmacology and Pain Control</td>
<td>1.00</td>
<td>This course introduces the student to a broad range of Pharmacological concepts including drug categories, drug action, and adverse drug effects. Dental prescriptions such as the antibiotics, antifungals and antivirals will be studied. Students will learn the common medical conditions affecting dental hygiene care, such as cardiovascular disease, endocrine and neurological disorders as well as their drug management will be examined. Prerequisite: DES 1044; corequisite: DEH 1802L, 2300L. (1 hr. lecture)</td>
</tr>
<tr>
<td>DEH2300L</td>
<td>Pharmacology and Pain Control Laboratory</td>
<td>1.00</td>
<td>This course is designed to prepare the dental hygiene student for the safe and effective administration of local anesthesia. Students will learn about the psychology of pain management, pharmacology of anesthetic agents, emergency precautions, and are view of anatomy and physiology as they relate to the administration of anesthetic agents. This course will include online and clinical instruction. Co-requisite: DEH2300. Special Fee. (2 hr. lab)</td>
</tr>
<tr>
<td>DEH2602</td>
<td>Periodontology 1</td>
<td>1.00</td>
<td>This course will introduce the student to the concepts of non-surgical periodontal therapy, risk factors in periodontal diseases, classifications of periodontal diseases, the components of the comprehensive periodontal assessment and care plan. Ultrasonic periodontal debridement will be studied. Furthermore, the course will include the study of behavior motivation, the dental hygiene human needs conceptual model, the phases of self-care education and the importance of case presentation in modifying client self-care. (1 hr. lecture)</td>
</tr>
<tr>
<td>DEH2603</td>
<td>Periodontology 2</td>
<td>2.00</td>
<td>Etiology, classification, diagnosis, treatment and maintenance of the periodontal patient. Prerequisites: DEH 1400, DEH 1802L. (2 hr. lecture)</td>
</tr>
<tr>
<td>DEH2603L</td>
<td>Periodontology 2 Laboratory</td>
<td>1.00</td>
<td>Laboratory for DEH 2603. Corequisite: DEH 2603. Prerequisite: DEH 1400; corequisite: DEH 2603. Laboratory fee. (2 hr. lab)</td>
</tr>
<tr>
<td>DEH2701</td>
<td>Community Dental Health 1</td>
<td>3.00</td>
<td>Public Health Dentistry and the role of the dental hygienist. Prerequisite: DEH 1804L. (3 hr. lecture)</td>
</tr>
<tr>
<td>DEH2702L</td>
<td>Community Dental Health 2 Clinic</td>
<td>2.00</td>
<td>Provides the student an opportunity for application of the principles of public and community dentistry. Corequisite: DEH 2701. (4 hr. field experience)</td>
</tr>
<tr>
<td>DEH2806</td>
<td>Dental Hygiene 4</td>
<td>2.00</td>
<td>This course is a continuation of dental hygiene theory and practice. Students will learn the process and procedures for gingival curettage and root planning. Prerequisite: DEH1804L; Corequisite: DEH2806L (2 hr. lecture)</td>
</tr>
<tr>
<td>DEH2806L</td>
<td>Dental Hygiene 4 Clinic</td>
<td>4.00</td>
<td>Clinic for DEH 2806. Corequisite: DEH 2806. Laboratory fee. (192 hr. clinic)</td>
</tr>
<tr>
<td>DEH2808</td>
<td>Dental Hygiene 5</td>
<td>2.00</td>
<td>Students will learn the basic dental and behavioral sciences within the practice of dental hygiene. Special emphasis is given to Florida laws governing dental hygiene practices. Prerequisite: DEH2806, DEH2806L; Corequisite: DEH2808L. (2 hr. lecture)</td>
</tr>
<tr>
<td>DEH2808L</td>
<td>Dental Hygiene 5 Clinic</td>
<td>4.00</td>
<td>Ongoing experience in total dental hygiene care of the periodontally involved patient. Prerequisites: DEH 2603, 2603L, 2806L; corequisite: DEH 2808. Laboratory fee. (8 hr. clinic)</td>
</tr>
<tr>
<td>DEH2810L</td>
<td>Interprofessional Practice and Education Lab</td>
<td>1.00</td>
<td>Students will learn to examine the Dental Hygiene scope of practice through professional identity by way of interprofessional collaboration. Students will also develop knowledge and skills to serve on health professional teams to improve health outcomes. Prerequisite: DEH1811. (2 hr. lab)</td>
</tr>
<tr>
<td>DES1200</td>
<td>Dental Radiology</td>
<td>2.00</td>
<td>Techniques and theory for the safe and effective use of radiographs as related to dentistry. Corequisites: DEH 1002, 1002L, DES 1200L. (2 hr. lecture)</td>
</tr>
<tr>
<td>DES1200L</td>
<td>Dental Radiology Laboratory</td>
<td>2.00</td>
<td>Laboratory for DES 1200. Prerequisite: Acceptance into the Dental Hygiene Program; corequisite: DES1200. Laboratory fee. (4 hr. lab)</td>
</tr>
<tr>
<td>DES1600</td>
<td>Dental Office Emergency</td>
<td>2.00</td>
<td>This course is designed to instruct students in the fundamental patient assessment skills needed to identify and manage emergencies that may arise in the dental office. (2 hr. lecture)</td>
</tr>
<tr>
<td>DES2100</td>
<td>Dental Materials</td>
<td>2.00</td>
<td>Physical properties of dental materials and their use in the oral cavity. Prerequisite:</td>
</tr>
</tbody>
</table>
DEH 2806L, DEH 1133; corequisite: DES 2100L. (2 hr. lecture)

**DES2100L**  
Dental Materials Laboratory  
1.00 credits  
Laboratory for DES 2100. Corequisite: DES 2100. Laboratory fee. (2 hr. lab)

**Economics**

**ECO1949**  
Co-op Work Experience 1: ECO  
3.00 credits  
This course is designed to provide training in a student’s field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-op Department approval. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Cooperative Education Office to obtain registration approval. (3 hr. lecture)

**ECO2013**  
Principles of Economics (Macro)  
3.00 credits  
An overview of basic economic concepts and institutions. Modern national income and product accounting, economic fluctuations, money, banking, monetary and fiscal policy, economic stabilization theory and policy, the public sector, theory of economic growth and development, and comparative economic systems. This course fulfills the Gordon Rule requirement. Prerequisites: ENCH101 and MAT1033 or higher with a “C” or higher. (3 hr. lecture)

**ECO2023**  
Principles of Economics (Micro)  
3.00 credits  
Theory of markets, price mechanism, production, distribution and resource allocation; application of marginal analysis and equilibrium theory to the price and output decisions of the individual firm in pure competition, monopolistic competition, oligopoly and monopoly, agriculture; labor, rent interest and profits theory. Prerequisite: MAT1033 or higher with a “C” or higher. (3 hr. lecture)

**ECO2071**  
Economics Institute Elementary Education 1  
3.00 credits  
This course is designed for Elementary Teachers. It provides coverage of major micro-economic concepts and their infusion into the K-12 curriculum through an activity oriented approach. This course will include those economic concepts required in the minimum Student Performance Standards for Social Studies. These concepts will be handled through various methodologies appropriate for the elementary curriculum. The latest economic education materials will be utilized. (3 hr. lecture)

**ECO2301**  
History of Economics Ideas and Their Consequences  
3.00 credits  
An interdisciplinary study with major elements of economics, philosophy, history, sociology, anthropology, and political science that begins in the agricultural landscape of the 1700s and brings one forward into the age of the corporate giant and the nuclear warfare of modern industrial society. (3 hr. lecture)

**ECO2949**  
Co-op Work Experience 2: ECO  
3.00 credits  
This is a course designed to continue training in a student’s field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-op Department approval and completion of 1949 Co-op Work Experience. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-operative Education Office to obtain registration approval. (3 hr. lecture)

**Education**

**EDE1040**  
GKT Preparation for English Language Skills Test  
1.00 credit  
The student will review formal English language skills in order to prepare to pass the General Knowledge Test English Language Skills section. The student will refine and demonstrate their knowledge of language structure, vocabulary application, and Standard English conventions. (1 hr. lecture)

**EDE1044**  
GKT Preparation for Reading Test  
1.00 credit  
The student will review reading comprehension strategies in order to prepare to pass the General Knowledge Test Reading section. The student will refine their integration of reading skills in order to effectively analyze text. (1 hr. lecture)

**EDE1045**  
GKT Preparation for Mathematics Test  
2.00 credits  
The student will review mathematics concepts in order to prepare to pass the General Knowledge Test Mathematics section. The student will refine their knowledge of number sense, concepts, and operations; geometry and measurement; algebraic thinking and the coordinate plane; and statistics, probability, and data interpretation. (2 hr. lecture)

**EDE1046**  
GKT Preparation for Essay Test  
1.00 credit  
The student will review formal college-level writing in order to prepare to pass the General Knowledge Test Essay section. The student will refine their ability to develop a cohesive essay that satisfactorily addresses the given prompt. (1 hr. lecture)

**EDF1005**  
Introduction to the Teaching Profession  
3.00 credits  
The student will learn the historical, sociological, and philosophical foundations of
education, governance, finance, policies, legal, moral and ethical issues, and the professionalism of teaching. The student will develop an understanding of the Florida Educator Accomplished Practices, standards, and Professional Educator Competencies. Fifteen hours of service learning experience are required. (3 hr. lecture)

**EDF2085 Introduction to Diversity 3.00 credits**
The student will explore the role of teachers as agents of social change and examine their own attitudes towards diversity and exceptionalities. The student will engage in learning opportunities that include cross-cultural dialogue and critical reflection on social justice and oppression based on race, ethnicity, gender, sexual orientation, religion, (dis)ability status, and social class. 15 hours of Service Learning are required. (3hr. lecture)

**EDF 2130 Human Development and Learning for Educators 3.00 credits**
The student will investigate child and adolescent development, including theories and principles of learning. The student will define typical and atypical human growth and development across the lifespan, with emphasis on major developmental issues, and how these interplay to holistically shape development. The student will examine literature on developmental processes, learning theories and concepts related to instructional practices and the crucial role that educators play in fostering the mindsets and skill sets that support optimal development throughout the lifespan of their diverse learners. This course will satisfy the requirement for a course in child and adolescent development for teacher certification.

**EDF3115 Child Development for Inclusive Settings 3.00 credits**
This course provides an overview of human life from fertilization through eight years of age. The student will examine growth and developmental characteristics during the prenatal, infancy, and early childhood periods. The student will learn to analyze typical and atypical development, developmental theories, learning theories, brain research, attachment, and relationships. Pre/Co-requisites: EEC1000 or 1001, EEC2224, EEC2271, EEC2401, EEC2407, EEC2601. Special Fee. (3 hr. lecture)

**EDF4430 Measurement and Assessment in Education 3.00 credits**
The student will learn current research-based principles of assessment. The student will select specific standards and competencies and develop formative and summative traditional and alternative assessments. The student will interpret assessment data that will improve academic achievement and ensure equity in the application of quantitative and qualitative assessments. Pre-requisite: EDG3321. Special Fee. (3 hr. lecture)

**EDG2313 General Teaching Skills for Temporary Instructors 1.00 credits**
This one credit course is intended to extend the basic knowledge introduced in EDG 2311. Competencies provide best practices in effective teaching strategies. Students will learn the link between instructional objectives-matching strategies and activities-assessing learner competency, Bloom’s Taxonomy and higher order thinking skills. The course content has been selected to comply with Florida statute 1012.35. Prerequisite: EDG 2311 and MDCPS Temporary Instructor Certification. (1 hr. lecture)

**EDG2413 Effective Classroom Management for Temporary Instructors 1.00 credits**
This one credit course is intended to extend the basic classroom management techniques for Temporary Instructors introduced in EDG 2311. Students will learn how to implement effective classroom rules, natural and logical consequences, positive and negative reinforcers, motivation to learn, teacher “wittiness,” bell-to-bell instruction, effective grouping, and handling of severe discipline problems. Prerequisite: EDG 2311 and MDCPS Temporary Instructor Certification. (1 hr. lecture)

**EDG2704 Teaching the Holocaust 3.00 credits**
The student will learn the history and issues of the Nazi Holocaust in order to prepare research-based instruction of Florida’s mandated curriculum using a variety of resources, media, and literature. This course satisfies Florida Department of Education requirements for teacher recertification. (3 hr. lecture)

**EDG2943 Educational Service Field Work 1.00 - 3.00 credits**
The student will learn to compile the necessary documents and complete the process of obtaining a state and/or national
of clinical experience are required. Pre/ Co-requisites: EDG3321. Special Fee. (3 hr. lecture)

EDG4045
Civic Engagement through Service Learning
3.00 credits
This course will prepare K-12 teachers to actively involve their students in civic responsibility and social action through the development and implementation of high-quality service learning experiences. Students will learn research based practices including utilization of quality literature, curricular integration, and collaboration between students, teachers, and the community will be modeled and practiced. Prerequisite: Must possess a B.S. degree. (Recertification Only). (3 hr. lecture)

EDG4343
Instructional Strategies for P-12 Teachers
3.00 credits
In this teacher certification course, the student will utilize research-based instructional design models to create lesson plans and instruction that aligns with state standards. The student will learn to incorporate educational theories and educational neuroscience to develop strategies for inclusive P-12 classrooms serving diverse populations. (3 hr. lecture)

EDG4376
Integrated Language Arts and Social Sciences
3.00 credits
The student will use knowledge, skills, and dispositions from the social sciences to organize and provide integrated instruction in the major themes, concepts, and modes of inquiry in grades K-12. The student will plan and integrate language arts and social science strategies and content to create accessibility of the curriculum to a diverse population. 15 hours of service-learning experience are required. Pre-requisites: EDG3321, Pre/ Co-requisites: EDF4430, RED3393. Special Fee. (3 hr. lecture)

EDS4940
Clinical Supervision for Educators
3.00 credits
The course content is congruent with the Florida DOE Training. Clinical Supervision for Educators. Successful completion meets the FS 240.549 mandate for clinical supervision training required for hosting college teacher preparation students in field settings. Students will learn to observe and diagnose teacher classroom performance, write remedial plans, conduct post observation conferences, and evaluate performance. (3 hr. lecture)

EEC1000
Introduction to Early Childhood Education
3.00 credits
This course will provide an overview of Early Childhood Education from Birth to Age 8. The student will develop an understanding of family and societal influences on young children, a relationship-based approach to responsive program planning principles of child growth and development, the role of play in learning, and the importance of Educational Neuroscience in Early Childhood. (Twenty hours of service learning in an early childhood center required.) (3 hr. lecture)

EEC1200
Early Childhood Curriculum 1
3.00 credits
The student will learn developmentally appropriate curriculum planning and its impact on children's total development. The student will examine the importance of dramatic play, proper room arrangement, outdoor environments, advances in technology, scheduling, classroom management, and activity planning for first and second language development, early literacy, and social studies. (3 hr. lecture)

EEC1308
Classrooms for All Young Children
3.00 credits
The student will design and modify learning environments and learning approaches to meet the needs of all children. The student will use technology where applicable and select appropriate materials and
activities to promote student independence, self-regulation, and developmental progress. (3 hr. lecture)

EEC1311
Early Childhood Curriculum 2
3.00 credits
The student will learn developmentally appropriate curriculum planning and its impact on children’s total development. The student will examine the importance of integrating appropriate experiences across curriculum including math, science, art, music, creative movement, cooking, nutrition, and health and safety. (3 hr. lecture)

EEC1522
Infant and Toddler Environments
3.00 credits
This course provides the student with information on planning the physical facilities, equipment, and materials for quality infant and toddler environments. Course content allows for observations and examination of how the physical environment affects development of children and supports individual differences utilizing appropriate and culturally responsive strategies. The student will learn about curriculum planning, promoting social and emotional development, language and literacy, child abuse and neglect, and comprehensive family support services in relation to establishing quality environments for children. (3 hr. lecture)

EEC1540
Legal Issues for Childcare Center Owners
3.00 credits
This course is one of three courses designed by the School of Education in partnership with the School of Business that provides Childcare Center Owners the opportunity to gain skills in small business management from both business and education perspectives. The student will develop an understanding of legal issues involving the ownership of a childcare center. The student will comprehend the impact of legal obligations, regulatory requirements, tax laws, personnel laws, insurance, licensing requirements, employee benefits and compensation on childcare center ownership. (5 hours of field experience shadowing a childcare center director) (3 hr. lecture)

EEC1541
Financial Management for Childcare Center Owners
3.00 credits
This course is one of three courses designed by the School of Education in partnership with the School of Business that provides Childcare Center Owners the opportunity to gain skills in small business management from both business and education perspectives. The student will develop an understanding of financial management involving the ownership of a childcare center. The student will learn and apply skills in the following areas: financial planning, budgeting, accounting, and record-keeping. (5 hours of field experience shadowing a childcare center director) (3 hr. lecture)

EEC1542
Marketing for Childcare Center Owners
3.00 credits
This course is one of three courses designed by the School of Education in partnership with the School of Business that provides Childcare Center Owners the opportunity to gain skills in small business management from both business and education perspectives. The student will develop an understanding of marketing involving the ownership of a childcare center. The student will learn and apply skills in the following areas: marketing concept, target marketing, marketing strategies, branding, and developing a marketing plan. (5 hours of field experience shadowing a childcare center director) (3 hr. lecture)

EEC1713
Helping All Young Children Become Independent Learners
3.00 credits
The student will learn how to utilize a holistic approach in guiding all young children to become independent learners. The student will learn to utilize positive behavior support strategies to help improve executive functioning skills in all young children. The student will identify strategies to involve the family. (3 hr. lecture)

EEC1752
Knowing and Understanding All Young Children
3.00 credits
The student learn the process, principles, and patterns of child development. The student will identify the strengths and challenges of children with typical and atypical development. The student will learn to identify indicators of child abuse and neglect. (3 hr. lecture)

EEC1753
Observing and Assessing All Young Children
3.00 credits
The student will learn the process and importance of observing, documenting, and interpreting the behavior of all young children. The student will use observation instruments to understand all young children’s growth and development. The student will also develop suggested intervention measures that meet the needs of the children and the families they serve. (3 hr. lecture)

EEC2002
Operation of an Early Childhood Facility
3.00 credits
This introductory course provides an overview for early childhood administrators to develop and enhance their leadership role in designing and implementing quality early care and education programs. The student will study the following topics: organizational leadership and management, programming, and financial and legal issues. This course meets the requirements for the Education Program Administrator Foundational Level Credential. (3 hr. lecture)

EEC2201
Developing Curriculum for Infants and Toddlers
3.00 credits
This course provides the Early Childhood professional with information about developing appropriate curriculum for infants and toddlers based on health, safety,
physical, social, emotional, cognitive, and language development. The student will focus on developmentally appropriate curriculum and learning opportunities based on daily classroom routines. (3 hr. lecture)

**EEC2202**  
Program Development in Early Childhood Education  
**3.00 credits**  
Program development in Early Childhood Education is the fourth in a sequence of four courses in Early Childhood Education. The course is primarily concerned with the investigation of effective Early Childhood programming and includes the major areas of the learning environment, disadvantaged children, federal and state programs, special needs and at risk children, current model programs, rules and regulations, and professionalism. Assessment of children and reporting of progress will be examined. The course will emphasize the fostering of effective family/school relationships. (3 hr. lecture)

**EEC2221**  
Curriculum High/Scope Approach  
**3.00 credits**  
The student will learn about the High/Scope curriculum, its implementation in the classroom and the different components of this approach: the daily routine, planning time, work time, recall time, small-group time, large-group time, and outside time. The student will also learn to use key experiences to set up the learning environment, support children's learning in their play, encourage them to interact in groups, and plan related learning experiences, that will directly impact on the advancement of children's social, emotional, physical, and cognitive development in the areas of language, math, science, art, music, and creativity. (3 hr. lecture)

**EEC2224**  
Emergent Literacy through the Use of Children's Literature  
**3.00 credits**  
The student will learn about the early childhood teacher's role in promoting emergent literacy in early childhood education (birth age 8). Topics will support a curriculum that builds an understanding of oral language, fluency, vocabulary, comprehension, phonics, phonological awareness, children's literature, family literacy, and literature perspectives to celebrate diversity. (3 hr. lecture)

**EEC22523**  
Programming & Management for Early Childhood Administrators  
**3.00 credits**  
The student will learn about developmentally and culturally appropriate environments, curriculum, and professional standards for early childhood care program administrators. The student will develop an understanding of child observation, assessment, documentation, and referrals and their importance. The student will learn about program evaluation, health, safety, healthy nutrition practices, and the importance of partnerships with families. This course meets the requirements for the Florida Advanced Level Child Care and Education Administrator Credential. (Requires employment at an early childhood center.) Prerequisite: EEC2002. (3 hr. lecture)

**EEC22527**  
Legal & Financial Issue in Child Care  
**3.00 credits**  
The student will learn about the legal and financial issues related to operating a successful early childhood center. The student will learn about financial planning, personnel cost and allocation, budgeting and accounting. The student will develop knowledge about compensation and benefits, risk management, marketing and public relations, regulatory requirements, and legal issues related to childcare management. This course meets the requirements for the Florida Advanced Level Child Care and Education Administrator Credential. (Requires employment at an early childhood center.) Prerequisite: EEC2002. (3 hr. lecture)

**EEC2401**  
Family Interaction and Cultural Continuity  
**3.00 credits**  
The student will incorporate practices reflecting the values beliefs of families and the cultures of their communities in establishing positive and productive relationships within an educational setting. Emphasis is given to trusting, supportive relationships, and to sustaining a successful partnership with families. (3 hr. lecture)

**EEC2407**  
Facilitating Social Development  
**3.00 credits**  
The student will learn about early childhood teaching and learning utilizing educational neuroscience research. The student will examine the interrelation of social, emotional, and intellectual development in young children and their effects on learning. The student will analyze essential life skills for academic success. (Twenty hours of service learning in an early childhood center required). (3 hr. lecture)

**EEC2520**  
Early Childhood Organization leadership and management  
**3.00 credits**  
The student will develop skills needed by early childhood program administrators to manage a high quality center. The student will learn about organizational structure of a center; ethics and professionalism; leadership strategies, skills, and competencies; self-reflection and work environment; quality improvement; staff recruitment, evaluation, and retention. This course meets the requirements for the Florida Advanced Level Child Care and Education Administrator Credential. (Requires employment at an early childhood center.) Prerequisite: EEC2002. (3 hr. lecture)

**EEC2601**  
Observation and Assessment in Early Childhood  
**3.00 credits**  
The student will learn the process and importance of observing, documenting, and interpreting the behavior of young children. Students will learn and apply various methods to document the ongoing development of children and the value of using this information to plan. (20 hours
This course is designed to provide the necessary skills and attitudes to comprehend, analyze, apply, discuss, and incorporate effective practice principles when working in a diverse workforce that includes people with mental and physical challenges. This course emphasizes the perspectives, challenges, and processes regarding making the workplace more inclusive for all employees across a wide variety of professional disciplines. (3 hr. lecture)

**EE4094**
**Nature and Needs of Students with Autism Spectrum Disorders**
**3.00 credits**
The student will learn basic skills, knowledge, and strategies associated with teaching students with autism spectrum disorders (ASD). The student will acquire content and pedagogical knowledge to provide effective instructional practices to students with ASD. Six hours of clinical experience hours are required. Prerequisite: BS in Exceptional Student Education (ESE) plus experience working with students with varying exceptionalities. Special fee. (3 hr. Lecture)

**EE4200C**
**Medical Needs of Students with Exceptionalities**
**4.00 credits**
The student will learn to address low acuity/high frequency and high acuity/low frequency routine medical situations and emergency medical situations through evidence-based practices. The student will plan, intervene, and evaluate the medical needs of students with exceptionalities through active learning, role-playing and high-fidelity simulations. The student will also learn to use appropriate interventions until qualified personnel are available. Departmental Permission and evidence of current CPR certification. (3 hr. lecture, 1 hr. lab)

**EE4232**
**Assessment and Diagnosis of Autism Spectrum Disorders**
**3.00 credits**
The student will learn assessment instruments and strategies used for the referral, diagnosis, and remediation of academic and behavioral difficulties of students with autism spectrum disorders. The student will learn to utilize assessment instruments for instructional planning and evaluating learning outcomes. Six hours of clinical experience are required. Six hours of clinical experience are required. Special fee. Prerequisite: EEX4094 (3 hr. lecture)

**EE4613**
**Behavior Supports and Management for Students with Autism Spectrum Disorders**
**3.00 credits**
The student will learn disability specific assessment tools used to evaluate social, emotional, and behavioral skills of students with autism spectrum disorders. The student will learn intervention strategies for teaching positive behavior support and appropriate adaptive behavior. Six hours of clinical experience are required. Prerequisite: BS in Exceptional Student Education (ESE) plus experience working with students with varying exceptionalities. Special fee. (3 hr. lecture)

**EE4761**
**Assistive Technology and Communication Systems for Students with Autism Spectrum Disorders**
**3.00 credits**
The student will learn about assistive technology (AT) strategies including its use for improving the communication and functional capabilities of students with autism spectrum disorders. The student will learn about instructional and assistive technology devices used to support students with autism spectrum disorders. Six hours of clinical experience are required. Special fee. Corequisite: EEX4094. (3 hr. lecture)

**EGI4010**
**Introduction to Gifted and Talented Education**
**1.00 credit**
The student will identify the legislation and policies associated with Gifted and Talented Education, discuss the characteristics of individuals identified as gifted and talented, understand the nature and needs of the gifted and talented, select appropriate curricula and assessment modifications, as well as discuss the impact of home,
school, and community relationships on the gifted and talented. (1 hr. lecture)

EGI4050  
Nature and Needs of Gifted Students  
3.00 credits  
This is one of five courses designed to provide students characteristics and educational needs of adverse gifted population; giftedness is examined historically, theoretically, and practically. Students will learn the changing views of intelligence and giftedness, understanding the diverse socio-cultural, linguistic, and economic backgrounds of the gifted, policy and practice, program models, and the process of giftedness identification. Must hold FLDOE Teaching Certificate. (3 hr. lecture)

EGI4230  
Curriculum and Educational Strategies for the Gifted  
3.00 credits  
This course focuses on the implementation of research-based strategies, differentiated curriculum planning, and instructional design for the education of gifted students. Students will learn a variety of enrichment and acceleration approaches and techniques for use in the organization of the learning environment to promote student achievement. Prerequisite: EGI4050 (3 hr. lecture)

EGI4244  
Educating Special Populations of Gifted Students  
3.00 credits  
This course emphasizes the socio-cultural and educational similarities and differences of gifted students. Students will learn the instructional strategies, resources, and materials necessary for the implementation of an equitable system of instruction. Prerequisite: EGI4050 (3 hr. lecture)

EGI4301  
Theory and Development of Creativity  
3.00 credits  
This course focuses on practical applications of the psychological, environmental, and socio-cultural aspects of creativity. Students will learn effective teaching and assessment strategies to manifest and nurture creative thinking and expression are modeled and practiced. Prerequisite: EGI4050 (3 hr. lecture)

EME4610  
Introduction to Instructional Design  
3.00 credits  
This is the first in a series of five courses that leads to a certificate in Instructional Design. The student will develop an overview of the field of instructional design as it relates to training, development, and education. The student will compare and contrast instructional design models, learning theories, and current technologies.

EME 4611  
Instructional Design Development I  
3.00 credits  
In this course, the student will develop and launch a prototype of a training, development, or educational opportunity using different types of media tools. Pre/Co-requisites: EME 4683

EME 4612  
Instructional Design Development II  
3.00 credits  
In this course in Instructional Design, the student will develop assessments and an evaluation plan for a training, development, or educational opportunity. The student will conduct User Acceptance Testing using established criteria, and utilize feedback to modify his or her prototype. Pre/Co-requisites: EME 4611

EME 4671  
Instructional Design Analysis  
3.00 credits  
In this course, the student will evaluate and analyze training, development, and education opportunities and project development. The student will develop a needs analysis for an instructional design project based on research-based best practices in the field. Pre/Co-requisites: EME 4610

EME4683  
Instructional Design Application  
3.00 credits  
In this course, the student will utilize best practices of learning design, learning theories, and instructional strategies for adult learners to write objectives, develop an outline, and create storyboards that encompass the scope of a training, devel-
opment, or educational opportunity. Pre/Co-requisites: EME 4671

**TSL1084**  
*Introduction to ESOL Principles and Practices*  
*3.00 credits*  
The student will learn about the major elements of first and second language acquisition. Course activities are designed to increase students’ understanding of ways to improve the quality of language teaching and learning and to expand their communication and critical thinking skills. Course assignments are designed to enhance students’ skills in creating a positive learning environment for all K-12 learners, including those at-risk and those from diverse language backgrounds. A minimum of 10 hours of structured field experience is required. (3 hr. lecture)

**TSL2082**  
*Introduction to Teaching English to Speakers of Other Languages (TESOL)*  
*3.00 credits*  
In this introductory course, the student will understand the process of acquiring a second language, and the social-emotional impact it has on the learner. The student will examine the laws and policies in place to support English language learners (ELLs), as well as research-based strategies to facilitate language development, literacy skills and content knowledge.

**Education Foundations & Policy Studies**

**EDF4993**  
*Brain-Based Teaching: The Bilingual Brain*  
*3.00 credits*  
The student will learn how P-12 English Language Learners’ (ELLs) brain processes information. The student will acquire research-based and best practices for teaching, differentiating instruction, and assessing ELLs. (3 hr. lecture)

**EDF4994**  
*Brain-Based Teaching: Mathematics and the Brain*  
*3.00 credits*  
The student will learn how the brain processes information and acquires the ability to perform mathematical processes. The student will integrate educational neuroscience, cognitive research-based, instructional practices, and mathematics assessment into the P-12 classroom. (3 hr. lecture)

**EEC3211**  
*Science, Technology, and Mathematics (STEM) Methods for ECE I*  
*3.00 credits*  
The student will learn to use scientific and mathematical educational neuroscience research based methods and strategies to teach inquiry and problem-solving skills and plan activities for young children that foster exploration in the sciences. (Ten hours of clinical experience required in an approved kindergarten-third grade inclusion setting with ESOL students during math and science instruction. 1 observation.) Prerequisites: EEC3301, EEC 3211. Special Fee. (3 hr. lecture)

**EEC4219C**  
*Science, Technology, and Mathematics (STEM) Methods for ECE II*  
*3.00 credits*  
The student will learn to use scientific and mathematical research-based methods and strategies to teach inquiry and problem solving skills and plan activities for young children that foster exploration in the nature of science, mathematics, and technology. (Ten hours of clinical experience required in an approved kindergarten-third grade inclusion setting with ESOL students during math and science instruction. 1 observation.) Prerequisites: EEC3301, EEC 3211. Special Fee. (3 hr. lecture)

**EEC4268**  
*Practicum in Early Childhood Education*  
*3.00 credits*  
The student will plan and implement action research strategies to meet the needs of struggling readers. The student will attend professional development experiences designed to develop knowledge and pedagogy, and will prepare for teaching interviews and entry into the profession. (Sixty hours of clinical experience are required in an approved first-third grade setting with ESOL students) Corequisites: LAE 4211. Special Fee. (144 hr. Practicum)

**EEC4936C**  
*Student Teaching Seminar II: ECE*  
*1.00 credits*  
The student will learn to discuss and reflect on their development and mastery of the Pre-Professional Florida Educator Accomplished Practices during the completion of their internship in a Birth-Four classroom setting. Co-requisites: EEC4940. (1 hr. lecture)

**EEC4936C**  
*Student Teaching Seminar II: ECE*  
*1.00 credits*  
The student will learn to discuss and reflect on their development and mastery of the Pre-Professional Florida Educator Accomplished Practices during the completion of their internship in a K-3 classroom
setting. Co-requisites: EEC4940C. (1 hr. lecture)

**EEC4940**
*Internship in Early Childhood Education I*
*5.00 credits*
The student will complete a full time (10 weeks), supervised teaching experience in a Birth - Four setting. The student will learn and experience all of the educational and professional responsibilities common to teachers within their area of expertise. Co-requisites: EEC4936. (240 hr. Internship)

**EEC4940C**
*Internship in Early Childhood Education II*
*5.00 credits*
The student will complete a full time (10 weeks), supervised teaching experience in the K-3 setting. The student will learn and experience all of the educational and professional responsibilities common to teachers within their area of expertise. Pre-requisites: Co-requisites: EEC4936C. (240 hr. Internship)

**EEX3071**
*Teaching Exceptional and Diverse Populations in Inclusive Settings*
*3.00 credits*
The student will learn current research-based instructional strategies, educational neuroscience, and legal and ethical issues necessary in addressing the needs of diverse learners in inclusive classrooms. The student will make informed decisions in adapting, accommodating, and modifying the curriculum for students with special needs. Fifteen hours of clinical experience are required. Pre-requisites: EEX2000 and EDG3321. Special fee. (3 hr. lecture)

**EEX3120**
*Language Development and Communication Disorders*
*3.00 credits*
The student will learn about typical language and speech development, characteristics and manifestations of communication disorders, and educational neuroscience research concerning first and second language acquisition. The student will learn about effective strategies and accommodations that can be used in planning instruction for P - 12 students with speech and language disorders and differences. Pre-Co-requisites: EDG3321. (3 hr. lecture)

**EEX3226**
*Assessment of All Young Children*
*3.00 credits*
The student will utilize guidelines and techniques for observing, assessing, evaluating, and planning curriculum for young children. The student will use formal and informal assessments to evaluate social/emotional, cognitive, language, and motor development; and will use data to plan for instruction. (Ten hours of clinical experience required: 3 hours to include an observation of an evaluation of a young child at Early Steps. 3 hours to include a tour of the Mailman Center, Early Steps, and the FAAST Lab, and the remaining 4 hours are to be completed in an approved kindergarten-third grade inclusion setting with ESDL students). Prerequisites: EDF3115, EEC3301. Pre-requisites: EEC2601, EEC2711; Pre/Co-requisites: EDF3115, EEC3301. Special Fee. (3 hr. lecture)

**EEX3227**
*Positive Behavior Supports in Inclusive Settings*
*3.00 credits*
This course provides a holistic approach in guiding young children’s behavior. The student will learn to utilize strategies that emphasize the importance of relationships to learning, self-awareness, and pro-social behaviors focusing on individual needs of each child. (Ten hours of clinical experience required in an approved pre-kindergarten inclusion setting). Pre-requisites: EEC2271. Special Fee. (3 hr. lecture)

**EEX3603**
*Assessment in Special Education*
*3.00 credits*
The student will study, analyze, and administer informal and formal assessments to K-12 learners with special needs. The student will learn to prepare and present assessment data for use in instructional planning and developing individualized educational plans for K-12 learners with disabilities. Pre-requisites: EDG3321, and EDF4430. Special Fee. (3 hr. lecture)

**EEX4024**
*Legal Issues for Working with Students with Exceptionalities*
*3.00 credits*
The student will learn about the history, governing legislation, and current status of special education in the U.S. Through case analyses and simulations, the student will correlate and evaluate P-12 classroom and administrative practices and issues with current legislation and mandates. (3 hr. lecture)

**EEX4034**
*Introduction to Special Education*
*1.00 credit*
The student will identify nature and needs of students with exceptionalities (excluding gifted). The student will learn about legislation and litigation related to special education, characteristics and classifications of the various exceptionalities, assessments and interventions, continuum of services, and the impact of family and community involvement on students with exceptionalities. (1 hr. lecture)

**EEX4221**
*Assessment of All Young Children*
*3.00 credits*
The student will learn current research-based instructional strategies, educational neuroscience, and legal and ethical issues necessary in addressing the needs of diverse learners in inclusive classrooms. The student will make informed decisions in adapting, accommodating, and modifying the curriculum for students with special needs. Fifteen hours of clinical experience are required. Pre-requisites: EEX2000 and EDG3321. Special fee. (3 hr. lecture)

**EEX4264**
*Curriculum and Instructional Strategies for Students with Disabilities K-5*
*3.00 credits*
This course focuses on specialized methods for the creation of instructional curricula and appropriate pedagogic methods for students with disabilities in grades K-5. The development of curricula and the use of instructional approaches that correspond
to the capabilities and styles of the various learners will be emphasized. This course meets the guidelines of the Educator Accomplished Practices, and incorporates The Council for Exceptional Children’s Content Standards for All Beginning Special Education Teachers. A minimum 20 hours of structured field experience required. Prerequisites: EDF 3214, EEX 3111. (3 hr. lecture)

**EEX4265**
**Curriculum and Instructional Strategies for Students with Disabilities 6-12**
**3.00 credits**
This course focuses on specialized methods for the creation of instructional curricula and appropriate pedagogic methods for students with disabilities in grades 6-12. The development of curricula and the use of instructional approaches that correspond to the capabilities and styles of the various learners will be emphasized. This course meets the guidelines of the Educator Accomplished Practices, and incorporates the Council for Exceptional Children’s Content Standards for All Beginning Special Education Teachers. A minimum 20 hours of structured field experience required. Prerequisites: EDF3214, EEX 3012. (3 hr. lecture)

**EEX4294**
**Differentiated Instruction in Mixed-Ability Classrooms**
**3.00 credits**
The student will learn the educational neuroscientific basis for providing differentiated instruction in mixed-ability classrooms. The student will utilize research-based instructional and assessment strategies to create differentiated instruction to meet the needs of all learners in P-12 classrooms. (3 hr. lecture)

**EEX4601**
**Effective Behavioral Practices & Interventions in Exceptional Student Education**
**3.00 credits**
This course is designed to familiarize the students with the educational management of exceptional learners. Emphasis is on behavior practices and consultation skills leading to students managing their own behavior. Strategies to create and maintain safe, healthy environments for learning in exceptional and inclusive classrooms are presented. Students will demonstrate the Educator Accomplished Practices in this course. The Council for Exceptional Children’s Content Standards for all Beginning Special Education Teachers are addressed. Prerequisites: EDF 3111, EEX 3012. (3 hr. lecture)

**EEX4614**
**Conflict Resolution**
**3.00 credits**
This course emphasizes techniques and procedures designed to assist individuals in their development as self-directed problem solvers. Students will learn ways to assess and de-escalate conflict situations utilizing a cross-cultural perspective and research-based techniques. A conflict resolution program will be developed for implementation at the organizational or school site. (For Recertification Only)

**EEX4833**
**Practicum in Special Education**
**3.00 credits**
The student will plan, develop, and implement literacy pedagogic methods that meet the needs of a diverse population of K-12 learners. The student will learn to utilize action research methodology, assessment principles, educational neuroscience research, and best practices to determine the effectiveness of a literacy strategy. Sixty hours of clinical experience are required. Pre-requisites: EDF4430, EDG3321, EDG4376, EEX3071, EEX3120, RED3393, and TSL3243; Pre/Co-requisites: EEX4221 or, MAE4360 or, RED4519 or, SCE4362 or, TSL4311. (144 hr. Practicum)

**EEX4930**
**Seminar in Special Education**
**3.00 credits**
The student will engage in professional dialogue and explore professional development opportunities related to teaching students with exceptionalities. This seminar course is taken in conjunction with a full time, supervised teaching experience and provides an opportunity to examine and reflect on the daily experiences of becoming a highly effective teacher. Co-requisites: EEX4940. (3 hr. lecture)

**EEX4931**
**Introduction to Autism Spectrum Disorders**
**1.00 credit**
The student will identify the legislation associated with Autism Spectrum Disorders (ASD), discuss the characteristics of ASD, understand the nature and needs of ASD, identify positive behavioral interventions, appropriate curricula and assessment modifications, as well as discuss the impact of home, school, and community relationships on students with ASD. (1 hr. lecture)

**EEX4940**
**Internship in Special Education**
**9.00 credits**
The student will engage in the educational and professional responsibilities common to teachers in exceptional student education. This internship experience reinforces and augments teaching strategies that students have developed through their coursework and clinical experiences. Students participate in a full time, supervised teaching experience. Co-requisites: EEX4930. (432 hr. Internship)

**EEX4992**
**Brain-Based Teaching: The Exceptional Brain**
**3.00 credits**
The student will learn how the typical and atypical brain processes information. The student will acquire research-based and best practices for teaching, differentiating instruction, and assessing P-12 students with and without identified exceptionalities. (3 hr. lecture)

**MAE4360**
**Methods of Teaching Mathematics**
**3.00 credits**
The student will utilize theory and educational neuroscience research in developing knowledge and pedagogy essential for K-12 mathematics instruction which accommodates the needs of diverse learners. The problem-solving approach will be used to design, implement, and assess mathematics instruction and curriculum. Fifteen
hours of clinical experience are required. Pre-requisites: EDG3321; Pre/Co-requisites: EDF4430. Special Fee. (3 hr. lecture)

**MAE4940**  
**Advanced Topics in Mathematics Education Practicum**  
*3.00 credits*  
The student will plan and implement mathematics instruction that meets the needs of a diverse population of learners. The student will learn to utilize action research methodology, assessment principles, educational neuroscience research, and best practices to identify and address issues related to mathematics learning in grades 6-12. Sixty hours of clinical experience are required. Special Fee. (432 hr. Practicum)

**MAE4942**  
**Seminar in Mathematics Education**  
*3.00 credits*  
The student will engage in professional dialogue and explore professional development opportunities related to teaching in the secondary science setting. This seminar course is taken in conjunction with a full-time, supervised teaching experience and provides an opportunity to examine and reflect on the daily experiences of becoming a highly effective teacher. Co-requisites: MAE4945. Special Fee. (3 hr. lecture)

**MAE4945**  
**Internship in Mathematics Education**  
*9.00 credits*  
The student will engage in the educational and professional responsibilities common to teachers in the secondary mathematics classroom. This internship experience reinforces and augments teaching strategies that students have developed through their coursework and clinical experiences. Students participate in a full-time, supervised teaching experience. Co-requisites: MAE4942. (432 hr. Practicum)

**MHP4404**  
**History of Mathematics**  
*3.00 credits*  
A study of the development of mathematics from ancient civilizations to the present time. Prerequisite: MAC 2312 or approval of department. (3 hr. lecture)

**SCE4362**  
**Methods of Teaching Science**  
*3.00 credits*  
The student will learn to design and implement science instruction utilizing the national framework for K-12 science education and educational neuroscience to provide all students with high-quality science education. The student will learn about the theoretical knowledge and skills essential for facilitating science instruction in a variety of classroom settings. Fifteen hours of clinical experience are required. Pre/Co-requisites: EDF4430. Special Fee. (3 hr. lecture)

**SCE4363**  
**Advanced Topics in Science Education Practicum**  
*3.00 credits*  
The student will design, implement, and examine the alignment of their personal instructional practices to the national framework for K-12 science education utilizing the action research process. The student will focus on identifying, analyzing, and addressing misconceptions in science in grades 6-12. Sixty hours of clinical experience are required. Pre-requisites: EDF4430, EDG3321, RED3393, SCE4362, TSL4324C; Pre/Co-requisites: EEX3071, SCE3893. (144 hr. Practicum)

**SCE4943**  
**Seminar in Science Education**  
*3.00 credits*  
The student will engage in professional dialogue and explore professional development opportunities related to teaching in the secondary science setting. This seminar course is taken in conjunction with a full-time, supervised teaching experience and provides an opportunity to examine and reflect on the daily experiences of becoming a highly effective teacher. Co-requisites: SCE4945. Special Fee. (3 hr. lecture)

**INT1000**  
**Interpreting Ethics and Professionalism**  
*3.00 credits*  
The course provides an overview of the career of sign language interpreter. Included are the interpreter’s role and responsibilities, Code of Ethics issues, evaluation systems for determining competency and logistical considerations. Various statutes will be examined with regard to their implications for interpreting and related services. These include The American with Disabilities Act (ADA), the education for all Handicapped Children Act and the Rehabilitation Act. Prerequisites: ASL 1150C, 1000. (3 hr. lecture)

**INT1202**  
**Sign to Voice Interpreting**  
*3.00 credits*  
In-depth discussion and application of techniques and principles for interpreting legal, medical, oral and deaf/blind situations. Prerequisites: ASL 2160C, INT 1240. (3 hr. lecture)

**INT1240**  
**Voice to Sign Interpreting**  
*3.00 credits*  
In-depth discussion and application of techniques and principles for interpreting situations in educational, social service, free-lance interpreting and the business aspects of interpreting. Prerequisites: ASL 2160C, INT 1000. (3 hr. lecture)

**INT1400**  
**Educational Interpreting**  
*3.00 credits*  
Provides an overview of the field, including the role and responsibilities of edu-
cation, interpreters, their working conditions and related issues. Also covered are evaluation systems for educational interpreters and the Florida Educational Code of Ethics. Opportunities for skill building will be included with emphasis placed on signing with conceptual accuracy, mastering various sign systems and developing expertise in the use of technical signs. Prerequisite: INT1000. (3 hr. lecture)

**INT1480**
Interpreting: Special Settings &Populations
3.00 credits
The course examines various settings in which interpreters work. These include social service and rehabilitation, employment-related, mental health and substance abuse treatment, religious, performing arts, legal and other settings. Also considered are specific deaf and hard of hearing consumers who present unique challenges for interpreters such as oral deaf persons, people who are both deaf and blind and those who would be classified as having minimal language skills (MLS). The course includes lecture and skill building opportunities. Prerequisites: ASL 2160C, INT 1000. (3 hr. lecture)

**INT1941**
Interpreting Internship
6.00 credits
This course includes field observation and supervised practical interpreting experience in a one-to-one or small group interpreting situation in the community. The student is assigned to an experienced, certified practicing interpreter who acts as a mentor for the duration of the internship. A minimum of 288 hours is spent in the internship experience. This includes meetings with college faculty and the interpreter/mentor. Prerequisites: All courses in the subject major must have been completed prior to enrolling in this course. (288 hr. Internship)

**Emergency Medical Services**

**EMS1059**
1st Responder Emergency Care
1.00 credits
1st Responder Emergency Care is an entry-level emergency medical provider course that provides training in emergency medical care for those who may be first to respond to an accident or illness. The course meets the basic requirements of the U.S. Department of Transportation. Prerequisite for EMT, Co-requisite EMS 1059L. Special fee. (2 hr. lecture)

**EMS1059L**
1st Responder Emergency Care Laboratory
2.00 credits
1st Responder Emergency Care Laboratory is a hands-on entry-level emergency medical provider course that provides training in emergency medical care for those who may be first to respond to an accident or illness. The course meets the basic requirements of the U.S. Department of Transportation. Pre-requisite for EMT, Co-requisite EMS 1059. A.S. Degree credit only (2 hr. lab)

**EMS1119**
Emergency Medical Technician
4.00 credits
A review of basic life support theory. Areas of emphasis include the prehospital environment, preparatory information, patient assessment, medical emergencies, behavioral emergencies, OB/GYN emergencies, trauma emergencies, pediatric emergencies and EMS operations. Prerequisite EMS1059, EMS1059L. Corequisites: EMS 1119, EMS 1431. (4 hr. lecture)

**EMS1119L**
Emergency Medical Technician Lab and Clinic
3.00 credits
Practical application of the content covered in EMS 1119 with an emphasis on cardiopulmonary resuscitation, splinting, bandaging, patient movement, and other skills as recommended by the U.S. Department of Transportation for the EMT level practitioner. Pre-requisite EMS1059, EMS1059L. Corequisites: EMS 1119, 1431. Laboratory fee. (96 hr. lab)

**EMS1431**
EMT Hospital/Field Experience
3.00 credits
Practice in local emergency departments and rescue agencies under professional supervision. This course meets the skills recommended by the U.S. Department of Transportation. Corequisite: EMS 1119, 1119L. (9 hr. clinic)

**EMS2311**
Emergency Medical Operations
3.00 credits
Advanced theory of management operations currently used nationally by comprehensive emergency medical service systems. Legal issues as related to various aspects of the system, personnel policies, provider versus client roles, disaster planning, communications, budgeting and evaluation of the system will be discussed. Prerequisite: MNA 1345. (3 hr. lecture)

**EMS2601**
Paramedic Lecture 1
8.00 credits
EMS2601 is the first course in the sequence necessary for completion of the Paramedic Certificate program. The course is designed to reinforce concepts and clinical skills learned at the EMT level and to integrate this knowledge beginning with advanced life support concepts and skills. Emphasis is placed on EMS systems, illness and injury prevention, medical-legal issues, patient assessment, airway management and ventilation, pathophysiology, pharmacology, shock, decision-making, and the management of trauma related injuries. This course includes Modules 1-4 of the 1998 DOT National Standard Curriculum for Paramedic Programs. Prerequisites: EMS 2601L, 2664. (8 hr. lecture)

**EMS2601L**
Paramedic Laboratory 1
4.00 credits
A review of basic life support practice and an introduction to advanced life support
practice. Areas of emphasis include the patient assessment, trauma emergencies, obstetric emergencies, gynecological emergencies, pediatric emergencies and psychiatric emergencies. Students will be expected to master the techniques of patient assessment, intravenous techniques and endotracheal intubation. Corequisite: EMS 2601, 2601L. (8 hr. lab)

EMS2602
Paramedic Lecture 2
8.00 credits
EMS 2602 is the second course in the sequence necessary for the completion of the Paramedic Certificate Program. This course is designed to reinforce and expand upon the material and skills learned in Paramedic 1 level and to integrate prior learning with enhanced life support concepts and skills. Emphasis is placed on patient assessment and recognition of significant findings, pre-hospital diagnosis and differential diagnosis, treatment strategies, anatomy and physiology, pathophysiology, and the management of various emergencies, patients with special challenges, assessment based management, and EMS operations. This course includes Modules 5-8 of the 1998 DOT National Standard Curriculum for Paramedic Programs. Prerequisites: EMS 2602L, 2665; corequisites: EMS 2601, 2601L, 2664. (8 hr. lecture)

EMS2602L
Paramedic Laboratory 2
4.00 credits
Continuation of advanced life support practice. Areas of emphasis include the patient assessment, trauma emergencies, obstetric emergencies, gynecological emergencies, pediatric emergencies and psychiatric emergencies. Students will be expected to master the techniques of patient assessment, intravenous techniques, endotracheal intubation, and advanced life support. Corequisites: EMS2602, 2665. Laboratory fee. (8 hr. lab)

EMS2659
EMS-Field Internship and Conference
8.00 credits
A supervised clinical experience on an advanced life Support (ALS) vehicle. The student obtains increasing patient care responsibilities as a working member of the EMS team under the direct supervision of a designated preceptor. Prerequisites: EMS 2601, 2601L, 2602, 2602L, 2664, 2665. (24 hr. clinic)

EMS2664
Paramedic Clinic 1
3.00 credits
EMS 2664 is designed to allow the students "hands-on" practice of the skills and theories learned in EMS 2601 and 2601L. Clinical experience will take place in many areas including the emergency department, operating room and medical examiner's office. All patient care experience will be practiced under the direct supervision of a medical professional (Paramedic, Nurse, Physician, etc.). Corequisites: EMS 2601L, 2601. (9 hr. lab)

EMS2665
Paramedic Clinic 2
3.00 credits
EMS 2665 is designed to allow the students "hands-on" practice of the skills and theories learned in EMS 2602 and 2602L. Clinical experience will take place in many areas including the emergency department, operating room and critical care unit. All patient care experience will be practiced under the direct supervision of a medical professional (paramedic, Nurse, Physician, etc.). Corequisites: EMS 2602, 2602L. (9 hr. lab)

Engineering - General

EGN1008C
Introduction to Engineering
3.00 credits
An introduction to the opportunities, challenges, and required skills of the engineering profession. Students explored the different disciplines of engineering, their function in industry, and required education. Professional issues such as registration, ethics, safety, and design are discussed. Projects and activities are used to develop problem solving, communication and computer skills (word-processing, spreadsheets, presentations, mathematical analysis, email, Internet). (3 hr. lecture)
EGN2949
CO-OP WRK EXP 2
1.00 - 3.00 credits
This is a course designed to provide training in a student’s field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-Op Department approval. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Cooperative Education Office to obtain registration approval. (3 hr. Lecture)

EGN2990
CO-OP WRK EXP 3
3.00 credits
This is a course designed to provide training in a student’s field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-Op Department approval. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Cooperative Education Office to obtain registration approval. (3 hr. Lecture)

EGN2991
CO-OP WRK EXP 4
3.00 credits
This is a course designed to provide training in a student’s field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-Op Department approval. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Cooperative Education Office to obtain registration approval. (3 hr. Lecture)

EGS1010
Applied Research Methods
1.00 - 3.00 credits
This course is designed for STEM majors. Students will learn basic research practices: research methods, experimentation, validation, technical writing, and presentations. Using the Affinity Research Group model, students will work in groups to conduct theory-based STEM research, develop poster presentations, and write conference and journal publications. (1-3 hr. lecture)

Engineering Technology Civil

ETC2450
Concrete Construction
3.00 credits
The use of concrete in construction to include foundations, columns, beams, slabs, hydraulic conduits. Prerequisite: ETG 2502. (3 hr. lecture)

Engineering Technology Drafting

ETD1110
Technical Drawing 1
4.00 credits
Introduces students to the principles of instrument drawing, orthographic projection, visualization, specialized computer processes and introductory computer aided drawing (CAD). Students develop drawing and sketching techniques common to industry. Laboratory fee. (2 hr. lecture; 4 hr. lab)

ETD1340
Computer Aided Drawing & Design
3.00 credits
This course is recommended for all engineering students as an introduction to the basic concepts of drafting and designing using a computer. Students will learn industry standard drafting and design practices using AutoCAD in a laboratory environment. Pre/Corequisite: MAC1105. (2 hr. lecture; 2 hr. lab)

ETD1542
Structural Drafting
4.00 credits
Development of structural, fabrication and erecting drawings. Course involves study of structural shapes, their properties, and methods of developing connections, as well as study of common reinforced concrete practices. Prerequisite: ETD 1110. Laboratory fee. (2 hr. lecture; 4 hr. lab)

Engineering Technology Electrical

CET1110C
Digital Circuits
4.00 credits
This course is intended for students majoring in Electronics or Computer Engineering Technology. Students will learn how to apply electronic principles to digital computer circuits and systems. Students will also learn how to simplify logic circuits, build digital circuits, and perform other laboratory activities. Prerequisite: EET1015C, MAC1105. Pre/corequisite: COP2270. Special Fee. (2 hr. lecture; 4 hr. lab)

CET1171
Introduction to Computer Service and Maintenance
3.00 credits
This course is designed as an introduction for students new to IT. Students will learn about the history, design, construction, and maintenance of microcomputers, including the proper handling and use of computer components and tools; how to assemble and disassemble computers; how to perform preventive maintenance; how to identify and upgrade components; how to interpret error messages, and how to perform basic troubleshooting. Laboratory fee. (3 hr. lecture)

CET1178C
A+ Computer Hardware Service
3.00 credits
This is an intermediate level course that prepares students for A+ hardware certification. Students will learn how to: install, configure, and upgrade components diagnose and troubleshoot computer systems, identify, test, and troubleshoot motherboards, processors, memory, and printers, and connect network equipment. Prerequisite: CET1171. Special fee. A.S. credit only. (3 hr. lecture)
**CET1487C**  
**Network+**  
**3.00 credits**  
This is an intermediate level course designed for students preparing for the hardware component of the Network+ certification. Students will learn how to install, configure, manage, troubleshoot and upgrade network devices including network interface cards, switches, hubs, wireless access points, routers, and patch panels. They will also learn about the construction, installation, testing and repair of the physical layer of the network, including wired cables, fiber optic media, wireless transmitters and antennas. Demonstrated knowledge of microcomputer fundamentals and system components is required. Recommended Preparation: CET1178C or A+ certification. Laboratory fee. (2 hr. lecture; 2 hr. lab)

**CET2113C**  
**Advanced Digital Circuits**  
**4.00 credits**  
This is a second level course in digital circuits for students majoring in electronics and related engineering technologies that extends the application of sequential and combinational logic circuits and other digital applications. Students will learn to program, operate, and interface with a micro-computer and its elements. Prerequisite: CET1110C, COP2270. Pre/Corequisite: EET1141C. Laboratory fee. (2 hr. lecture; 2 hr. lab)

**CET2123C**  
**Microprocessors**  
**4.00 credits**  
This course is intended for students majoring in Electronics Engineering Technology, Electronics Engineering Technology, or any engineering discipline. Students will learn how to use object oriented programming to analyze, design and code programs to solve engineering related hardware problems. Pre/Corequisite: MAC1105. (3 hr. lecture; 2 hr. lab)

**CET2186C**  
**Design and Prototyping of Connected Devices**  
**4.00 credits**  
This course provides the student with the foundational concepts to integrate hardware and software to produce prototypes of connected devices. As part of the course, the student will develop creative thinking and problem-solving skills to design Internet of Things solutions by combining existing hardware and software tools. Prerequisite: COP1334. (2 hr. lecture, 4 hr. lab)

**CET2369C**  
**Embedded Programming**  
**4.00 credits**  
This course is intended for students majoring in Computer Engineering Technology, Electronics Engineering Technology, or any engineering discipline. Students will learn instruction, security models, cryptography, applications, and public policy, along with case studies. Prerequisite: COP2270, CET2369C (2 hr. lecture 4 hr. lab)

**CET2880C**  
**Digital Forensic**  
**4.00 credits**  
This is an introductory digital forensics course for students who are studying cybersecurity, electronics or computer engineering technologies. In this course, students will learn the setup and use of an investigator’s laboratory, how to perform data acquisition, web forensics, email forensics, mobile forensics, network analysis, and file recovery. (3 hr. lecture; 2 hr. lab)

**CET3126C**  
**Advanced Microprocessors**  
**ETD4.00 credits**  
This course is intended for upper division students majoring in Electronics Engineering Technology. This course introduces the study of advanced microprocessor design. Students will learn the basic organization of computer systems including instruction-set architecture, execution pipeline, memory hierarchy, virtual memory, and I/O subsystems. Students also learn advanced processor microarchitecture issues such as dynamic instruction scheduling, branch prediction, lock-up free caches, instruction-level parallelism, multiple instruction fetch/issuing, speculative execution, etc. to improve computer processor performance. Students will experimentally verify microarchitecture designs using industry standard microarchitecture simulators. Prerequisite: CET2113C, CET2123C. (2 hr. lecture 4 hr. lab)

**CET3383C**  
**Software Engineering**  
**4.00 credits**  
This upper division course is for students majoring in B.S. in Information Systems Technology or B.S. in Electrical and Computer Engineering Technology. The student will learn the basic principles and concepts of software engineering, system requirements, modeling and testing, object oriented analysis and design, testing and validation, configuration management, and
the analysis, design and programming of extensible software systems. Prerequisite: CET2369C or COP2800. (2 hr. lecture, 4 hr. lab)

CET4190C
Applied Digital Signal Processing
4.00 credits

This is an upper division level course for students majoring in electronics engineering technology. Students will learn how to model digital signal processing (DSP) systems, apply the Z transform, and develop algorithms for convolution, correlation, the Discrete Fourier Transform (DFT), and the Fast Fourier Transform (FFT). Students will apply these concepts in the design and implementation of digital filters and DSP algorithms in an embedded system. Prerequisite: EET 1015C; CET 22323C, or EET 2351C. Special Fee. (2 hr. lecture, 2 hr. lab)

CET4663C
Electronic Security
3.00 credits

This is an upper division course for students who are majoring in electronics engineering technologies. The student will learn information and communication security principles for computer systems and networks including authentication, protection, security models, cryptography, applications, and public policy, along with case studies. Prerequisite: CET223C, COP2270. (2 hr. lecture, 2 hr. lab)

EET1015C
Direct Current Circuits
4.00 credits

This course is intended for students majoring in electronics engineering technology and related disciplines. Students will learn basic electrical safety, the various basic electrical components and resistive circuit network analysis. Students will learn to verify and apply basic theories and principles through hands-on, laboratory experiments utilizing modern testing equipment. Prerequisite: MAC 1105. Special Fee. (2 hr. lecture, 4 hr. lab)

EET1025C
Alternating Current Circuits
4.00 credits

This course is intended for students majoring in electronics engineering technology and related disciplines. Students will learn inductance, capacitance, vector notation, AC circuits, impedance, phase shift, networks, transformers, and resonance. Students will apply and verify theories and principles through hands-on, laboratory experiments utilizing modern testing equipment. Prerequisite: EET 1015C, Pre/Corequisite: MAC 1114 or MAC 1147. Special Fee. (2 hr. lecture, 4 hr. lab)

EET1033C
Electrical Fundamentals
4.00 credits

This course is designed for students obtaining a CCC or AS degree in Engineering Technology, and related disciplines. The student will learn the basic concepts of electronics principles including Direct Current, Alternating Current, Series and Parallel circuits topologies, Basic electronics components, electronics measure tools and software simulation tools. Laboratory fee. (2 hr. lecture, 4 hr. lab)

EET1037C
Electronic Computer Simulations
3.00 credits

An investigation of network theorems with practical illustrations. Thevenin’s, Norton’s, Kirchhoff’s, and the superposition methods of analysis are applied to the solution of resistive and reactive networks. Resonant circuits and transient voltages and currents are analyzed. Prerequisite: EET 1141C; Corequisite: MTB 1322 (3 hr. lecture)

EET1082
Introduction to Electronics
3.00 credits

Learn by building practical electronic circuits. Survey course suitable for both majors and non-majors. Instructor and tutors available to assist in project completion. Topics include: schematics, pictorials, amplifiers, oscillators, burglar alarms, radios, digital circuits. Students will develop individual career plans and learn about employment opportunities within the field. (3 hr. lecture)

EET1141C
Electronics 1
4.00 credits

This course is intended for students majoring in Electronics Engineering Technology or related fields. Students will learn how to apply electronic principles to analog circuits and systems, including semiconductor diodes, applying the fundamental theory of transistors and other solid-state devices; analysis of amplifiers, oscillators, and other applications using a sinusoidal wave. Students also learn basic safety procedures to follow when working in an electronics laboratory and with electronic circuits and systems. Prerequisite: EET1025C and MAC 1114 or MAC 1147. Special Fee. (2 hr. lecture, 4 hr. lab)

EET2101C
Electronics 2
4.00 credits

This course is intended for students majoring in electronics or computer engineering technologies. Students will learn how to apply electronic principles to analog circuits including transistor amplifiers, feedback and frequency response of linear circuits, operational amplifiers, MOSFET and oscillators. Prerequisite: EET 1141C. Special Fee. (2 hr. lecture, 4 hr. lab)

EET2323C
Analog Communications
4.00 credits

This course is designed for students majoring in Electronics Engineering Technology, Telecommunications Engineering Technology, and related disciplines. Students will learn the principles of radio wave transmission and reception, including AM and FM transmitters, receivers, single sideband, television and digital data transmission lines, wave propagation antennas and microwaves. Prerequisite: EET 1141C. Special Fee. (2 hr. lecture, 4 hr. lab)
EET2351C
Digital and Data Communications
4.00 credits
This course is intended for students majoring in Electronics or Computer Engineering Technology. It provides a theoretical and practical background in the basic concepts and applications of digital and data communications. Students will learn analog-to-digital (A/D) and digital-to-analog (D/A) conversions; data communications codes and standards; wired and wireless digital communications; modulation, transmission impairment, the telephone system, modems, multiplexers, and electrical interface standards. Prerequisite: CET 2123C. Special Fee. (2 hr. lecture, 4 hr. lab)

EET2515C
Motors and Generators
3.00 credits
This course is designed for students specializing in industrial equipment maintenance. Students learn how to analyze, troubleshoot, and repair rotating electric machinery with emphasis on industrial applications. Students learn terminology specific to motors, generators, and transformers; electromechanical device theory; circuits connecting electromechanical devices to voltage sources and loads; and how to apply mathematical analysis to determine quantitative circuit functioning in terms of voltage, current, and power. Prerequisite: EET 1025C. Corequisite: EET 1141C. Special Fee. (2 hr. lecture; 2 hr. lab)

EET2527C
Motor Starters, Controllers, and Breakers
3.00 credits
This course is designed for students specializing in industrial equipment maintenance covering AC and DC power distribution in the plant. Students learn operating principles, troubleshooting, repair, and maintenance of switch gear, motor control centers, breaker panel power, control, and instrument cable, raceways, protective devices and grounding as related to the generating station. Hands-on, laboratory exercises reinforce each major concept studied. Prerequisites: EET 1141C, EET 2515C. Special Fee. (2 hr. lecture; 2 hr. lab)

EET2547C
Transformers and Power Distribution
3.00 credits
This course is designed for students specializing in industrial equipment maintenance. Students acquire an understanding of the components and devices used to distribute power, and how to protect major elements involved in power distribution. Students learn about the uses and maintenance of fuses, circuit breakers, enclosures, and relay coordination; how to protect against lightning and other abnormal conditions; and the protection of transformers, motors, and generators. Prerequisite: EET 2515C. Corequisite: EET 2527C. Special Fee. (2 hr. lecture; 2 hr. lab)

EET3716C
Advanced System Analysis
4.00 credits
This is an upper division level course for students majoring in electronics engineering technology designed to prepare students to perform electrical circuit systems analysis using Laplace transform and partial fraction expansion. Students will learn theorems, Fourier series, frequency response and bode plots, and their application towards practical systems. Prerequisite: EET 1025C and MAC 2312. (2 hr. lecture, 4 hr. lab)

EET4158C
Linear Integrated Circuits and Devices
4.00 credits
This is an upper division level course for students majoring in electronics engineering technology designed to provide students with practical skills and knowledge needed for application of operational amplifiers, comparators, phase-locked loops, timers, regulators, other integrated circuits in electronic systems. Students learn to apply these skills towards the design of amplifiers, active filters, oscillators, differentiators, integrators and other miscellaneous integrated circuit based systems. Prerequisite: EET 3716C. Laboratory Fee. (2 hr. lecture; 4 hr. lab)

EET4165C
Senior Design 1
3.00 credits
This project-based course is designed to synthesize students’ knowledge of the analysis, design, manufacturing, and testing of electronic systems. Students will design experiments, explore professional ethics, practice professional oral and written communications, conduct project feasibility studies, and perform project scheduling. Students learn about human factors, intellectual property, and liability issues. Department approval required. Laboratory Fee. (1 hr. lecture; 4 hr. lab)

EET4166C
Senior Design 2
2.00 credits
Senior Design 2 is a project-based experience course in which students apply all of the skills they have acquired to analyze, design, simulate, synthesize, and test a complete system. Prerequisite: EET 4165C. Special fee. Department approval required. (1 hr. lecture; 2 hr. lab)

EET4730C
Feedback Control Systems
4.00 credits
This upper division course for students majoring in electronics and computer engineering technology, is designed to introduce students to the analysis of circuit networks and control systems. Students learn about stability and compensation considerations, using root locus, the Nichols chart, and Bode plots; simulation techniques; and how to apply these principles to build and test control systems. Prerequisite: EET 3716C. (2 hr. lecture, 4 hr. lab)

EET4732C
Signals & Systems
4.00 credits
This course is intended for upper division students majoring in Electronics Engineering Technology. Students will learn the theory and the mathematical techniques used in analyzing continuous-time linear systems. Students will learn continuous-time signal and systems analysis, the input-output relationships of linear time-invariant (LTI) systems, transient and
steady state analysis, frequency domain analysis and Fourier analysis. Students will analyze and characterize LTI systems using Laplace transforms. Prerequisite: EET 3716C. (2 hr. lecture 4 hr. lab)

ETI1000 Industrial Plant Tools and Equipment 1.00 credits
Students will learn the knowledge and skills necessary to properly select, inspect, use, and care for the tools, test equipment, and lifting/handling equipment commonly used in the performance of assigned tasks in an industrial plant setting. Special fee. (2 hr. lab)

ETI1151C Mechanical Measurement & Instrumentation 3.00 credits
This course provides the basic foundation for mechanical measurement techniques used in manufacturing environments. Students will learn to integrate the concepts, principles, and techniques of mechanical measurement with the use of various types of instruments including micrometers, verniers, calipers, gages, and other types of measuring equipment. (2 hr. Lecture; 2 hr. Lab)

ETI11701 Industrial Safety 3.00 credits
This course provides the student with the knowledge and skills to recognize hazardous situations in industrial plants and the precautions to be observed and practiced to perform work activities safely. Among the topics covered are industrial safety hazards, electrical safety, working with chemicals, gases, and solvents, protective equipment, and safe working conditions. (3 hr. lecture)

ETI1805C Introduction to Lifting and Rigging 3.00 credits
This course provides knowledge and skills required by students preparing for careers in industrial maintenance of heavy equipment. Students learn how to determine rigging requirements for lifts, select equipment, calculate loads and safely operate different types of lift equipment. Prerequisites: ETI 1701, ETP 1230. Special fee. (2 hr. lecture, 2 hr. lab)

ETI2315C Fluid/Pneumatic Instrumentation 3.00 credits
This course is designed for student’s specializing in industrial equipment maintenance. Students will learn to apply the basic principles and operation of hydraulic and pneumatic instrumentation and testing equipment to repair equipment. Laboratory experiments are performed with extensive hands-on application. Prerequisite: MAC 1105. Special fee. (2 hr. lecture, 2 hr. lab)

ETI2408C Welding Processes 3.00 credits
This course is designed for students who require basic welding process skills to prepare themselves for entry-level maintenance technician positions. The student learns principles of welding safety, fundamental practices of shielded arc welding, arc welding with consumable and non-consumable electrodes, brazing, soldering, and plasma cutting. Prerequisite: ETI 2425C. Laboratory fee. (2 hr. lecture, 2 hr. lab)

ETI2425C Metallurgical Properties and Dynamics 3.00 credits
This course provides students who are preparing for occupations in industrial maintenance with a foundation in the principles of the metallurgy of steel. Students learn about the thermal, physical and chemical properties of steel. Prerequisite: PHY 1025. Special fee. (2 hr. lecture, 2 hr. lab)

ETI2451C Mechanical Maintenance for Power Plants 3.00 credits
This course is designed for students who are preparing for mechanical and industrial maintenance operations. Students learn how to read and interpret drawings and blueprints, the application of lubrication principles, how to perform torque procedures, and the correct procedures for maintaining seals, O-rings, and gaskets in power plant environments. Prerequisite: ETI 2231C. Laboratory fee. (2 hr. lecture; 2 hr. lab)

ETI2670 Engineering Economic Analysis 3.00 credits
This course is designed for students who are majoring in any engineering discipline. Students will learn the basic methods of engineering cost analysis including equivalence, value measurement, interest relationships and decision support theory and techniques as applied to capital projects. Various problem solving methods will be used for decision making, multiple alternatives and uncertainty. Prerequisite: MAC 1105. (3 hr. Lecture)

ETI3671 Technical Economic Analysis 3.00 credits
This course is designed to cover the formulation and application of analytical techniques to reach cost effective solutions to engineering problems. Students will learn time based analysis of selection, replacement, and lease-or-buy decisions including multiple alternatives, uncertainty, and sensitivity analysis, using a problem-solving approach. Prerequisite: MAC 1105. (3 hr. lecture)

ETI4480C Applied Robotics 4.00 credits
This is an upper division level course designed as an introduction to robotics programming and includes robotic applications for multifunction part manipulation and motion with stepper and servomotors. Students will learn topics related to robotic design including robotic vision, motion planning, sensing and sensors, actuators, navigation systems, mobility, forward and inverse kinematics, and path planning. Prerequisite: CET 2123C. Special Fee. (2 hr. lecture, 4 hr. lab)

ETP1200 Power Plant Science 3.00 credits
This course is designed to familiarize students who are preparing for careers in Electrical Power Technology with the
fundamentals of power plant sciences. Students will learn about basic electrical science, properties of reactor plant materials, basic atomic and nuclear physics, heat transfer and fluid flow, reactor safety design, and plant chemistry. Prerequisite: MAC 1105, PHY 1025. (3 hr. lecture)

ETP1220
Power Plant Fundamentals
2.00 credits
This course is designed to familiarize students preparing for careers in Electrical Power Technology with the fundamental knowledge of power plants and their operations. Students will learn how power plants operate, as well as general administrative procedures for completing routine tasks. (1 hr. lecture; 2 hr. lab).

ETP1230
Power Plant Systems
2.00 credits
This course provides an introduction to the major systems and components that make up a modern power plant. (2 hr. lecture)

ETP2040C
Electric Power Distribution
4.00 credits
This is a required course for all students pursuing a certificate in solar photovoltaic energy generation. The student will acquire an understanding of multi-phase power transmission, how to connect to the electric grid and the major components used in electric power distribution including: power transformers, circuit breakers, transmission lines, reclosers, relay coordination, fuses, motors and generators. The student will learn about the maintenance, troubleshooting and protection of these devices against lightning and other abnormal conditions through hands-on laboratory experiments utilizing modern testing and simulation equipment. Laboratory fee. Prerequisite: EET1033C (2 hr. lecture; 4 hr. lab)

ETP2232C
Power Plant Machines and Components 2
4.00 credits
This course continues the study of industrial machines begun in ETP2410C for students who are preparing for careers in industrial and/or power plant mechanical maintenance. Students learn the principles, concepts, and applications of various mechanical systems encountered in industrial applications, how to identify basic systems and components encountered in power plants, how to troubleshoot equipment problems, and basic procedures involved in maintaining and replacing component parts. Prerequisite: ETP 2231C. Laboratory fee. (2 hr. lecture; 4 hr. lab)

ETP2410C
Design, Installation and Operation of Solar PV Systems
4.00 credits
This is a required course for all students pursuing a certificate in solar photovoltaic energy generation. The student will learn about solar photovoltaic (PV) systems and the different components comprising the system including: PV panels, controllers and the batteries used with PV systems. The student will learn to size, install, maintain, troubleshoot and repair the PV system through hands-on laboratory experiments utilizing modern testing and simulation equipment. Laboratory fee. Prerequisite: EET1033C (2 hr. lecture; 4 hr. lab)

ETP2501C
Introduction to Alternative and Renewable Energy
3.00 credits
This course is an introductory course designed to prepare students to enter the field of renewable energy and green technology and to the concepts of renewable energy. The student will examine Solar photo-voltaics, solar power and tracking systems, charge controllers and inverters, Wind power systems, Biomass and geothermal power generation. Laboratory fee. Prerequisite: EET1033C (2 hr. lecture, 2 hr. lab)

ETP3240
Power Systems
3.00 credits
This is an upper division level course for students majoring in electronics engineering technology covering specific issues of electrical power systems. Students learn power factor, three phase circuits, and transformers. Prerequisite: EET 1025C. (3hr. lecture)

ETP3320
Introduction to Renewable Energy Technology
3.00 credits
In this course, students will learn renewable energy theory and applications. This course focuses on solar photo-voltaics, solar power and tracking systems, charge controllers and inverters, wind power systems, biomass and geothermal power generation. In addition, this course covers the integration with electrical grid, production and end user systems. Prerequisite: EET 2101C. (3 hr. lecture)

ETS2520C
Process Measurement Fundamentals
3.00 credits
This course is designed for students who will be supporting industrial equipment processes. Students will learn how to perform the typical measurements made in industrial measurement and control loops. Topics include the basic physics involved in the measurements, as well as the common types of sensors used in industry with emphasis on pressure, temperature, flow, level, and analytical measurement theory. Prerequisites: EET1025C, PHY 1025. Laboratory fee. (2 hr. lecture; 2 hr. lab)

ETS2550C
Process Control Technology
3.00 credits
This course is designed for students studying systems and associated electronic circuit encountered in the field of electric machinery and industrial controls. Students learn to analyze systems and devices and perform calculations to determine parameters to accurately predict operation. Students examine the concepts and principles of open and closed loop systems,
ETS2542C
Programmable Logic Controllers 1
3.00 credits
This first course in programmable logic controller (PLC), is designed for students preparing for careers in electronics, manufacturing, electrical or industrial technology. Students will learn the basic operational concepts common to PLCs, focusing on PLC principles, programming, numbering systems, data manipulation, and math and sequencer instructions. Prerequisite: CET 1110C. Pre/co-requisite: EET 1141C. Special Fee. (2 hr. lecture; 2 hr. lab)

ETS2544C
Programmable Logic Controllers 2
3.00 credits
This course is a continuation of EST 2542C for students who are familiar with basic PLC operations and concepts. Students learn the skills required to troubleshoot and maintain logic controllers in a simulated industrial environment. Topics covered include program control instructions, date manipulation instruction, math instructions, acquisition, computer controlled machines and processes. Prerequisite: ETS 2542C. Special fee. (2 hr. lecture; 2 hr. lab)

ETS 2632C
Computer Integrated Manufacturing
3.00 credits
An introduction into the fundamentals of Computer Integrated Manufacturing as it relates to theory, operation, setup, safety, and practices. Students will learn the application of Computer Aided Drawing (CAD) and Computer Aided Manufacturing (CAM) software to develop prototypes. Prerequisite: MAC 1105. (2 hr. lecture; 2 hr. lab)

ETS 2673C
Programmable Logic Controls
4.00 credits
This course is intended for students majoring in Electronics Engineering Technology and Advanced Manufacturing. Students will learn the principals of PLC’s including hardware, programming, and troubleshooting. Students will develop advanced working programs, and troubleshoot hardware and software communication problems. Prerequisite: CET 1110C. Laboratory fee. (2 hr. Lecture; 4 hr. lab)

ETS3543C
Programmable Logic Controllers
4.00 credits
This upper division course is intended for students majoring in Electronics Engineering Technology. Students will learn the principals of PLC’s including hardware, programming, and troubleshooting. Students will develop advanced working programs, and troubleshoot hardware and software communication problems. Prerequisite: CET 1110C. Special Fee. (2 hr. lecture; 4 hr. lab)

Engineering Technology Mechanical

ETM1700
Air Conditioning Fundamentals
3.00 credits
The basic science of air conditioning technology; the fundamentals of air conditioning for environmental control, the function and operation of the equipment and the air conditioning design process. (3 hr. lecture)

ETM2730C
Air Distribution
3.00 credits
Intensive study and practical application of air distribution technology. Duct design, fans, low velocity, high velocity, and variable volume systems are included. Laboratory work includes duct design projects. Prerequisite: ETM 1700. Laboratory fee. (2 hr. lecture; 2 hr. lab)

ETM2740C
Air Conditioning Controls & Motors
3.00 credits
Air conditioning and refrigeration control devices and theory, operation and application are covered. Electric motor technology with practical application to air conditioning is also included. Prerequisite: ETM 1720C. Laboratory fee. (2 hr. lecture; 2 hr. lab)

ETM2750C
Air Conditioning Systems Design
3.00 credits
Design of residential and commercial environmental control systems utilizing unitary equipment. Prerequisite: ETM 1710C. Laboratory fee. (2 hr. lecture; 2 hr. lab)

ETM2930
Air Conditioning Seminar
3.00 credits
A seminar for advanced students and those with experience in air conditioning engineering covering new concepts, equipment and advances in the technology of air conditioning. Prerequisite: Permission of the department chairperson. (3 hr. lecture)

Engineering Technology-General

ETG2502
Statics
3.00 credits
The application of dead and live loads to rigid bodies at rest, including the force and moment of laws of equilibrium, determination of the direction and intensity of reactions, moments and stress in the design of engineering and architectural structures. Prerequisite: MAC 1105. (3 hr. lecture)

ETI1040
Introduction to Bioscience Manufacturing
3.00 credits
This course introduces students to the field of bioscience manufacturing. Topics will include basic principles of the industry, large-scale process development and the future of the bioscience industry. Current Good Manufacturing Practices (cGMPs), and the nature and delivery system of products will also be discussed. (3 hr. lecture)
ETI1040L
Introduction to Bioscience Manufacturing Lab
2.00 credits
In this laboratory course students will learn the basic principles of the industry, large-scale process development and the future of bioscience. Students also learn about current Good Manufacturing Practices (GMPs), and the nature and delivery system of products. Corequisite: ETI 1040. (4 hr. lab)

ETI1172
Introduction to Quality Assurance
3.00 credits
This course describes the role and aspects of quality systems and Regulatory affairs in research laboratories, regulated companies, and firms that comply with voluntary standards. Topics include stages in development and submission of drugs and medical devices, patents legislation, and quality systems such as auditing, standard procedures, good manufacturing and laboratory practices. (3 hr. lecture)

ETI1622
Concepts of Lean and Six Sigma
3.00 credits
This course is designed for students who are preparing for careers in the manufacturing industry. Students will learn the basic concepts, frameworks, and techniques used in six sigma, including total quality philosophies, the calculation of six sigma and other vital statistics, tools of lean six sigma, and knowledge of various methodologies. (3 hr. lecture)

ETI1644
Advanced Manufacturing Supply Chain
3.00 credits
This course is designed to provide students who are preparing to be manufacturing support technologists with the fundamental concepts of advanced manufacturing supply chain management (SCM) principles. Students will learn how to use manufacturing planning and control systems to coordinate material, labor, capacity and other resources to optimize manufacturing operations. Students also learn the key features of automated systems that can be used to manage the supply chain process. (3 hr. lecture)

ETI2404
Advanced Manufacturing Technology
3.00 credits
This is a course for students intending to work in manufacturing environments. Students will learn the basic concepts about advanced manufacturing operations and processes, including sourcing materials, production planning and process monitoring, and control to distribution activities. Students also review the facility and regulatory requirements needed to support manufacturing operations. Activities may include facility tours and site visits. (3 hr. lecture)

ETM1315C
Applied Pneumatics and Hydraulics
3.00 credits
This course prepares students to perform mechanical maintenance on industrial equipment and devices. Students learn the theory and application of fluid mechanics, how to calibrate metering devices, and conduct elementary hydraulic tests. Pre/corequisite: MAC 1105 Laboratory fee. (2 hr. lecture; 2 hr. lab)

ETM2310
Fluid Mechanics
3.00 credits
This course is for students preparing for nuclear power plant systems operations. Students will learn the basics of fluid theory, pump theory and operations, and how to perform calculations using the International System of Measurements (SI) and United States (US) measurement systems. Prerequisite: ETP 1200, MAC 1150. (3 hr. lecture)

ETP2201
Reactor Theory for Nuclear Operations
2.00 credits
This course introduces fundamental nuclear reactor theory and operations principles for students who are preparing for careers in nuclear operations. Students will learn principles related to neutron theory, reactor operational physics, nuclear control rods, and factors impacting reactor operations. Prerequisites: ETP1230, PHY1025, and approval by the program chair. (1 hr. lecture; 2 hr. lab)

ETP2202
Fundamentals of Reactor Energy Principles
3.00 credits
This course is for students preparing for nuclear power plant systems operations. Students will learn concepts related to energy principles and their applications in the power plant environment, including basic energy concepts, thermodynamics and thermal processes in the nuclear power plant, heat transfer, heat exchangers, and steam. Prerequisite: ETP1200, PHY1025. (3 hr. lecture)

ETP2231C
Power Plant Machines & Components 1
4.00 credits
This course is designed for students who are preparing for careers in industrial and/or power plant mechanical maintenance. Students learn the principles, concepts, and applications of various mechanical systems encountered in industrial applications, how to identify basic systems and components encountered in power plants, how to troubleshoot equipment problems, and basic procedures involved in maintaining and replacing component parts. Prerequisite: ETP 1230 Special fee. (2 hr. lecture; 4 hr.)

ETP2233
Power Plant Components for Operations 1
3.00 credits
This course is designed for students who are preparing for careers in industrial and/or power plant operations. Students will learn to identify basic systems and components encountered in power plants and the principles, concepts and applications associated with various power plant mechanical components. Prerequisite: ETP 1230. Laboratory fee. (3 hr. lecture)
ETP2234
Power Plant Components for Operations 2
3.00 credits
A continuation of ETP2233 Power Plant Components for Operations 1, this course is designed for students who are preparing for careers in industrial and/or power plant operations. Students will learn to develop a deeper knowledge of electro-mechanical systems in the power plant. This course will assist in preparing students for the General Fundaments Examination (GFES). Prerequisite: ETP2233. Laboratory fee. (2 hr. lecture, 2 hr. lab)

English Language & Literature

AML2010
American Literature 1
3.00 credits
American literature from Colonial times to the Civil War. Prerequisites: ENC 1101, 1102. (3 hr. lecture)

AML2020
American Literature 2
3.00 credits
American literature from the Civil War to the present. Prerequisites: ENC 1101, 1102. (3 hr. lecture)

CRW2001
Creative Writing 1
3.00 credits
Imaginative writing in selected genres. (3 hr. lecture)

CRW2002
Creative Writing 2
3.00 credits
Imaginative writing in selected genres. (3 hr. lecture)

ENC1101
English Composition 1
3.00 credits
This is a required general education core course in college-level writing. The students will learn the principles of composition and must be completed with a grade C or better. Prerequisites: Placement by Scholastic Assessment Test (SAT) English subtest score; American College Testing (ACT) English subtest score; Computerized Placement test (CPT) English subtest score; or ENC0021 with a grade of “S”.

ENC1102
English Composition 2
3.00 credits
This is the second required general education core course in college-level writing. Students will learn the conventions of standard edited American English. Students will compose informative and persuasive essays, write responses to a variety of literary genres, and/or non-fiction, and produce a documented paper based on research. This course fulfills the Gordon Rule requirement. Prerequisite: ENC1101. Special fee. (3 hr. lecture)

ENC1112
Essential Elements of English Grammar
1.00 - 3.00 credits
This course is designed for students whose writing and/or CLAST English language skills test scores demonstrate a need for continued instructional support. It covers many of the same topics assessed by the CLAST objective English language skills component. Course content is individualized based on specific student needs. This course is repeatable. Prerequisites: Placement by Scholastic Assessment Test (SAT) verbal subtest score; American College Testing (ACT) English subtest score; Computerized Placement test (CPT) English subtest score or ENC0021 with a grade of “S”. (1-3 hr. lecture)

ENC1113
Writing Skills Review
1.00 - 3.00 credits
This course is designed for students whose writing and/or English language skills test scores demonstrate a need for continued instructional support and features self-assessment grammar diagnostics. Students will learn the principles of composition via the writing process: planning, drafting, revising, finishing and editing. Note: This one-to-three-credit course is repeatable. Prerequisites: Placement by Scholastic Assessment Test (SAT) verbal score; American College Testing (ACT) English subtest score; Computerized Placement test (CPT) English subtest score; or ENC0021 with a grade of “S”.

ENC2300
Advanced Composition and Communication
3.00 credits
This writing-based course addresses techniques of critical thinking, persuasion, and argumentation. Students will refine their composition skills and develop their oral communication skills by examining and discussing a range of issues. Prerequisites: ENC101, ENC102 or equivalent with a grade of “C” or better. Fulfills Gordon Rule writing requirement. (3 hr. lecture)

ENG1949
Co-op Work Experience 1: ENG
3.00 credits
This course is designed to provide training in a student’s field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-op Department approval. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-operative Education Office to obtain registration approval. (3 hr. lecture)

ENL2012
English Literature 1
3.00 credits
A survey of major British writers from Chaucer through the 18th century. Prerequisites: ENC 1101, 1102 or equivalent. (3 hr. lecture)

ENL2022
English Literature 2
3.00 credits
A survey of major British writers from the 18th century through the contemporary period. Prerequisites: ENC 1101, 1102. (3 hr. lecture)
LIT2000 Introduction to Literature 3.00 credits
Students will learn about various works of literature from different genres (including but not limited to: short story, play, poetry, novel, and essay). This course fulfills the Gordon Rule writing requirement and must be completed with a C or better. Prerequisite: ENC 1101. (3 hr. lecture)

LIT2090 Contemporary Literature 3.00 credits
A survey of contemporary prose and poetry. Prerequisites: ENC 1101, 1102 or equivalent. (3 hr. lecture)

LIT2110 A Survey of World Literature 1 3.00 credits
The masterpieces of world literature. Prerequisites: ENC 1101, 1102 or equivalent. (3 hr. lecture)

LIT2120 A Survey of World Literature 2 3.00 credits
LIT 2120 explores masterpieces of world literature from the mid-renaissance to the present. Works studied exemplify the universality of human experience. Fulfills Gordon Rule writing requirement. Prerequisites: ENC 1101, 1102 or equivalent. (3 hr. lecture)

LIT2131 Mythology in Literature: The Arthurian Tradition 3.00 credits
The course will trace the progress of the legends surrounding King Arthur from medieval to contemporary poetry and prose, with primary focus on literary texts and supplementary investigation of Arthurian themes in art, film, and music. (3 hr. lecture)

LIT2174 Literature of the Holocaust and Genocide 3.00 credits
This course explores the literary responses to the Holocaust and Genocide using a variety of texts including written, film, and propaganda/graphic arts. Students will learn the various literary techniques used to interpret these key world and historical events. Prerequisite: ENC 1101. (3 hr. lecture)

LIT2330 Survey of Children's Literature 3.00 credits
This course will familiarize interested students with major works in children’s literature and with the principal genres and subgenres including, but not limited to, picture books (Mother Goose, easy-to-read books, picture storybooks); traditional fantasy (folktales, myths); modern fantasy (curious characters, science fiction); realistic fiction; poetry; and nonfiction. It will also analyze the role that literature has played and/or should play in the teaching of reading in primary school. (3 hr. lecture)

LIT2480 Issues in Literature & Culture 3.00 credits
Students will learn about literature as a socio-cultural response by writers to the world in which they live; they will connect literary texts to cultural issues through completion of oral and written assignments, critical analysis and practical investigation. Fulfills Gordon Rule writing requirement. Prerequisite: ENC 1102. (3 hr. lecture)

English Language and Literature - College Preparatory

ENC0015 Developmental Writing I 4.00 credits
Developmental Writing I is a college preparatory writing course. Students will learn to address effective sentence and paragraph development. Lab time required. Laboratory fee. Prerequisite: Placement by Scholastic Assessment Test (SAT) verbal subtest score; American College Test (ACT) English subtest score; Computer Placement Test (CPT) or Post-secondary Education Readiness Test (PERT). Student must have completed the college’s entrance exam and placed in the appropriate course level in order to register. (2 hr. lecture; 4 hr. lab)

ENC0025 Developmental Writing II 4.00 credits
Developmental Writing II is an intermediate college preparatory writing course. Students will learn to address effective sentence, paragraph, and essay development using standard edited American English. Lab time required. Laboratory fee. Prerequisite: Computer Placement (CPT) score; Scholastic Assessment Test (SAT); American College Test (ACT); or Post-secondary Education Readiness Test (PERT). Student must have completed the college’s entrance exam and placed in the appropriate course level in order to register. (2 hr. lecture; 4 hr. lab)

ENC0027 Introduction to College Writing through Reading 3.00 credits
This course introduces students to college level composition and reading. Students will use the writing process to compose effective sentences, paragraphs, and essays using standard edited American English in response to various reading materials. Students will demonstrate proficiency in literal and critical comprehension by using a variety of reading strategies. (3 hr. lecture)

ENC0056 Developmental Writing Module 2.00 credits
This course is designed to develop written language skills for students whose entry placement scores do not meet requirements for degree credit courses (course not applicable for graduation requirements). This course may be taken in place of ENC 0025 for students who completed ENC 0025 in a prior term but did not earn a passing grade. Students will learn to focus on their individual grammar, usage, and writing needs to prepare for successful entry into college credit English courses. Prerequisite: Students must score 97-98 on the PERT or receive departmental permission. (2 hr. lecture)
Entrepreneurship

**ENT1501 Fundamentals of Changemaking and Social Innovation 3.00 credits**
This course introduces students to the work of changemaking and the field of social innovation. Students will explore principles of social innovation and social change, while developing the skills to analyze social issues, generate solutions to those issues, and become an effective social change agent. (3 hr. lecture)

**ENT2201 Introduction to Lean Start-Up 3.00 credits**
The student will learn how successful start-ups find a repeatable, scalable business model that creates value for themselves and customers. In this experientially driven course, student teams develop, validate and refine a business model by creating hypothesis, designing products/services, testing the hypotheses, and reflecting on what has been learned. Prerequisite: GEB2112 (3 hr. Lecture)

**ENT2212 Entrepreneurial Leadership 3.00 credits**
The student will learn key skills and traits of successful entrepreneurs. Students will explore the notion of values-based business formation, personal strength and weaknesses identification, leadership for team building, project and personal time management, and story-telling. (3 hr. lecture)

**ENT2270 Family Business Management 3.00 credit**
This course covers special issues facing entrepreneurial and family businesses such as choice of organizational form, business planning, tax and compensation planning, business valuation, and succession strategies. Time is also devoted to the unique challenges often found in family business context, such as dealing with family conflicts, how to motivate and evaluate employees when a mix of family and non-members are involved, and planning for succession. (3 hr. lecture)

**ENT2421 Funding Your Venture 3.00 credit**
This course focuses on critical skills necessary to develop appropriate funding strategies for new venture creation and growth. Students will explore a variety of ways to raise capital and gain an understanding of investors’ expectations and how to evaluate the advantages and pitfalls of various sources of capital. (3 hr. lecture)

**ENT2502 Starting and Growing a Social Venture 3.00 credits**
The course explores the start-up, growth, and management of social entrepreneurship. Social ventures share attributes but also differ from for-profits in intent and practice. The student will learn the elements of integration, innovation, development and management of a business within and existing corporate culture. Ideation, venture creation, resource acquisition, and growth management are also addressed. (3 hr. lecture)

**ENT2511 Evaluating Social Impact 3.00 credit**
This course introduces students to measure and evaluate the effectiveness of strategies implemented to resolve social issues. Students will utilize different techniques to determine the success of the social change strategies selected and how the results obtained made organizations or groups more efficient in resolving the social issues. (3 hr. lecture)

**ENT2612 Creativity, Innovation and Human Centered Design 3.00 credits**
This course will lead students through major phases of the creative problem solving process and methods of human centered design thinking. Students will learn the basic skills for creative problem solving, innovation, and user-centered design. Students will identify and evaluate problems and opportunities, they will sketch, create, develop, test, and select the best prototyping options for a new product or service. (3 hr. lecture)

Environmental Studies

**EVR1001 Introduction to Environmental Sciences 3.00 credits**
Students will learn a conceptual approach to understanding the interrelationships of humans and natural processes at work in the environment. Application to local issues as well as broader global problems and prospects will be made, with emphasis on sustainable development. Special fee. (3 hr. lecture)

**EVR1001L Introduction to Environmental Science Laboratory 1.00 credits**
This course is the laboratory component for EVR1001 - Introduction to Environmental Science. Students will learn how the human and physical/biological worlds affect global climate change, including human/non-human interactions with minerals and mining, landscape ecology, petroleum depletion, and alternative fuels with the understanding of the earth’s environment. Pre/Corequisite: EVR1001 (2 hr. Lab)

ESL For Academic Purposes

**EAP0100 Speech/Listening 1 3.00 credits**
Students develop the ability to understand frequently used words in oral contexts and understand and respond appropriately to simple phrases and questions. Corequisite: EAP 0100L. (3 hr. lecture)
EAP0100L
Speech/Listening 1 Laboratory
1.00 credits
This lab will give practice in oral production and aural comprehension of spoken American English. This practice will be related, but not limited to the material taught in EAP0100. Prerequisite EAP 0100L. (2 hr. lab)

EAP0120
Reading Level 1
3.00 credits
Students develop the ability to comprehend limited written materials. (3 hr. lecture)

EAP0140
Writing Level 1
3.00 credits
Students develop the ability to write appropriate phrases and short sentences on personal topics. Corequisite: EAP 0140L. (3 hr. lecture)

EAP0140L
Writing Level 1 Laboratory
1.00 - 3.00 credits
This lab will provide support and additional practices as well as focus on multi-skills as students develop their abilities in meeting the competencies of EAP 0140. (2-6 hr. lab)

EAP0160
Grammar Level 1
3.00 credits
Students develop the ability to understand and use basic, high frequency grammatical structures. (3hr. lecture)

EAP0200
Speech/Listening 2
3.00 credits
Students continue to develop the ability to understand frequently used words in oral contexts and understand and appropriately respond to simple phrases and questions. Prerequisite: EAP 0100; Corequisite: EAP 0200L. (3 hr. lecture)

EAP0200L
Speech/Listening 2 Laboratory
1.00 credits
Continue to give practice in oral production and aural comprehension of spoken American English. This practice will be related to, but not limited to the material taught in EAP0200. Prerequisite EAP 0100L. (2 hr. lab)

EAP0220
Reading Level 2
3.00 credits
Students develop the ability to comprehend limited written materials. (3 hr. lecture)

EAP0240
Writing Level 2
3.00 credits
Students continue to develop writing skills in the context of guided discourse on personal topics with an emphasis on logical thought and mechanics. Prerequisite: EAP 0140; Corequisite: EAP 0240L. (3hr. lecture)

EAP0240L
Writing Level 2 Laboratory
1.00 - 3.00 credits
This lab will provide additional practices as well as focus on multi-skills as students develop their abilities in meeting the competencies of EAP 0140. Prerequisite: EAP 0140L; Corequisite: EAP 0240. (2-6 hr. lab)

EAP0260
Grammar Level 2
3.00 credits
Students continue to develop control of basic grammatical structures and statement/question patterns. Prerequisite EAP 0160. (3 hr. lecture)

EAP0260L
Speech/Listening 3 Laboratory
1.00 credits
Students practice speaking and listening skills necessary for participating in classroom discussions with an emphasis on clarification through rewording and asking questions. Prerequisite: EAP 0200L; Corequisite: EAP 0300L. (2 hr. lab)

EAP0300
Speech/Listening 3
3.00 credits
Students develop speaking and listening skills necessary for participating in classroom discussions with an emphasis on clarification through rewording and asking questions. Prerequisite: EAP 0200; Corequisite: EAP 0300L. (3 hr. lecture)

EAP0300L
Speech/Listening 3 Laboratory
1.00 credits
Students practice speaking and listening skills necessary for participating in classroom discussions with an emphasis on clarification through rewording and asking questions. Prerequisite: EAP 0200L; Corequisite: EAP 0300L. (2 hr. lab)

EAP0320
Reading Level 3
3.00 credits
Students develop the ability to read text on familiar and basic academic topics with an emphasis on vocabulary expansion and application of critical reading skills. Prerequisite: EAP 0220. (3 hr. lecture)

EAP0340
Writing Level 3
3.00 credits
Students develop the ability to write basic, structured academic paragraphs on familiar topics and execute other academic writing tasks. Prerequisite: EAP 0240; Corequisite: EAP 0340L. (3 hr. lecture)

EAP0340L
Writing Level 3 Laboratory
1.00 - 3.00 credits
Students develop the ability to write basic, structured academic paragraphs on familiar topics and execute other academic writing tasks. Prerequisite: EAP 0240L; Corequisite: EAP 0340. (2-6 hr. lab)

EAP0360
Grammar Level 3
3.00 credits
Students develop the ability to use intermediate-level grammatical structure appropriate to classroom discussion and the writing of academic paragraphs with an emphasis on increased accuracy. Prerequisite: EAP 0260. (3 hr. lecture)

EAP0385
Intermediate 1 - Integrated Writing & Grammar
6.00 credits
Students will learn how to write paragraphs using intermediate grammar and rhetorical structures. (6 hr. lecture)
EAP0386
Intermediate 1 - Integrated Reading, Speech & Listening
6.00 credits
Students will learn to develop proficiency in reading level-appropriate text by listening to short oral discourse and discussing academic materials. Emphasis is on vocabulary expansion and application of strategies that assist in comprehension and communication. Prerequisites: EAP 0220, 0220, or equivalent proficiency. (6 hr. lecture)

EAP0400
Speech/Listening 4
3.00 credits
Students continue to develop speaking and listening skills necessary for participating in classroom discussions with an introduction to oral presentation and critical listening skills. (3 hr. lecture)

EAP0400L
Speech/Listening 4 Laboratory
1.00 credits
Students continue to practice speaking and listening skills necessary for participating in classroom discussions with an introduction to oral presentation and critical listening skills. Prerequisite: EAP 0400L; Corequisite: EAP 0400. (2 hr. lab)

EAP0420
Reading Level 4
3.00 credits
Students develop academic reading abilities including text on contemporary and literary topics with an emphasis on extensive reading and the enhancement of critical reading skills. Prerequisite: EAP 0320. (3 hr. lecture)

EAP0440
Writing Level 4
3.00 credits
Students develop the ability to write more sophisticated, structured academic paragraphs in various rhetorical modes and execute other academic writing tasks. (3 hr. lecture)

EAP0440L
Writing Level 4 Laboratory
1.00 - 3.00 credits
Students continue to practice developing to write more sophisticated, structured academic paragraphs in various rhetorical modes and execute other academic writing tasks. Prerequisite: EAP 0340L; Corequisite: EAP 0440. (2-6 hr. lab)

EAP0460
Grammar Level 4
3.00 credits
Students develop the ability to use intermediate-level grammatical structure appropriate to classroom discussion and the writing of more sophisticated academic paragraphs with an emphasis on increased accuracy. Prerequisite: EAP 0360. (3 hr. lecture)

EAP0485
Intermediate 2 - Integrated Writing & Grammar
6.00 credits
Students learn to refine paragraphs using intermediate grammar and rhetorical structures. Prerequisites: EAP 0340, 0360, 0385, or equivalent proficiency. Co-requisite: one (1) approved college-level course recommended. (6 hr. lecture)

EAP0486
Intermediate 2 - Integrated Reading, Speech & Listening
6.00 credits
Students will learn to develop speaking, listening, and academic reading skills through discussions, presentations, and analysis with an emphasis on oral fluency, critical reading, and vocabulary expansion. Prerequisites: EAP 0300 or 0386, and 0320, or equivalent proficiency. Co-requisite: one (1) approved college level course. (6 hr. lecture)

EAP0493
Accelerated Intermediate Speech and Grammar
6.00 credits
In this accelerated alternative course for EAP courses 0320, 0340, 0420, and 0440, students will learn English while reading intermediate-level academic texts, expand their vocabulary, and enhance their writing proficiency with structured academic tasks. Prerequisite: EAP 0220 and 0240 or appropriate COMPASS score; corequisite: EAP 0494. (6 hr. lecture)

EAP1500
Speech/Listening Level 5
3.00 credits
Students develop communication, organization, and pronunciation skills necessary for effective academic presentation and discussion with an introduction to lecture note taking. (3 hr. lecture)

EAP1500L
Speech/Listening Level 5 Laboratory
1.00 credits
Students develop communication, organization, and pronunciation skills necessary for effective academic presentation and discussion with an introduction to lecture note taking. (2 hr. lab)

EAP1501
Accent Reduction 1
3.00 credits
Students develop the ability to write basic structured academic essays with an emphasis on accuracy and cohesiveness and execute other academic writing tasks. (1-3 hr. lecture)

EAP1501L
Accent Reduction 1 Laboratory
1.00 credits
Students improve their pronunciation of American English including stress, rhythm,
and intonation. The phonetic structure of consonant sounds is systematically analyzed, and students are given practice in correctly pronouncing these sounds and patterns in context. (2 hr. lab)

**EAP1502**  
Accent Reduction 2  
3.00 credits  
Students improve their pronunciation of American English including stress, rhythm, and intonation. The phonetic structure of vowel sounds is systematically analyzed, and students are given practice in correctly pronouncing these sounds and patterns in context. (3 hr. lecture)

**EAP1502L**  
Accent Reduction 2 Laboratory  
1.00 credits  
Students improve their pronunciation of American English including stress, rhythm, and intonation. The phonetic structure of vowel sounds is systematically analyzed, and students are given practice in correctly pronouncing these sounds and patterns in context. (2 hr. lab)

**EAP1520**  
Reading Level 5  
3.00 credits  
Students develop the ability to comprehend longer texts on diverse academic topics by applying appropriate reading strategies. (3 hr. lecture)

**EAP1540**  
Writing Level 5  
3.00 credits  
Students develop the ability to write basic structured academic essays with an emphasis on accuracy and cohesiveness and execute other academic writing tasks. (3 hr. lecture)

**EAP1560**  
Grammar Level 5  
3.00 credits  
Students develop the ability to comprehend and interpret authentic college-level text in content areas by applying appropriate reading strategies. (3 hr. lecture)

**EAP1581**  
Advanced 1 Combined Skills: Content-based English  
6.00 credits  
This course is intended for Advanced 1 EAP students and prepares the non-native speaker of English for college-level study. Students will learn by focusing on speaking, listening, grammar/vocabulary, writing, and reading comprehension skills as they relate to selected Education courses. Prerequisites: EAP 0400, 0420, 0440, and 0460. Corequisite: EEC 1000, or EEC 1200, or EEC 1311, or EEC 2202. Recommended preparation: Appropriate passing score on the COMPASS Test. (6 hr. lecture)

**EAP1585**  
Advanced 1 - Integrated Writing & Grammar  
6.00 credits  
Students will learn to write essays by developing advanced grammar and rhetorical structures. Prerequisites: EAP0440 or 0485, and 0460, or equivalent proficiency. Co-requisites: one (1) approved college level course (6 hr. lecture)

**EAP1586**  
Advanced 1 - Integrated Reading, Speech & Listening  
6.00 credits  
Students will learn to comprehend academic and other authentic reading materials and effectively participate in college-level oral/aural tasks by applying appropriate learning strategies. Prerequisites: EAP 0420 or 0486, and 0400, or equivalent proficiency. Co-requisite: one (1) approved college level course. (6 hr. lecture)

**EAP1600**  
Speech/Listening Level 6  
3.00 credits  
Students further develop communication skills necessary for full participation in mainstream college classrooms including comprehension of extensive discourse. (3 hr. lecture)

**EAP1600L**  
Speech/Listening Level 6 Laboratory  
1.00 credits  
Students further develop communication skills necessary for full participation in mainstream college classrooms including comprehension of extensive discourse. (2 hr. lab)

**EAP1620**  
Reading Level 6  
3.00 credits  
Students develop the ability to comprehend and interpret authentic college-level text in content areas by applying appropriate reading strategies. (3 hr. lecture)

**EAP1640**  
Writing Level 6  
3.00 credits  
Students develop the ability to write a variety of college-level essays with sophistication, fluency, and accuracy and execute other academic writing tasks. (3 hr. lecture)

**EAP1640L**  
Writing Level 6 Laboratory  
1.00 - 3.00 credits  
Students further develop the ability to write a variety of college-level essays with sophistication, fluency and accuracy, and execute other academic writing tasks. (2-6 hr. lab)

**EAP1660**  
Grammar Level 6  
3.00 credits  
Students develop the ability to use complex grammatical structure necessary for effective participation in mainstream college classes. (3 hr. lecture)
**EAP1683**  
Combined Accelerated Advanced Reading/Writing level 6  
6.00 credits  
This is an accelerated alternative course for EAP courses 1520, 1540, 1620, and 1640. Students will learn to complete college-level reading and writing assignments. Prerequisite: EAP 0420, 0440 or appropriate placement score on COMPASS exam (87-92 on reading subtest) and writing sample; Corequisite: EAP 1689 Combined Accelerated Advanced Speech, Listening, and Grammar. (6 hr. lecture)

**EAP1685**  
Advanced 2 - Integrated Writing & Grammar  
6.00 credits  
Students will learn to refine essays by developing advanced grammar & rhetorical structures. Prerequisites: EAP1540 and 1560, or 1585, or equivalent proficiency. Co-requisites: one (1) approved college level course (6 hr. lecture)

**EAP1686**  
Advanced 2 - Integrated Reading, Speech & Listening  
6.00 credits  
Students will learn to comprehend academic and other authentic reading materials and effectively participate in college-level oral/aural tasks by applying appropriate learning strategies. Prerequisites: EAP1540 or 1520, and 1500. Co-requisite: one (1) approved college level course. (6 hr. lecture)

**EAP1689**  
Combined Accelerated Advanced Speech, Listening and Grammar Level 6  
6.00 credits  
This is an accelerated alternative course for EAP courses 1500, 1560, 1600, and 1660. Students will learn oral communication and lexico-grammatical skills necessary for college-level courses. EAP 0420 and 0440 or appropriate placement score on COMPASS exam (81-88 on grammar subtest and 83-91 on listening subtest) and writing sample; Corequisite: EAP 1683 Combined Accelerated Advanced Reading and Writing. (6 hr. lecture)

**Fashion**

**CTE1050**  
Introduction to Fashion Design and Related Industries  
3.00 credits  
In this course, the student will learn the functions and processes of the fashion industry from the designer’s and the merchant’s perspective. The student will also explore how products go from concept, development, production, marketing and finally, the consumer. The course explores the global interrelationships of the fashion industry segments. (3 hr. lecture)

**CTE1401**  
Textiles  
3.00 credits  
This is a survey course designed for students majoring in fashion-related curriculum or with a general interest in textile materials. Students will learn basic elements of the transformation from fiber of textiles into finished goods. The course provides insights into textile manufactures with a primary focus on general textile applications relative to end-use consumer products. Students will learn the terminology needed for effective communication throughout the fashion supply chain, gain insight and appreciation for the relative value of textile products and the appropriateness of specific textile uses. (3 hr. lecture)

**CTE1401L**  
Introductory Textile Science Lab  
1.00 credit  
The laboratory CTE 1401L course complements the Introductory Science CTE 1401 course. Students will learn the methods for basic identification of textile materials and rudimentary analysis techniques. The laboratory is also designed to support and parallel the concepts discussed in the lectures. (2 hr. lab)

**CTE1721C**  
Fashion Design I  
3.00 credits  
This course explores foundations of the design process, the elements and principles of design. Elements of design described here are point, line, shape, form, space, color, and texture. Principles of design include balance, proportion, perspective, emphasis, movement, pattern, repetition, rhythm, variety, harmony, and unity. The student will develop, present and execute design ideas exploring both elements and principles of design. Students also develop sketchbooks detailing the development of each project. Prerequisite: CTE 1743C (1 hr. lecture, 2 hr. lab)

**CTE1743C**  
Patternmaking Level 1  
3.00 credits  
This course will focus on the development of basic blocks: bodice, skirt, sleeve and pant. The 3 basic tenets of design development, dart manipulation, adding volume and contouring are reviewed, in accordance with standard production practices. The student will learn to draft and manipulate the various garments and develop toiles and final patterns. (1 hr. lecture, 3 hr. lab)

**CTE1801**  
Introduction to Fashion Merchandising and Marketing  
3.00 credits  
This introductory class provides an exposure to merchandising and terminology. Students will learn the entrepreneurs who influence the industry, career possibilities and an overview of the components of a manufacturer’s or retailer’s promotional techniques. (3 hr. lecture)

**CTE1841C**  
Apparel Evaluation & Production  
3.00 credits  
This is an introductory course in the apparel development process. Students will learn to facilitate the communication and coordination of pre-product development tasks achieved through linking design, costing, and manufacturing technology in the production setup for each design. Students will learn how outsourcing affects the
CTE2120
Portfolio Collection Development
3.00 credits
In this course, the student will use both hand and digital techniques to develop a physical and online portfolio. The student will also incorporate target market and research built on previous course projects to produce a professional presentation ready for the industry. Prerequisite: CTE 1841C, CTE 2732; Corequisite: CTE 1760C (3 hr. lecture)

CTE2301
Product Development
3.00 credits
In this course students will learn the concepts and methods by which retailers create special, store-branded merchandise for targeted customer segments. The process of product development, from research to production to distribution, is studied. Prerequisite: CTE1401L, CTE1401. (3 hr. lecture)

CTE2310C
Clothing Construction Methods Level 1
3.00 credits
Students will learn the basic elements of sewing utilized and incorporated into all designs in the garment industry. These garment structures form the fundamentals of sewing and are integrated into the construction methods used by each company in the applications to a specific design. Prerequisite: CTE1721C. (1 hr. lecture; 2 hr. lab)

CTE2330C
Clothing Construction Methods Level 2
3.00 credits
This course focuses on intermediate to advanced finishing techniques. The student will learn various fabric manipulation techniques along with advanced collar, hem and pocket finishes in original student design and pattern work. Prerequisite: CTE 1743, CTE 2310C (1 hr. lecture, 3 hr. lab)

CTE2388
Principles of Contemporary Retailing
3.00 credits
In this course students will learn the operational segments of the fashion industry and their functions. The course focus is on the contributions employees add to sales productivity and customer satisfaction in retail establishments and on the exploration of new technologies and their impact on consumers' shopping experiences. Prerequisite: CTE1050. (3 hr. lecture)

CTE2342C
Clothing Construction Methods Level 3
3.00 credits
This course advances students' knowledge about materials, core properties and construction techniques that inform their choices made for silhouette creation and hands-on prototype development. Students will explore more advanced principles and techniques of unstructured draping using soft fabric for the creative interpretation and artistic development of contemporary designs. Emphasis on proportion, balance and shape as related to design aesthetics. Pre-Req CTE2330C. (1 hr. lecture; 4 hr. lab)

CTE2610
Fashion Forecasting & Research
3.00 credits
In this course students will learn to explore and apply forecast research methods in preparation for developing, planning, purchasing, or merchandising apparel lines and collections. Using the case study method, trend research is evaluated through the use of scholarly texts, articles, databases, and relevant websites to identify opportunities for growth and profitability in a fashion business. Prerequisite: CTE1050, MAR1011 (3 hr. lecture)

CTE2722C
Fashion Design 2
3.00 credits
The course focuses on group design work and industry partnerships that allows the student to experience real world design briefs. The student will also explore design in a corporate setting either virtually or
literally under the ethos of a given corporate DNA. Projects are then reviewed and feedback is given by the community (corporate) partners. In addition, the student will experiment with new technologies including but not limited to laser cutting, 3D printing, and wearable technology. Students develop sketchbooks detailing the development process of each project. Prerequisite: CTE 1721C, CTE 2745C (1 hr. lecture, 2 hr. lab)

**CTE2732**
Fashion Illustration Technology
3.00 credits

This course introduces Computer Aided Design as it applies to Fashion Design and Fashion Merchandising. Using various computer software, including but not limited to Adobe Photoshop and Adobe Illustrator, students will learn the techniques to conceptualize and communicate design ideas and collections to create industry-standard presentations. (3 hr. lecture)

**CTE2745C**
Patternmaking Level 2
3.00 credits

This course focuses the integration of flat pattern and draping. The student will learn the foundations of Draping as a design development and execution technique. How to move from the form to the flat and on to the body. Prerequisite: CTE 1743C, CTE 2310C (1 hr. lecture, 3 hr. lab)

**CTE2749C**
Patternmaking Level 3
3.00 credits

This course reinforces the students understanding of the art of draping and patternmaking and diverse methods the industry uses to create production patterns. Students will analyze draping and drafting techniques to create an awareness of which method is most applicable for a given situation. Analytical thinking and hands-on class experiences will strengthen students’ skills, thus enabling them to expand on their creativity and provide proper fit to their creations. (1 hr. lecture, 4 hr. lab)

**CTE2760C**
Creative Design
3.00 credits

In this capstone course, the student will focus on the acquisition of a multidisciplinary methodology needed to produce a collection. The student will also survey the various steps of building a collection, from conception and range planning through to design, execution and presentation. A minimum of 6 looks will be produced by the end of the semester. Prerequisite: CTE2342C and CTE2722C and CTE2749C. (1 hr. lecture, 2 hr. lab)

**CTE2800**
Textile, Apparel & Retail Analysis
3.00 credits

In this course students will learn about textile marketing of sustainable apparel and the textile value chains from product concept to the consumer. A variety of topics on global value chains, market analysis, product development, manufacturing, market and sourcing are explored. The global impact of trade and sourcing constraints are examined. Through readings, case studies and in-class industry presentations, students will explore a comprehensive array of contemporary issues, both social and regulatory, that help in understanding the complex value and supply chain. Prerequisite: CTE2388 (3 hr. lecture)

**CTE2802**
Fashion Merchandising Strategies
3.00 credits

In this course students will gain comprehensive knowledge of the merchandising environment, including the functions and objectives of the merchandising team, the principles and techniques of today’s buyers, planners, product developers, and account executives. Prerequisite: GSS1060C (3 hr. lecture)

**CTE2836**
Global Merchandising
3.00 credits

In this course students will learn the merchandising practices used around the world in fashion apparel companies, both in retail and wholesale. American merchandising theory is used as a base of comparison in the consideration of various religions, cultures, legal systems, and other global systems. Corequisite: CTE2802 (3 hr. lecture)

**Film, Radio, TV Technology**

**DIG3255C**
Advanced Sound Design
3.00 credits

In this upper division course for BAS students in Film, Television & Digital Production students will learn advanced audio production, emphasizing audio recording, mixing, editing, overdubbing, and aesthetics. Prerequisite: RTV2240C, (2 hr. lecture 2 hr. lab)

**DIG3347C**
Advanced Cinematography
3.00 credits

In this upper division course for BAS students in Film, Television & Digital Production students will learn the technical and aesthetic principles of advanced cinematography techniques. Prerequisite: RTV2246C, FIL2515C, (2 hr. lecture 2 hr. lab)

**DIG3940**
Upper Division Internship
3.00 credits

In this upper division internship for BAS students in Film, Television & Digital Production students will learn to apply their knowledge and skills at an established film or television entertainment company (144 hr. Internship)

**DIG4345C**
Digital FX & Compositing
3.00 credits

In this upper division course for BAS students in Film, Television & Digital Production students will learn the theory and practice of video compositing and motion graphics. (2 hr. lecture 2 hr. lab)
DIG4505C
DVD Authoring, Web Design, & Electronic Distribution
3.00 credits
Students will learn how to author interactive DVDs, create a basic website and distribute audio and video content via the internet. Corequisite: FIL4586C. (2 hr. lecture; 2 hr. lab)

FIL1030
History of Film
3.00 credits
In this introductory course students will learn about the history of motion pictures, with an emphasis on American and European films. (3 hr. lecture)

FIL1055
American Independent Film
3.00 credits
In this introductory course, students will learn about the American independent film movement with an emphasis on American directors and producers. (3 hr. lecture)

FIL1060
Survey of Documentary Film
3.00 credits
In this introductory course students will learn the history of nonfiction films, with an emphasis on American and European filmmakers. (3 hr. lecture)

FIL1100
Screenwriting 1: Introduction to Story Structure
3.00 credits
A workshop-style introductory class covering narrative script writing for film and television. Students will learn to develop a short-format screenplay incorporating three-act story structure, script elements, and standard industry format. (3 hr. lecture)

FIL1420C
Film Production 1: Introduction to the Filmmaking Process
4.00 credits
An introductory overview of the art and technology of narrative motion picture production. Students will learn basic production techniques, from pre-production through production to final screening. Corequisite: FIL2552C; (2 hr. lecture 4 hr. lab)

FIL1431C
Film Production 2: Cinematography and Sound
4.00 credits
An introductory course in which students will learn cinematography and sync-sound motion picture production. Prerequisite: FIL1420C, Corequisite: FIL2553C; (2 hr. lecture 4 hr. lab)

FIL2131
Screenwriting 2: Character Development & Advanced Story Structure
3.00 credits
In this workshop-style intermediate level course students will learn about character development and various story structures for narrative motion picture screenplays. Prerequisite: FIL1100 (3 hr. lecture)

FIL2407
Film/Pre-Production
2.00 credits
This class prepares students for the film production process by introducing them to the technical and organizational aspects of filmmaking that need to be completed before the first day of production. Students will learn all aspects of pre-production planning and preparation including analyzing and interpreting scripts, storyboards, fax-sheets and set designs, casting, wardrobe and make-up considerations and they will learn to prepare a location and studio set-up. (1 hr. lecture; 2 hr. lab)

FIL2413
Screenwriting 3
3.00 credits
An advanced course in which the fundamentals of story structure and character development introduced in Screenwriting 1 and Screenwriting 2 are refined. The student will learn how to write an outline for a feature-length motion picture. Prerequisite: FIL2131, (3 hr. lecture)

FIL2480C
Film Production 3: Directing
4.00 credits
An intermediate practicum in motion picture direction through the analysis of various directors’ and their cinematic styles. Students will learn the role of the director by interpreting dramatic material, effectively guiding acting performances, and communicating a story visually. Prerequisite: FIL1431C, RTV1240C, FIL2553C; (2 hr. lecture 4 hr. lab)

FIL2515C
Film Production 4: Producing the Short Film
4.00 credits
An advanced course in film production. Students will learn to apply the fundamentals of film production as introduced in Film Production 1, 2, & 3 to the production of a portfolio-quality narrative short film. Prerequisite: FIL2480C, (2 hr. lecture 4 hr. lab)

FIL2552C
Editing Level 1: Introduction to Editing
3.00 credits
An introductory course in which students will learn the practice of editing digital media. (2 hr. lecture 2 hr. lab)

FIL2553C
Editing Level 2: Intermediate Editing and Visual Effects
3.00 credits
An intermediate course in which students will learn video editing with an emphasis on sound design and visual effects. Prerequisite: FIL2552C, (2 hr. lecture 2 hr. lab)

FIL2560C
Editing Level 3: Advanced Editing: Color Correction and Finishing
3.00 credits
An advanced course in which students will learn the practice of color correcting and finishing fiction and non-fiction projects. Prerequisite: FIL2553C, (2 hr. lecture 2 hr. lab)

FIL2572C
Advanced Video Post Production
3.00 credits
Students will learn advanced theory and practice of non-linear editing. The course
will concentration effects, color correction and editorial working practices. Prerequisite: FIL 2552C, 2553C with a grade of "C" or better. Laboratory fee. (2 hr. lecture; 2 hr. lab)

**FIL2611**
Film Business Marketing Distribution Exhibition
3.00 credits
Examination of the functional areas within marketing as well as the various distribution means (both current and projected) that are governing the sale of independent feature films or films financed outside of the studio system. Students learn to distribute their own selected films in this course. Prerequisite: FIL 1431. (3 hr. lecture)

**FIL2945**
Film Internship
3.00 credits
Students will learn to apply the various skills gained throughout the program in a semester long immersion at an established film entertainment company. Prerequisite: FIL 2480C. (15 hr. lecture)

**FIL2949**
Co-op Work Experience 2: FIL
3.00 credits
This course is designed to continue training in student’s field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisites: Co-Op Department approval and completion of 1949 Co-Op Work Experience. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-Operative Education Office to obtain registration approval. Prerequisite: FIL 2515C. (3 hr. lecture)

**FIL3602**
Production Management
3.00 credits
In this upper division course for BAS student’s in Film, Television & Digital Production students will learn the theory and practice of managing film and television production with an emphasis on pre-production processes and software. Prerequisite: FIL 2611, MMC 2000. (3 hr. lecture)

**FIL3651**
Business Proposals for Film & Television
3.00 credits
In this upper division course for BAS student’s in Film, Television & Digital Production students will learn the theory and practice of business plans/grant proposals in media production funding. Prerequisite: FIL 2611, MMC 2000. (3 hr. lecture)

**FIL4164**
Advanced Writing for Film and Television
3.00 credits
In this upper division course in Film, Television & Digital Production students will learn the process of completing a long form motion picture or television script. Prerequisite: RTC 2300, FIL 2131. (3 hr. lecture)

**FIL4585C**
Production Workshop 1
4.00 credits
In this production course, students will learn and apply industry-standard pre-production and production techniques to produce a fiction or non-fiction film. Students will go through a selection process to determine their crew positions on the production. Prerequisite: DIG 3347C, FIL 3605 (2 hr. lecture; 2 hr. lab).

**FIL4586C**
Production Workshop 2
4.00 credits
In this upper division workshop for BAS students in Film, Television & Digital Production students will learn to apply industry-standard post-production techniques to complete Production Workshop 1 projects. Prerequisite: FIL 4585C. (2 hr. lecture 2hr. lab)

**RTV1000**
Fundamentals of Broadcasting
3.00 credits
In this introductory course for television and radio broadcasting, students will learn about the foundations of the American broadcast system. (3 hr. lecture)

**RTV1100**
Writing for Electronics Media
3.00 credits
This course should enable you to write comfortably for the media in a variety of formats. You will be introduced to analysis and preparation of scripts that emphasizes common principles of wording for mass media of communication and formats peculiar to each medium. You should learn basic broadcast principles of copy preparation, first for radio and then for the added requirements of television news. Particular attention will be given to commercials and public service announcements. There will be opportunities to study and write documentaries and other long-form programs. At the end of the course, you should understand what goes into a script and have the ability to write a workable script in the medium of your choice. (3 hr. lecture)

**RTV1240C**
Sound Design
3.00 credits
In this introductory Sound Design course students will learn an overview of sound recording and audio post-production. (4 hr. lecture)

**RTV1241C**
Television Production 1
4.00 credits
An introductory overview of the practices and procedures used in a television studio. Students will learn basic operation of studio and control room equipment and work towards the completion of broadcast standard projects. (2 hr. lecture 4 hr. lab)

**RTV1242C**
Television Production 2
4.00 credits
An intermediate course in television studio production. Students will learn to implement the fundamentals as introduced in Television Production 1 to the production of scripted programs. Prerequisite: RTV 1241C. (2 hr. lecture 4 hr. lab)
RTV2205C  
Television Workshop  
3.00 credits  
Production of TV shows from the script to the taping and the fully edited master. Includes post production if required. This course combines learning outcomes from all previous production courses through professional level productions. Prerequisite: TV 2246C. Laboratory fee. May be repeated for credit. (1 hr. lecture; 4 hr. lab)

RTV2230C  
Radio and Television Announcing  
3.00 credits  
In this introductory class the student will learn about the processes used by On-Air Talent in television and radio production. (2 hr. lecture 2 hr. Lab)

RTV2243C  
Directing  
3.00 credits  
An introductory overview of television directing. Students will learn the responsibilities of the television director in coordinating production elements and television control room techniques. Prerequisite: RTV1242C, (2 hr. lecture 2 hr. lab)

RTV2245C  
Electronic Field Production 1  
4.00 credits  
An introductory course in which students will learn single-camera field production and electronic news gathering. Prerequisite: RTV1242C, (2 hr. lecture 4 hr. lab)

RTV2246C  
Electronic Field Production 2  
4.00 credits  
In this intermediate workshop style class students will learn about documentary production. Prerequisite: RTV2245C, (2 hr. lecture 4 hr. lab)

RTV2252  
TV/Video Pre-Production  
2.00 credits  
Students will learn all aspects of pre-production planning and preparation including analyzing and interpreting scripts, storyboards, fax sheets, and set designs, casting wardrobe and make up considerations and they will learn to prepare a location and studio set-up. (1 hr. lecture; 2 hr. lab)

RTV2300  
Broadcast Writing  
3.00 credits  
In this intermediate workshop style class students will learn broadcast writing emphasizing news, documentary, commercials, and long-form programming. (1 hr. lecture 2 hr. lab)

RTV2940  
Television Internship  
3.00 credits  
In this lower division internship designed for AS students in Television Production, students will learn to apply skills and knowledge learned in the program at an established television entertainment company. Prerequisite: RTV1242C, (144 hr. Internship).

RTV2941  
Fall Television Practicum  
3.00 credits  
This course is an advanced internship with limited enrollment requiring departmental approval. Students will learn advanced camera and lighting techniques, while assisting in the production of shows for Cable-TAP television. Miami-Dade County's official community access channel. AS degree credit only. Prerequisite: RTV 1242C. (6 hr. lab)

RTV2942  
Spring Television Practicum  
3.00 credits  
This course is an advanced internship with limited enrollment requiring departmental approval. Students will learn advanced camera and lighting techniques, while assisting in the production of shows for Cable-TAP television. Miami-Dade County’s official community access channel. AS degree credit only. Prerequisite: RTV 1242C. (6 hr. lab)

RTV2943  
Summer Television Practicum  
3.00 credits  
This course is an advanced internship with limited enrollment requiring departmental approval. Students will learn advanced directing and floor management techniques, while assisting in the production of shows for Cable-TAP television. Miami-Dade County’s official community access channel. AS degree credit only. (6 hr. lab)

RTV3256C  
Advanced Post Production  
3.00 credits  
An advanced course in which students will learn complex digital media post production techniques. Prerequisite: FIL2553C. (2 hr. lecture 2 hr. lab)

RTV3277C  
Television Studio Production Workshop  
3.00 credits  
In this upper division workshop class for BAS students in Film, Television & Digital Production students will learn advanced television studio production techniques for pre-scripted programs. Prerequisite: RTV2246C, FIL2515C. (2 hr. lecture 2 hr. lab)

RTV3408  
Ethics & Research for Non-Fiction Scripts  
3.00 credits  
In this upper division course students will learn research methods applicable to documentary production. Prerequisite: FIL2131, RTV2300. (3 hr. lecture)

RTV3810C  
Broadcast Design & On-Air Promotions  
3.00 credits  
In this upper division course in BAS in Film, Television & Digital Production students will learn about on-air promotions with specific emphasis on layout, color, and composition. (2 hr. lecture 2 hr. lab)

VIC1000  
Visual Communications  
3.00 credits  
An introductory course in which students will learn the visual aspects of film, video, photography and graphic arts, specifically dealing with design elements and principles. (2 hr. lecture 2 hr. lab)
VIC1205C
Video Compositing and Motion Graphics 1
3.00 credits
This course is an introduction to visual effects for film and television. The student will learn basic level techniques of still and motion graphic design in visual effect compositing for film and video using Photoshop and After Effects. Prerequisite: FIL 2552C. Laboratory fee. (2 hr. lecture; 2 hr. lab)

Finance

FIN1930
Special Topics Seminar
1.00-3.00 credits
This course centers around topics of current interest or of special interest. Topics or focus may vary from semester to semester. (1 hr. lecture)

FIN2000
Principles of Finance
3.00 credits
The creation, allocation, and utilization of money, and the effect of monetary policy upon individuals, business, national and international economics. This course provides a basis for further study of monetary theory, banking, finance and securities. (3 hr. lecture)

FIN2010
Investments in Stocks and Bonds
3.00 credits
The basic principles of the stock market as they affect the individual investor in stocks and bonds. Investment in these securities is studied from the standpoint of the short-term and long-term investors. (3 hr. lecture)

FIN2031
Risk Management & Compliance
3.00 credits
This course offers an analysis of the risks faced by investors and savers interacting through both financial institutions and financial markets. It will provide insight at the risks and opportunities of doing business in today’s financial markets and the challenges presented by both regulators and market participants. The course will review the increasing integration of foreign and domestic financial markets. (3 hr. lecture)

FIN2032
Fundamentals of Wealth Management, Institutions, Markets and Products
3.00 credits
This course is a standard introduction to the financial services profession, financial markets, and financial institutions. It touches on nearly every aspect of financial services. It assists professionals in understanding concepts, markets, products, regulations and the application of financial planning and development of wealth management skills. Prerequisite: ACG 2021, 2021L, BAN2210. (3 hr. lecture)

FIN2051
International Financial Management
3.00 credits
The student will learn basic concepts and principles of international finance, with consideration of the financial environment, transactions, and flows. Exchange rates, risks, and government policies affecting business are analyzed as well as management policies and decisions. Special fee. (3 hr. Lecture)

FIN2100
Personal Finance
1.00 - 3.00 credits
A study of economic and personal goals including personal budgeting, credit budgeting, borrowing money, banking facilities, the nature of investments, life insurance, casualty insurance, home ownership, stocks and bonds, and retirement plans. (1-3 hr. lecture)

FIN2642
Financial Analysis & Valuation
3.00 credits
This course will cover financial institutions, financial investments, financial planning and analysis and international financial perspectives. It addresses core principles of value creation, merger, analysis of historical financial performance, cash flows and the identification of sources of value. (3 hr. lecture)

FIN2990
CBE Financial Services Operations and Specialist
1.00 – 18.00 credits
The FIN 2990 Operations and Specialist course is designed to assess students’ mastery of competencies and skills necessary for a successful career in financial services. The course accelerates the development of market assessment and financial acumen competencies as well as competencies related to written and oral communication skills. The course provides learners with an exceptional opportunity for higher level study and professional growth in the field of credit and business lending. Upon successful completion of FIN 2990 learners will receive two College Credit Certificates (CCCs)—Banking Operations (CCC) and Banking Specialist (CCC). Prerequisite: ACG2001, ACG2011, ACG2011L, ACG2001L or ACG2021, ACG2021L.

FIN4303
Financial Markets and Institutions
3.00 credits
Students will learn the importance of financial markets and the role financial intermediaries’ play. Emphasis will be upon the objectives and policies of financial intermediaries within the constraints of the law and regulatory authorities. Must pass course with a grade of "C" or higher. Special fee. (3 hr. Lecture)

Fire Science

FFP1505
Fire Prevention
3.00 credits
Florida State Fire Marshals regulations as they relate to fire prevention. Surveys of other authoritative sources, codes and ordinances such as the National Fire Code, miscellaneous model codes, underwriter’s laboratory, and the fire prevention intent of various codes. (3 hr. lecture)
COLLEGE CREDIT COURSES

FFP1710
Supervision-Leadership for Fire Officers
3.00 credits
Analysis of the broad concepts of supervision and leadership to analyze the kinds of effective leadership-followership needed in the fire services, and how roles and attitudes must change in the high stress conditions to which fire fighters are routinely exposed. One of four courses recommended by the Florida Fire Standards Council for Pre-Officer Training. (3 hr. lecture)

FFP2120
Building Construction for Fire Science
3.00 credits
A study of buildings fire codes; life safety and OSHA fire protection codes; a study of basic building construction files and the behavior of building materials during a fire; a survey of research and standards development. (3 hr. lecture)

FFP2301
Fire Hydraulics
3.00 credits
The basic theories of hydraulic as applied to the fire services. The mathematics and formulas necessary to solve fire stream calculations and any such variables. Prerequisites: MTB 1321 or equivalent ability to square numbers and perform square roots is required. (3 hr. lecture)

FFP2305
Fire Apparatus and Equipment
3.00 credits
Various mechanical, hydraulic, pneumatic and electrical systems found on heavy duty, high performance fire apparatus. Why and how major parts work, their relationship, and the emergency procedures followed to make equipment apparatus are studied. Prerequisite: FFP 2301. (3 hr. lecture)

FFP2401
Hazardous Materials 1
3.00 credits
An introduction to flammable hazardous materials and the basic chemical and physical properties of matter as found in solid, liquid or gaseous forms. Hazardous environmental conditions and the interaction of materials are discussed. (3 hr. lecture)

FFP2402
Hazardous Materials 2
3.00 credits
A further study of hazardous materials with emphasis on unstable chemicals; explosive substances and their handling; exotic fuels (solids and liquid propellants); pesticides, corrosive toxic and radioactive substances. Standard operating procedures for fire departments will be discussed. Prerequisite: FFP 2401. (3 hr. lecture)

FFP2510
Fire and Building Codes
3.00 credits
The national, state and local municipal fire codes with emphasis on local laws and ordinances related to life-safety features designed into structures of all types. Emphasis is on the fire prevention requirements of the South Florida Building Code. Prerequisite: FFP 1710. (3 hr. lecture)

FFP2521
Blueprint Readings and Plans Review
3.00 credits
A study of building construction plans review and examination with an emphasis on building integrity. Life Safety and code compliance. Prerequisite: FFP 2810. (3 hr. lecture)

FFP2540
Fire Detection and Suppression Systems
3.00 credits
Various electronic fire detection devices and systems, the kinds and operation of various mechanical and automatic suppression systems, and the chemical reactions that various suppressants make when in contact with hazardous materials. (3 hr. lecture)

FFP2590
Fire Inspector Preparation
1.00 - 9.00 credits
Life/fire safety and building codes used by all fire department inspectors in Greater Miami-Dade County as well as inspection process, procedures and reporting requirements for each occupancy classification. Successful completion of the course leads to specialized certification as a Fire Inspector. Prerequisite: Permission of department chairperson. (1-9 hr. lecture)

FFP2604
Arson Detection and Investigation
3.00 credits
An introduction to arson laws and types of incendiary fires. Students study methods of determining fire cause, recognizing and preserving evidence, the phenomenon of pyrolysis; normal patterns of structural fires; interviewing witnesses, court procedures and giving court testimony. Prerequisite: FFP 2301. (3 hr. lecture)

FFP2700
Fire Department Management
3.00 credits
The municipal supervision-management policies, practices and procedures necessary to keep the firefighting team ready to implement fire prevention/suppression activities. One of four courses recommended by the Florida Fire Standards Council for Pre-Officer Training. Prerequisite: FFP 1710. (3 hr. lecture)

FFP2740
Fire Service Instructor
3.00 credits
The instructors’ responsibilities in transmitting good study habits, class communication; human relations; learning and teaching concepts; job analysis, identifying teaching objectives; teaching methods and techniques; instructional aids and criteria and performance based evaluations. One of the four elements of instruction required by the Florida Fire Fighter Standards Council for Pre-Officer Eligibility. Prerequisite: ENC 1101. (3 hr. lecture)

FFP2741
Fire Service Instructor (Course Design)
3.00 credits
Fire Service Instructor (Course Design) emphasizes techniques that will assist the Fire Service Instructor develop skills in curriculum development including the importance of an active training program. Students will learn
the principles of effective curriculum design for adult and student centered learning. They will understand how to design courses and units related to learning, teaching, performance, and behavioral objectives. The State Fire Marshal, Bureau of Fire Standards and Training require this course for instructor II and III certification. This certification enables the instructor to teach higher-level courses (i.e.: Fire Officer I and II, Fire Inspector). (3 hr. lecture)

**FFP2810**  
Fire Fighting Tactics and Strategy  
3.00 credits  
The principles of efficient utilization of manpower, equipment, and apparatus with emphasis on pre-fire planning, decision making and problem-solving related to fire-ground tactics. One of four courses recommended by the Florida Fire Standards Council for Pre-Officer Training. Prerequisite: Sophomore standing in program or employed Fireman. (3 hr. Lecture)

**Food Service**

**FSS1100**  
Foodservice purchasing  
3.00 credits  
This is an introductory course in which students will learn the principals of menu planning for various types of facilities and service as well as menu layout, selection, development and pricing structures. Students will learn the principals and practices concerned with the purchase and receipt of food, supplies and equipment for various food service operations. Prerequisites: FSS 1200, 1202L. (3 hr. lecture)

**FSS1200**  
Culinary Terminology and Procedures  
3.00 credits  
This is an introductory course in industry vocabulary, terminology, knowledge, skills, and practices. The students will learn standard kitchen phrases, how to identify and describe equipment, recipe reading, costing, conversion formulas, product identification, measurements and basic cooking procedures. Co-requisites: FSS1202L (3 hr. lecture)

**FSS1202L**  
Food Production 1  
3.00 credits  
This course is an introductory kitchen lab experience in which students will be provided hands-on orientation to tools, equipment, recipe production, measurements, knife cut techniques and basic cooking procedures. Students will practice classic cooking methods, product identification and the functions of the production kitchen in a “green” team environment. Corequisite: FSS 1200. (6 hr. lab)

**FSS1204L**  
Food Production 2  
3.00 credits  
This is a lab course in which students will reinforce the skills that they learned in Production 1. Students will learn cooking methods, knife skills, and applied principles of cooking techniques. The course will emphasize portion control, work plans, and organization and production schedules. This course reviews stock and sauce making, stock and sauce making, moist heat cooking methods, dry heat cooking methods, knife skills, stock and sauce making, moist heat cooking methods, dry heat cooking methods, and combination cooking methods will be reviewed on an advanced level. The student will review butchery, seafood and modern cooking methods. Pre-requisites: FSS1200, and FSS1202L, and FSS1204L, and FSS2242C, and FSS2246C, and FSS2248C (6 hr. lab)

**FSS2205L**  
Food Production 3  
3.00 credits  
This capstone course will reinforce the skills learned in the prerequisite classes. Students will learn how to brew beer, pair wine and food, and review the distillation process for spirits through hands on experiences as well as practices in dining room management and tableside cooking. Knife skills, stock and sauce making, moist heat cooking methods, dry heat cooking methods and combination cooking methods will be reviewed on an advanced level. The student will review butchery, seafood and modern cooking methods. Pre-requisites: FSS1200, and FSS1202L, and FSS2242C, and FSS2246C, and FSS2248C (6 hr. lab)

**FSS2207C**  
Garde Manger  
3.00 credits  
This is an advanced course in which students will reinforce their knowledge of equipment, vocabulary and theories learned in prerequisite classes. Students will learn to use global ingredients, explore international cooking techniques and methods and be exposed to equipment specific to a world region. Students will have the opportunity to develop international menus and prepare dishes from many different countries. Prerequisites: FSS1200, 1202L, 1204L (1 hr. lecture; 4 hr. lab)

**FSS2242C**  
International Cuisines  
3.00 credits  
This is an advanced course in which students will reinforce their knowledge of equipment, vocabulary and theories learned in prerequisite classes. Students will learn how to brew beer, pair wine and food, and review the distillation process for spirits through hands on experiences as well as practices in dining room management and tableside cooking. Knife skills, stock and sauce making, moist heat cooking methods, dry heat cooking methods, and combination cooking methods will be reviewed on an advanced level. The student will review butchery, seafood and modern cooking methods. Pre-requisites: FSS1200, and FSS1202L, and FSS2242C, and FSS2246C, and FSS2248C (6 hr. lab)
FSS2381L
Culinary Management Practicum
4.00 credits
This required practicum is designed to provide hands-on culinary training through industry work experience. Students will be located in an approved site to reinforce their skills while being exposed to various stations in a food services operation. Students will learn to actively participate in various aspects of the operation including cooking, cost controls, and sanitation programs. Prerequisites: FSS2205L (92 hr. Practicum)

FSS2950L
Culinary Competition
3.00 credits
This advanced course will strengthen the student’s ability to utilize various culinary methods learned in prerequisite courses. The student will learn about the American Culinary Federation certification tests, guidelines and competitions. In addition, students will utilize their skills by participating in on site and recorded demonstrations. The class will reinforce and develop timing, teamwork and menu development. Prerequisites: FSS1200, 1202L, 1204L, 1242C, 1248C. (6 hr. lab)

Foreign Languages (In Translation)

FOT 2220
Localization and Project Management
3.00 credits
Software and website localization is a new and growing area of translation and is closely linked to the concepts of globalization and internationalization in electronic communications. In this introductory course students will learn how to adapt software for international markets as well as to how to translate websites. Students will also be introduced to basic concepts in localization project management. Prerequisite: FOT2802, FOT2825. (3 hr. lecture)

FOT 2701
Simultaneous Conference Interpretation
3.00 credits
This course builds on the foundation established in the previous Simultaneous Interpretation Strategies course. Students will continue developing their simultaneous interpretation skills through exercises such as shadowing, decalage, paraphrasing, etc. Through a variety of authentic recording materials, students will practice the simultaneous interpretation mode in the context of international organizations and conferences so as to acquire smooth delivery techniques while forming professional habits both in conference booths. Extensive practice in simultaneous interpretation will be provided both in class and online. Prerequisite: FOT2824. (3 hr. lecture)

FOT2802
Introduction to Translation
3.00 credits
Develops the ability to do accurate written translations in general. Includes the application of contrastive structures and grammar rules of source and target languages; translation of idiomatic expressions and an introduction to legal and technical vocabulary; the use of bilingual dictionaries and glossaries. The demands of translation as a profession and its code of ethics are stressed. (3 hr. lecture)

FOT2821
Introduction to Interpretation
3.00 credits
The acquisition and development of the abilities to convert an oral message from the source language into another consecutive oral message in the target language. (3 hr. lecture)

FOT2822
Court Interpreting Skills
3.00 credits
Continuation of FOT 2821 including deepening and broadening the type of exercise of FOT 2821 and gradual introduction to simultaneous interpretation. Oral translation with notes and conversations, ratio or tape passages. Extensive practice in the process of hearing, understanding, remembering and speaking for simultaneous oral interpretation. Participation in an internship or practical training program. (3 hr. lecture)

FOT2823
Consecutive Interpretation
3.00 credits
This course builds on the foundation established in Introduction to Interpretation (FOT2810) and acquaints the students with the practice and application of consecutive interpretation (English/Spanish). Development of active listening, concentration and retention skills as well as the ability to perceive essential meaning for subsequent recall is emphasized. This course also explores basic note taking techniques and provides practice in monolateral and bilateral consecutive interpretation. Prerequisite: FOT 2821. (3 hr. lecture)

FOT2824
Simultaneous Interpretation Strategies
3.00 credits
This course builds on the foundation established in previous interpretation courses while introducing the students to simultaneous interpretation (English/Spanish) by providing preparatory exercises such as shadowing, lagging, paraphrasing etc. Through a variety of recorded materials, students practice the simultaneous interpretation mode so as to acquire smooth delivery techniques while forming good professional habits. Prerequisites: FOT 2821, 2823. (3 hr. lecture)

FOT2825
Computer Assisted Translation 1
3.00 credits
Examines the types of translation software currently used in the translation/interpretation profession as well as the commercial use and business application of these. Description and application of tools such as translation memory, electronic dictionaries, desktop-publishing systems, and website translation technologies are covered. Prerequisite: CGS 1060. (3 hr. lecture)
FOT2826  
Legal Translation  
3.00 credits  
Continuation of FOT 2802. Written translations of multi-page documents and/or articles containing legal, technical and other specialized vocabulary from the source language into the target language. Firsthand translation experience by participating in a “translator’s bureau,” or an “internship” or practical training program. (3 hr. lecture)

FOT2827  
Medical Translation  
3.00 credits  
This course further develops translation strategies while familiarizing the student with the characteristics of medical and health-related discourse in both English and Spanish. Included is the acquisition of medical and hospital/clinic terminology and the analysis of related linguistic structures so students can engage in translating texts from English into foreign language and vice versa. Prerequisites: FOT 2802, 2803. (3 hr. lecture)

FOT2828  
Medical Interpretation  
3.00 credits  
This course develops the techniques, practices and knowledge needed to function as interpreters in a medical environment. Interpreting models such as sight, consecutive and simultaneous - as they apply to the medical setting - are revisited. Medical vocabulary/terminology in English and foreign language as well as code of ethics will also be introduced. Prerequisites: FOT 2821, 2823, and FOT 2824(recommended). (3 hr. lecture)

FOT2829  
Financial and Business Translation  
3.00 credits  
This course further develops translation strategies while familiarizing the students with the characteristics of financial and business discourse in both English and Spanish. Included is the learning of special terminology and related linguistic structures so students can engage in the translation of texts containing financial/business or economic discourse from English into Spanish and vice versa. As in legal translation, students engage in terminology research and glossary development through the use of specialized bilingual financial and business dictionaries and other pertinent sources. Prerequisites: FOT 2802, 2803. (3 hr. lecture)

FOT 2835  
Court Interpretation Skills II  
3.00 credits  
This course consolidates the skills learned in the previous Court Interpretation course (FOT 2822 Court Interpreting Skills), and continues developing sight translation, consecutive and simultaneous skills with emphasis in expert witness testimony. Attention is given to the development of specialized terminology in ballistics, finger printing, DNA analysis, controlled substances, among others. As part of this course, students will have to complete the 40 hours of court proceeding observation required by the state in order to take the Court Interpreter State Certification Examination. Prerequisite: FOT2822. (3 hr. lecture)

FOT2991  
Introduction to Interpretation Theory  
3.00 credits  
Students will learn to explore basic linguistic concepts including phonology, morphology, syntax, pragmatics and semantics. This course will also focus on how a language is organized and functions, and will establish a connection between Linguistics and Translation Theory. It also addresses current trends in Traductology as a basis for understanding Interpretation as a process, and its implications in interpreters’ performance. (3 hr. lecture)

FOT2992  
Introduction to Medical Interpreting Skills  
3.00 credits  
Course Description: Students will learn the techniques, practices and knowledge needed to function as interpreters in a medical environment. Interpreting modes such as sight, consecutive and simultaneous – as they apply to the medical setting – are revisited. Though this is a language neutral skills course, simulations will be conducted in the working languages of the participants whenever possible. (3 hr. lecture)

FOT2993  
Cross-Cultural Communication for Interpreters  
3.00 credits  
Course Description: This course provides the participants with the opportunity to identify cross-cultural issues and their impact on interpretation encounters. Students will analyze concepts such as communication, culture, cultural identity, non-verbal communication, and cultural context related to interpretation. (3 hr. lecture)

FRE1120  
Elementary French 1  
4.00 credits  
An integrated (multi-media) approach to acquire proficiency in the basic skills (of the language)-listening/understanding, speaking, reading, writing, and across-cultural awareness. Emphasis on practical vocabulary and accurate pronunciation. Practice in class and laboratory in understanding and using the spoken language; reading and writing with progressive grammatical explanations. (4 hr. lecture)

FRE1121  
Elementary French 2  
4.00 credits  
A continuation of FRE 1120. A proficiency-oriented course emphasizing the mastery of the basic skills of the language. Prerequisite: FRE 1120. (4 hr. Lecture)
FRE2220
Intermediate French 1
4.00 credits
Students will learn to understand, speak, read, write, and gain cultural awareness of French through a systematic review (using an integrated, multimedia approach) of reading grammar, and writing skills with emphasis on oral and written communication. Prerequisite: FRE 1121 or equivalent. (4 hr. lecture)

FRE2221
Intermediate French 2
4.00 credits
This is a continuation of Intermediate French 1. Students will learn to understand, speak, read, and write French. Students will also learn to develop cross-cultural awareness through a systematic review of reading and writing skills with emphasis on oral as well as written expression. Prerequisite: FRE2220 or equivalent. (4 hr. lecture)

FRE2240
French Oral Expression 1
3.00 credits
Developing skills in conversation. Oral structures. Vocabulary expansion. Phonetic correction. Level 1. Offered through Overseas Study Program. (3 hr. lecture)

FRE2241
French Oral Expression 2
3.00 credits
Developing skills in conversation. Oral structures. Vocabulary expansion. Phonetic correction. Level 2. Offered through Overseas Study Program. (3 hr. lecture)

FRW2010
Selected Readings in French Literature 1
3.00 credits
A study of outstanding works authors, genres, or literary currents in France. (3 hr. lecture)

FRW2011
Selected Readings in French Literature 2
3.00 credits
A study of outstanding works, authors, genres, or literary currents of French expression in francophone nations or areas. (3 hr. lecture)

Funeral Services Education

FSE1000
History of Funeral Service
3.00 credits
This course traces the origins of funeral service practice from antiquity to modern day practice. Students will learn the evolution of the ethical obligations, fundamental requirements, skills, aptitudes, and qualifications of funeral service professionals. Requires a grade of C or better to pass the course. (3 hr. lecture)

FSE1080
Funeral Law
3.00 credits
Federal, state and municipal statutes, rules, regulations and ordinances pertaining to funeral service; torts, contract and administrative laws, and financial disclosures pertinent to funeral operations and management. (3 hr. lecture)

FSE1105
Funeral Service Chemistry
3.00 credits
A survey of the basic principles of chemistry as they relate to funeral service. Especially stressed are the chemical principles and precautions involved in sanitation, disinfection, public health and embalming practice. (3 hr. lecture)

FSE2060
Funeral Directing
3.00 credits
Study of various religious, fraternal, military, traditional, nontraditional and humanistic variations of funeral ceremonies, including cultural, ethnic and geographic customs. (3 hr. lecture)

FSE2061
Thanatology
3.00 credits
Psychological and sociological dynamics of death, dying, and bereavement. Dynamics of counseling demonstrated through role-playing video critique and analysis. Prerequisite: FSE 1000. (3 hr. lecture)

FSE2100
Embalmng 1
3.00 credits
Orientation to basic embalming skills, case analysis, chemical composition, post-mortem changes, instrumentation and disinfection. Corequisite: FSE 2100L. (3 hr. lecture)

FSE2100L
Embalmng 1 Laboratory
2.00 credits
This laboratory course complements the lecture corequisite FSE2100. With hands-on experience in the preparation room, students will learn the foundational techniques associated with disinfection and preservation of human remains. Co-requisite: FSE2100. Recommended Preparation: BSC1084 is recommended prior to enrolling in FSE2100L. Special fee. (4hr. lab)

FSE2106
Funeral Service Microbiology
3.00 credits
This course is a survey of the basic principles of microbiology as it relates to Funeral Science. It emphasizes the importance of sanitation, disinfection, public health in the embalming practice. (3hr. lecture)

FSE2120
Restorative Art
3.00 credits
Anatomical study of human features; familiarization with instruments, human proportions, special materials and techniques. Corequisite: FSE 2120L. (3 hr. lecture)

FSE2120L
Restorative Arts Lab
1.00 credits
Laboratory for FSE 2120. Practice and techniques in reconstructive modeling. Corequisite: FSE 2120. Laboratory fee. (2 hr. lab)
FSE2120C
Restorative Art
4.00 credits
The student will learn the anatomical study of human features, familiarization with instruments, human proportions, special materials and techniques in restoration of human remains. Practical application of techniques found in funeral service reconstructive modeling and restoration. Prerequisite: FSE2100. (3 hr. lecture 2 hr. lab)

FSE2140
Embalming 2
3.00 credits
Emphasis on embalming considerations and procedures for pathogenesis and advanced decomposition, use of specialized chemicals, treatment of post-mortem cases and advanced techniques. Corequisite: FSE2140L. (3 hr. lecture)

FSE2140L
Embalming 2 Laboratory
2.00 credits
This course is a continuation of FSE2100 and complements the lecture co-requisite FSE2140. Students will learn advanced procedures to enhance their foundational knowledge of embalming technique as learned in the prerequisite classes FSE2100/ FSE2100L. Learning the fundamentals of general embalming technique as outlined by the American Board of Funeral Service Education Standards will enable students to work in a preparation room as embalming apprentices to licensed embalmers. Prerequisites: FSE 2100, FSE 2100L. Co-requisite: FSE2140. Special fee. (4 hr. lab)

FSE2160
Funeral Service Pathology
3.00 credits
General, systemic and forensic pathology with emphasis on analysis of pre-and post-mortem histology, cytology and etiology. Students will learn the causative factors relating to death and determination of cause of death. (3 hr. lecture)

FSE2200
Funeral Service Accounting
3.00 credits
An introduction to basic principles of accounting theory. This subject covers financial statements and their analysis, journalizing, receivables, payables, deferrals, and accruals. Inventory costing models depreciation models and payroll accounting are included. Applications to funeral home operations are made throughout the subject material. (3 hr. lecture)

FSE2201
Funeral Home Operations
3.00 credits
Theoretical and practical training in all areas of funeral home operations, laboratory experience in merchandising and funeral arrangements. Corequisite: FSE 2200. (3 hr. lecture/lab)

FSE2202
Funeral Service Business Management
3.00 credits
The role and function of an effective manager is explored. Emphasis is placed on the management functions of planning, organizing, motivating, directing, and controlling. How to purchase a small business is also covered. (3 hr. lecture)

FSE2203C
Funeral Home Applications
3.00 credits
Funeral Home Applications reinforces the academic and theory of prior classes with hands on, practical exercises. Students will learn procedures on taking first call, buying and selling of merchandise, funeral arranging, and conducting funerals. Must complete this course with a grade of "C" or better. Prerequisite: FSE2060, FSE2201. (3 hr. lecture)

FSE2930L
Funeral Service Professional Review 1
1.00 credits
This course is for the Funeral Science student who is graduating and taking the National Board Examination at the end of the semester that this course is being offered. The course is a review of the science section of the Funeral Science courses in order to help prepare the student for the National Board Examination. Prerequisite: Permission of the department is required. (2 hr. lab)

FSE2931
Funeral Service Professional Review 2
1.00 credits
This course is for the Funeral Science student who is graduating and taking the National Board Examination at the end of the semester that this course is being offered. The course is a review of the Arts section of the Funeral Science courses in order to help prepare the student for the National Board Examination. Prerequisite: Permission of the department is required. (2 hr. lab)

General Business

GEB1000
Business Career Strategies
3.00 credits
This course is designed to enable students to thrive in a competitive business environment. Students will learn business etiquette, alternative career pathways, personal financial management, and budgets. Additionally, students will learn interviewing, networking, and career development skills. (3 hr. lecture)

GEB1011
Principles of Business
3.00 credits
The student will learn the major disciplines of business including general business, business ethics, forms of business
ownership, economics, management and leadership, human relations marketing, information systems, accounting, financial management, money and banking, and business law. Special fee. (3 hr. lecture)

**GEB1949**
**General Business Internship 1**
3.00 credits
This internship provides students with an opportunity to gain business experience while receiving academic credit. Students will learn to make connections between their internship experiences, academic coursework, and career goals. Students are required to complete 144 hours of internship in an organizational setting. (144 hr. Internship)

**GEB2100**
**Introduction to Business Analytics**
3.00 credits
This course is for students majoring in business, marketing, business intelligence, computer science and other majors and introduces how information and technology are used in organizations to create market advantage. Students will learn about the operational units of an organization and the information requirements to support the organization. (3 hr. lecture)

**GEB2112**
**Introduction to Entrepreneurship**
3.00 credits
Students will learn that start-ups are not smaller versions of big businesses. They are unique. This foundation course in business entrepreneurship covers the attributes of successful entrepreneurs, opportunity identification, opportunity analysis and development, as well as an overview of the key activities and functions which start-ups must address. (3 hr. lecture)

**GEB2350**
**Introduction to International Business**
3.00 credits
Provides an overview of the cultural environment of international business and the institution which affects business today. International economic, political, and trade issues are analyzed in the context of socio-economic goals and policies of the nations involved. (3 hr. lecture)

**GEB2949**
**General Business Internship 2**
3.00 credits
This internship is a continuation of GEB 1949 and provides students with an opportunity to gain business experience while receiving academic credit. Students will learn to make connections between their internship experiences, academic coursework, and career goals. Students are required to complete 144 hours of internship in an organizational setting. Prerequisite: GEB1949. (144 hr. Internship)

**GEB3213**
**Advanced Communication in Business**
3.00 credits
Student will develop effective and efficient oral and written communications skills that can be applied in professional business settings. Topics include formal and informal writing, preparation of reports, creation of business proposal, written correspondence, and presentations.

**GEB3358**
**International Negotiations and Transactions**
3.00 credits
This course presents business negotiations in selected regions of the world. Students will learn the skills of negotiation by analyzing international business cases and developing solutions to situations. Topics include overseas market research using both domestic and international sources and the application of theoretical and practical business knowledge to foreign situations and trade negotiations. The importance of culture, language, and values in international negotiations is emphasized. Prerequisites: MAN 2021 and TRA 1154. (3 hr. lecture)

**GEO2420**
**Introduction to Cultural Geography**
3.00 credits
This course is an introduction to cultural geography and is structured around the five basic themes in geography: location, place, human-environment interaction, movement and regions. The student will be exposed to the differences between places, the dynamic aspects of culture and the physical environment. Lastly, the course will heighten the student’s awareness of the visible expressions of culture and landscape. (3 hr. lecture)

**GIS 1040**
**Introduction to GIS Technology**
4.00 credits
This course is introductory and first in a sequence of Geographic Information Systems (GIS) courses that make up the new CCC in Geographic Information Systems Technology. The course is also
being added as a new elective option for the AS in Information Systems Technology. Laboratory fee. (3 hr. lecture, 2 hr. lab)

**GIS 2045**
**Intermediate GIS Technology**
**4.00 credits**
This course teaches intermediate-level concepts of Geographic Information Systems (GIS). The student will acquire an understanding of discrete geocoding and georeferencing, data input, working with spatial databases, and data creation. At the end of the course, the student will be able to perform intermediate-level operations in GIS software. Prerequisite: GIS 1040. Laboratory fee. (3 hr. lecture, 2 hr. lab)

**GIS 2046**
**Advanced GIS Technology**
**4.00 credits**
This course teaches advanced concepts of Geographic Information Systems (GIS). The student will learn how to use vector, raster and 3D data, geospatial structures, and write GIS functions using a programming language. At the end of the course, the student will be able to perform advanced operations in GIS software. Prerequisite: GIS 2045. Laboratory fee. (3 hr. lecture, 2 hr. lab)

**GIS 2047**
**Applications of GIS Technology**
**4.00 credits**
This course teaches the principles of urban analytics and disaster management through what-if scenario modeling in which risks are evaluated and managed in order to support better decision making. By the end of the course, the student will apply a remote sensing technique to generate GIS data. Prerequisite: GIS 2045. Laboratory fee. (3 hr. lecture, 2 hr. lab).

**Geology**

**ESC1000**
**General Education Earth Science**
**3.00 credits**
Selected concepts and principles of earth science taken from the areas of astronomy, geology, meteorology and oceanography. (3 hr. lecture)

**GLY1010**
**Physical Geology**
**3.00 credits**
The fundamental concepts of geological process and structures. Plate tectonics is integral to this course which is intended for both majors and non-majors. Majors are strongly advised to take GLY 1010L. (3 hr. lecture)

**GLY1010L**
**Physical Geology Laboratory**
**1.00 credits**
Laboratory for GLY 1010. Studies of common minerals and rocks and topographic and geologic maps along with aerial photography. Corequisite: GLY 1010. Laboratory fee. (2 hr. lab)

**GLY1100**
**Historical Geology**
**3.00 credits**
This is a historical based course in geology. The student will learn about the history of the earth, the evolution of life, radiometric dating, and the history of modern geologic ideas on earth development. (3 hr. lecture)

**GLY1100L**
**Historical Geology Laboratory**
**1.00 credits**
A laboratory course designed to accompany GLY 1100 in the study of the History of the Earth. The student will learn the fundamentals of fossil identification, evolution, calculation of radiometric dates, interpretation of the stratigraphic record, and the role of plate tectonics in the evolution of life. (2 hr. lab)

**GLY4701C**
**Geomorphology**
**4.00 credits**
This course is a study of planetary surfaces and processes that create landforms. The students will focus on survey of geomorphic forms and the processes that originated them, application of remote sensing and GIS/GPS technology to study geomorphological processes, analytical skills including field experience, and practical applications, especially to geological hazards. (3 hr. lecture, 1 hr. lab)

**German Language**

**GER1120**
**Elementary German 1**
**4.00 credits**
An integrated (multi-media) approach to acquire proficiency in the basic skills (of the language)-listening/understanding, speaking, reading, writing, and cross-cultural awareness. Emphasis on practical vocabulary and accurate pronunciation. Practice class and laboratory in understanding and using the spoken language; reading and writing with progressive grammatical explanations. (4 hr. lecture)

**GER1121**
**Elementary German 2**
**4.00 credits**
A continuation of GER 1120. A proficiency-oriented course emphasizing the mastery of the basic skills of the language. Prerequisite: GER 1120. (4 hr. Lecture)

**GER2220**
**Intermediate German 1**
**4.00 credits**
Students will understand, speak, read, write, and gain cultural awareness of German through a systematic review (using an integrated, multimedia approach) of reading, grammar, and writing skills with emphasis on oral and written communication. Prerequisite: GER 1121 or equivalent. (4 hr. lecture)

**GER2221**
**Intermediate German 2**
**4.00 credits**
This is a continuation of Intermediate German 1. Students will learn to understand, speak, read, and write German. Students will also learn to develop cross-cultural awareness through a systematic review of reading and writing skills with emphasis on oral as well as written expres-
COLLEGE CREDIT COURSES

Graphic Arts

CGS2833
Intranet/Extranet Creation
4.00 credits
This advanced course teaches students a more comprehensive process of preparing and implementing CGI scripts into Web pages. Learn basic web scripting through decoding forms, sending e-mail, and reading and writing files. Design a scripted Web page, write the scripts, upload and run them. Debug scripts. By the end of the course, students are able to write their own guest books and surveys. Prerequisites: Graphic Interface Design 2. Special fee. (2 hr. lecture; 4 hr. lab.)

GRA1111C
Graphic Design Fundamentals
4.00 credits
The basics of graphic design comprise this introductory course. The student will analyze the principles and practices of graphic design, and evaluate their creative solutions to challenging design problems. Topics include design vocabulary, elements and principles, the design process, proportion and composition, creativity and visualization, as well as color and typography basics. Assignments are designed to emulate real-world projects, including composite images for graphic design, photographic editing, and web pages. (2 hr. lecture; 4 hr. lab.)

GRA1280C
Digital Imaging Fundamentals
4.00 credits
The student will learn leading industry-standard image editing software is used to prepare photos for print and digital media in this introductory course. Topics include: resolutions, compositing, masking, correcting and enhancing, as well as applying styles and effects. Assignments are designed to emulate real-world projects, including composite images for graphic design, photographic editing, and web pages. (2 hr. lecture; 4 hr. lab.)

GRA1750
Web Design Fundamentals
3.00 credits
The basics of web design comprise this introductory course. An introduction to the history of the web, including current design trends, a survey of Internet architecture, as well as user experience fundamentals and usability will comprise this introductory-level course. The student will examine the structure and styling of web pages. Special fee. (2 hr. lecture; 2 hr. lab.)

GRA1751
Fixed-Layout Web Design
4.00 credits
The student will design fixed-width layout web pages in this intermediate-level course. The student will apply knowledge and skills to the design and construction of single web pages and multi-page web sites using a visual editor. Topics include styling, linking, incorporating media, production workflows, and the creation of web forms. Assignments emulate real-world projects, including ideation, design, creation, and revision, leading to portfolio-ready projects. Prerequisites: GRA1750. (2 hr. lecture; 4 hr. lab.)

GRA1752
Motion Graphics For Web Design
4.00 credits
This intermediate-level course examines web vector graphics and their ability to display illustrations and animations on a web page. An in-depth examination of web vector graphics which when combined with transitions and transformations, enables web designers to create dynamic online images and animations that are compatible across desktop and mobile web browsers. The student will create portfolio-ready web projects and animations. Prerequisites: GRA1750, GRA2117C. (2 hr. lecture; 4 hr. lab.)

GRA1753
Motion Design 1
4.00 credits
Best design practices and the twelve principles of animation are taught in this introductory course. The student will explore hand-drawn techniques and software tools used to create professional Motion Design projects in 2-D and 3-D environments. At the end of this course, a 15 second animated product advertisement will be produced. The student will demonstrate knowledge of outputting files formatted correctly for film, television and web application environments. Prerequisite: GRA1280C, Pre/Corequisite: GRA2117C (2 hr. lecture; 4 hr. lab.)

GRA1754
Responsive Web Design
4.00 credits
The student will design fluid-layout and responsive pages in this intermediate-level course. Responsive web pages adapt to various devices and user preferences, and examines the advantages of responsive design, as well as the latest industry research reporting on statistics for mobile device use globally. Topics include: fluid grids, responsive typography and images, CSS media queries, “mobile first” workflows,
GRA1949
Co-op Work Experience 1: GRA
3.00 credits
This is a course designed to provide training in a student’s field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-Op Department approval. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-operative Education Office to obtain registration approval. (3 hr. lecture)

GRA2117C
Digital Illustration Fundamentals
4.00 credits
The student will create illustrations using industry-standard vector-based illustration software. Topics include creating vector-based illustrations, leading to an illustration portfolio. Emphasis will be on both representational as well as commercial art styles. Assignments are designed to emulate real-world projects, including illustration, design, and typography. Prerequisites: none. (2 hr. lecture; 4 hr. lab.)

GRA2121C
Publication Design
4.00 credits
Studio projects focusing on periodical and catalog designs comprise this intermediate-level course. The student will apply knowledge and skills toward the design and creation of newsletters, magazines, catalogs, booklets, press media kits and interactive e-books. Emphasis will be on graphic design principles, composition, layout, pagination, style balance format and project planning. Prerequisites: GRA1751C, GRA206C, GRA2117C. Pre/co-requisite: GRA1280C. (2 hr. lecture; 4 hr. lab.)

GRA2151C
Advanced Digital Illustration and Imaging
4.00 credits
This is an advanced course in digital illustration and imaging, building on existing skills to design and create portfolio-ready projects. Topics include: perspective illustration, advanced masking and compositing techniques, “comping” for layout presentations, outdoor advertisements or 3-D package designs. The student will explore optimizing graphics for web, animations and video. Prerequisites: GRA1280C and GRA2117C. (2 hr. lecture; 4 hr. lab.)

GRA2156C
User Interface and Experience Design
4.00 credits
In this intermediate-level course, the student will examine the design and creation of mobile applications. The student will create visual designs for mobile apps, as well as analyze how to build and distribute them. The student will apply skills and knowledge toward creating portfolio-ready design projects. Prerequisites: GRA1751, GRA1754. (2 hr. lecture; 4 hr. lab.)

GRA2162C
Motion Design 2
4.00 credits
The student will master the leading motion design software’s interface and tools to create animated advertisements, broadcast graphics and title sequences in this intermediate-level course. This course presents the fundamentals of good design and creatively applying those basic principles to produce a 30 second animated piece. Projects include knowledge of outputting and formatting final files for Film, TV and Web application environments for client delivery. Prerequisite: GRA1753 (2 hr. lecture; 4 hr. lab.)

GRA2168C
Visual Effects & Compositing
4.00 credits
The student will explore the world of compositing and visual effects in this intermediate-level course. This course will offer skills in creating transition effects, compositing and motion tracking. Projects include knowledge of outputting and formatting final files for Film, TV and Web application environments for client delivery. Prerequisite: GRA2162C (2 hr. lecture; 4 hr. lab.)

GRA2190C
Communications Design 1
3.00 - 4.00 credits
Problems in advertising design involving layout, lettering, current studio media, and reproduction processes. Prerequisites: ART 1202C or 1300C. (1-2 hr. lecture; 4 hr. lab)

GRA2191C
Communications Design 2
3.00 - 4.00 credits
Advanced problems in commercial art concentrating on layout, mechanical art for reproduction and illustration technique. Prerequisite: GRA 2190C. (1-2 hr. lecture; 4 hr. lab)

GRA2203C
Portfolio and Business Practices for Designers
3.00 credits
This advanced course enables students to create a portfolio for self-promotion to prospective employers and clients. The student will revise and assemble projects accomplished throughout their career tracks. The student will also analyze best practices involved in the profession: pricing freelance assignments, contracts, intellectual property rights, and other professional requirements. Course is taken in the semester prior to graduation. Prerequisites: GRA2121C and GRA2151C. (2 hr. lecture; 2 hr. lab.)

GRA2207C
Capstone Project
4.00 credits
The student will apply cumulative knowledge and integrative skills to the design and creation of a professional-level project. The graphic/web design assignment shall meet the requirements specified in a case study or real-world project. Course is taken in the semester prior to graduation. Prerequisites: GRA2151C. (2 hr. lecture; 4 hr. lab.)
COLLEGE CREDIT COURSES

GRA2305C  
Special Topics in Graphic Design  
3.00 credits  
An advanced course featuring in-depth focus on special topics of the professor's choice within the field of graphic design. Topics include but are not limited to graphic novel design and illustration, informational graphics, as well as sustainability and social responsibility. The student will develop a detailed analysis of concepts presented and the creation of portfolio-ready projects. Prerequisite: GRA215IC. (2 hr. lecture, 4 hr. lab.)

GRA2545C  
Package Design  
4.00 credits  
The student will create package designs for use in retail sales, merchandising, and point-of-purchase in this introductory-level course. Assignments are designed to emulate real-world projects, including package construction, design, illustration and typography, leading to portfolio-ready projects. Prerequisites: GRA215IC. (2 hr. lecture, 4 hr. lab.)

GRA2546C  
Advertising Design  
4.00 credits  
The student will design and create effective advertising campaign concepts for print, outdoor and digital media in this intermediate-level course. Studio projects will emphasize originality, brainstorming, ad layouts, creative copywriting and persuasion, culminating in portfolio-ready projects. Prerequisites: GRA215IC, GRA215IC. (2 hr. lecture; 4 hr. lab.)

GRA2727  
Dynamic Web Design  
4.00 credits  
The student will design and create dynamic web pages. This course presents PHP programming language to enable students to reduce website maintenance, change content depending on date and time, collect user input from an online form, and link to a MySQL database to display product information. Studio projects culminate in portfolio-ready artifacts. Prerequisites: GRA1754 and GRA215IC. (2 hr. lecture, 4 hr. lab.)

GRA2755  
Emerging Technologies For Multimedia Web Design  
3.00 credits  
An examination of emerging web technologies encompasses this course. Topics may include (but are not limited to): content management systems, new visual editing applications, and the latest trends in web design. Studio projects culminate in portfolio-ready artifacts. Course is taken in the semester prior to graduation. Prerequisite: GRA2727. (2 hr. lecture, 2 hr. lab.)

GRA2765C  
Digital Motion Graphics for Broadcast Design  
4.00 credits  
The student will use industry-standard software to create visual effects, composing and motion graphics for television production. Time-based design elements of space, pacing, motion and interaction comprise this intermediate-level course. Assignments enable students to create portfolio-ready projects that include: logos, lower-thirds, and credit rolls that incorporate 3-D elements. Prerequisite: GRA2168C (2 hr. lecture, 4 hr. lab)

GRA2811C  
Applied Illustration 1  
3.00 - 4.00 credits  
Exploration of fundamentals of composition, design and rendering in illustration. Development of skills in illustration techniques including pen and ink, opaque water color and combined mediums. Study of the creative processes applied to producing illustrations for the professional market. Prerequisites: ART 1201, 1330C. (1-2 hr. lecture; 4 hr. lab)

GRA2949  
Co-op Work Experience 2: GRA  
3.00 credits  
This is a course designed to continue training in a student's field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-Op Department approval and completion of 1949 Co-Op Work Experience. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-Operative Education Office to obtain registration approval. (3 hr. lecture)

GRA2991C  
SELECTED STUDIES  
4.00 credits  
This course is an introduction to the fundamentals of computer based 3D modeling for Film, TV, and Video Gaming applications. Pre-Requisite: ART 2600C, GRA 2577C, VIC 1202. (4 hr. Lecture)

Haitian Language

HAI2340  
Haitian-Creole for Native Speakers 1  
3.00 credits  
Writing spelling and punctuation, sentence-structure and vocabulary expansion as they are relevant to the training of native speakers of Haitian Creole. Conducted entirely in Haitian-Creole. Prerequisite: Fluency in Haitian-Creole as determined by the Haitian-Creole placement exam. (3 hr. lecture)

HAI2341  
Haitian-Creole for Native Speakers 2  
3.00 credits  
A continuation of HAI 2340. Emphasizes fluency in Haitian-Creole grammar and writing. Recommended for translation/interpretation students or native speakers wishing to improve their knowledge of written Haitian-Creole. Conducted entirely in Haitian Creole. Prerequisite: Fluency in Haitian-Creole as determined by the Haitian-Creole placement exam or HAI 2340. (3 hr. lecture)

HAT2802  
Contrastive Analysis: Haitian/Creole  
3.00 credits  
This course compares/contrasts linguistic features and characteristics of both the English and Haitian/Creole languages. Aspects of comparison/contrast include historical backgrounds, phonological sys-
tems, morphological systems, syntax, and semantics. Prerequisite: Adequate fluency in Haitian-Creole (determined by department Haitian-Creole exam) and English (determined by CPT) (3 hr. lecture)

HCW2020
Selected Readings in Haitian-Creole
Literature 3
3.00 credits
This course will emphasize reading and analyzing Haitian-Creole literature in a historical context. A variety of literature will be read and discussed in order to gain an understanding of Haitian-Creole and Haitian culture, the history of Haiti, and ways which the literature portrays the country of Haiti and its inhabitants. Prerequisite: Fluency in Haitian-Creole as determined by the Haitian-Creole placement exam. (3 hr. lecture)

Health Information
Management

HIM1000
Introduction to Health Information Technology
2.00 credits
This course examines the role and functions of a health information technician. Students will learn about the structure, organization, and maintenance of the medical record. Students will also learn about the organization and function of various types of health care facilities, the responsibilities of national, state and local health agencies, and the organization and mission of the American Health Information Management Association. (2 hr. lecture)

HIM1110L
Health Information Management Data Collection lab
3.00 credits
This course is designed to apply basic requirements imposed by regulatory agencies to health record data. Students will learn how clinical data repositories store health information. Concepts relating to confidentiality, ethics, and release of information will be applied. Prerequisite: HIM 1000, 2472; corequisite HIM 1110L. (6 hr. lab)

HIM1300
Health Care Facility and Delivery Systems
2.00 credits
This course will examine healthcare complexities, function of various types of health facilities, accreditation standards, Medicare law, and the American health delivery system. Students will learn the components of Medicare, Medicaid, Health Insurance Organizations (HMO’s), and the federal laws that govern them. (2 hr. lecture)

HIM1800
Professional Practice Experience 1
2.00 credits
This course will provide the student with a supervised professional practice experience in a healthcare setting, utilizing electronic health records and reports to manage health information data. Students will learn an in-depth knowledge of applying the minimum basic requirements for handling records imposed by regulatory agencies. Prerequisite: HIM 1000; corequisite: HIM 1110, 1000L. (6 hr. lab/clinic)

HIM2114C
Legal Aspects of Health Care
2.00 credits
This course provides basic knowledge of the United States of America court system and the interconnection between the health care system and the federal government. The student will learn concepts relating to Health Insurance Portability Accountability Act (HIPAA, ethics, release of health information, record retention, and the legalities of electronic health records. Prerequisite: ENC 1101. (2 hr. lecture)

HIM2211C
Health Information Technologies
2.00 credits
This course is designed to apply computer technology used to collect and store health information. The student will learn a variety of applications used to maintain and secure health care data. Prerequisites: HIM 1110, 1110L, and 1800. (1 hr. lecture, 2 hr. lab)

HIM2222
ICD Coding Systems Laboratory
1.00 credits
This course will focus on the definitions for analysis, interpretation, and display of healthcare data. The student will learn the acceptable terminology and basic definitions for reporting health statistics. Emphasis is placed on the use of the formulas necessary for computing standard rates, percentages, and averages from patient data. Prerequisites: HIM 1110, 1110L; corequisite: HIM 2512C. (1 hr. lecture, 2 hr. lab)
HIM2344
Advanced Coding & Reimbursement Systems
2.00 credits
This course is designed to apply the fundamentals of the Prospective Payment Systems as it applies to coding and reimbursement. The student will learn documentation criteria, validation reports of coded data, health record for compliance, and optimum reimbursement under current payment methodologies. Prerequisite: HIM 2222, 2222L; corequisite: HIM2234L. (2 hr. lecture)

HIM2234L
Advanced Coding & Reimbursement Systems Laboratory
1.00 credits
This course is designed to apply and compute Prospective Payment Systems categories. Students will learn to apply health record documentation to identify and validate correct code and payment assignments. Focus is on computation of MS-DRGs, APCs and Case-Mix Index using encoder, grouper, and electronic billing software for reimbursement. Prerequisites: HIM 2222, 2222L; corequisite: HIM2234. (2 hr. lecture)

HIM2253C
Current Procedural Terminology/ CPT-4
2.00 credits
This course provides an in-depth knowledge of coding and reporting using Current Procedural Terminology classification. Students will learn to read and interpret ambulatory health record documentation to classify and assign services and procedures codes and use of encoder and grouper software. HCPCS, APCs, and RBRVS will be discussed. Prerequisites: BSC 2085, 2085L, and HIM 2472. (1 hr. lecture; 2 hr. lab)

HIM2400C
Diversified Non-Hospital Health Records
2.00 credits
This course emphasizes the importance of quality record-keeping practices, data flow, and management of health information systems in a non-acute care setting. The student will learn the documentation requirements based on Federal State statutes, Medicare Conditions of Participation, payment systems, funding, Health Insurance Portability Accountability Act, and the evolution of the electronic health record. (1 hr. lecture; 2 hr. lab)

HIM2463
Pathophysiology and Pharmacology
3.00 credits
This course provides an in-depth knowledge of disease, its etiology, medical complications, and pathophysiologic nature. Students will learn laboratory and other diagnostic tests used to confirm or rule out those diagnoses addressed. Current pharmacological treatments are explored with review and interpretation of health record data. Prerequisites: BSC 2085, 2085L, HIM 2472. (3 hr. lecture)

HIM2472
Medical Terminology
3.00 credits
Analysis of medical terms through learning basic roots, prefixes and suffixes permitting the student to have a working knowledge of the language of medicine. Prerequisite: Permission of department chairperson. (3 hr. lecture)

HIM2500
Data Management & Quality Assessment
2.00 credits
The basic principles of quality assessment: quality improvement and utilization review. The accreditation process, risk management, managed care models, and the methodologies and relationships of these key areas within a health care facility are emphasized. Prerequisites: HIM 1110, 1110L; Corequisite: HIM 2500L. (2 hr. lecture)

HIM2500L
Data Management & Quality Assessment Laboratory
1.00 credits
The application of the basic principles of quality assessment: quality improvement and utilization review. The student will learn to generate models for the evaluation of different types of medical care. Activities will center on the accreditation process, managed care, and risk management. The methodologies and relationships of these key areas within a health care facility are emphasized. Prerequisites: HIM 1110, 1110L; corequisite: HIM 2500. (2 hr. lab)

HIM2512C
Supervision & Organization for Health Information Management
2.00 credits
This course will review the basic principles of management and organizational life in a health information management department and the interrelationships within the health care organization. Emphasis will be placed on the supervisory role of the health information professional, including basic motivation and communication principles essential to the practice of health information management. The student will identify and use specific motivational and communication techniques in health information supervision. Prerequisites: HIM 1110, 1110L; corequisites: HIM2500, 2500L, 2810. (1 hr. lecture; 2 hr. lab)

HIM2652C
Electronic Health Record
3.00 credits
This course reviews the current trends and preparation implementing the electronic health record and reviews documentation requirements for a variety of healthcare settings. Students will learn best practices, problem-solve associated issues, and directly participate in the transitions of electronic health records. Prerequisite: HIM 2211C. (1 hr. lecture; 2 hr. lab)

HIM2810
Professional Practice Experience 2
2.00 credits
This course is a supervised professional practice experience in a health care set-
ting utilizing health records and reports to perform medical coding functions. Students will learn to assign Medicare Severity-Diagnosis Related Groups/ Ambulatory Payment Classifications using the organization’s information systems, encoder and grouper software. Sequencing of International Classification of Disease (ICD) and Current Procedural Terminology (CPT) coding systems will be discussed. Prerequisite: HIM 2222; corequisite: HIM 2234, 2234L. (6 hr. lab/clinic)

**HIM2820 Seminar and Professional Practice Experience 3 2.00 credits**

This course is designed to provide students with structured learning experiences necessary for them to enter the health information management field. Students will learn preparation skills for the national examination by analyzing major examination topics offered in curriculum. A professional practice experience will be a component of this course. Prerequisite: HIM 2810; corequisites: HIM 2500, 2500L. (6 hr. lab/clinic)

**HIM9995 Health Information Technology 26.00 credits**

This course is a placeholder awarding equivalent college credit for non-collegiate training based on Technical Manual of Procedure Number 1100. 816125. This course requires special permission and students must contact the department chairperson for registration/approval. (26 Block Credits)

**Health Science**

**HSA2532 Medical Documentation in Health Care 1.00 credit**

Medical Documentation in Health Care will introduce the student to documentation in the written patient chart or electronic medical record. Through case discussions and in-class writing assignments, the student will acquire the necessary skills to document in the patient's medical record utilizing medico-legal principles and evaluation and management criteria. Patient confidentiality, billing, and coding will also be discussed. Prerequisite: PAS 1800C, PAS 1803, PAS 1831, PAS 2936. (1 hr. lecture)

**HSA3533 Medical Documentation in Health Care II 1.00 credit**

Medical Documentation in Health Care II is a continuation of HSA 2532. This course will teach the student to documentation in the written patient chart or electronic medical record for special populations. Through case discussions and in-class writing assignments, the student will acquire the necessary skills to document in the patient’s medical record utilizing medico-legal principles and evaluation and management criteria. Patient confidentiality, billing, and coding will also be discussed. Prerequisite: HSA 2532, PAS 1801C, 1811C, 1812, 1813, 1822L, 1823

**HSC2400 Basic Emergency Care 3.00 credits**

Designed to provide opportunities to develop, practice, and display skills concerning emergency care and the prevention of accidents. This course meets the American Heart Association Healthcare Provider Cardiopulmonary Resuscitation/automated External Defibrillation and the American Red Cross for Standard First Aid Certification requirement. Special fee. (3 hr. lecture)

**HSC2401 Instructor’s Training First Aid & CPR 3.00 credits**

Designed to improve the performance skills, techniques, and knowledge as well as develop competent teaching skills in First Aid and cardiopulmonary resuscitation. This course meets the American Red Cross Instructor Certification Requirements for Standard First Aid and Personal Safety and Basic Lifesaving Cardiopulmonary Resuscitation. Special fee. Prerequisite: HSC 2400 or certification in American Red Cross Standard First Aid and Personal Safety and Basic Life Saving Cardiopulmonary Resuscitation. Maybe repeated for credit. (2 hr. lecture; 2 hr. lab)

**HSC3202 Introduction to Public Health 1.00 credit**

This course is designed to give students a foundation in the core functions of population-based health consisting of assessment, policy development and assurance. Students will gain an understanding of public health as a broad field which applies the benefits of current biomedical, environmental, and behavioral knowledge in ways that maximize the health status of all populations. This course is blended. Pre-Requisite: HSA 2532, PAS 1801C, 1811C, 1812, 1813, 1822L, 1823

**HSC3243 Teaching Skills for Health Care Practicum 3.00 credits**

This course emphasizes significant problems instructors have related to content and design of curricula or courses. Students will learn the theoretical underpinnings of teaching and learning in health science disciplines from a variety of perspectives - educational, psychological, developmental, and social. (3 hr. lecture)

**HSC4942 Community Service Learning Practicum 3.00 credits**

This course is designed to engage students in meaningful healthcare related community service learning activities. Students will learn to explore new collaborations in service-learning, cultural diversity and community healthcare development. These experiences will help to and prepare them for lives as civically-engaged local, national, and global citizens. Pre-Req: PAS 3019, 3042C, 3070, 3140, 3203C (3 hr. lecture)

**History**

**AFH2000 African History and Culture 3.00 credits**

Historical survey of the development of African society, its culture and institutions,
with emphasis on the 13th century to the present. (3 hr. lecture)

**AMH2010**  
**History of the US to 1877**  
3.00 credits  
Students will learn of the history of the United States to 1877 by examining the founding, growth, and development of America from the colonial era through Reconstruction. (3 hr. lecture)

**AMH2020**  
**History of the US since 1877**  
3.00 credits  
This course focuses on the social, economic, cultural, and political developments in the United States since 1877. The student will gain knowledge of changes and continuities in the history of the United States since the late nineteenth century. (3 hr. lecture)

**AMH2035**  
**Recent American History Since 1945**  
3.00 credits  
The internal development of the United States and the role of the U.S. in world affairs since World War II. (3 hr. lecture)

**AMH2047**  
**U.S. Military History**  
3.00 credits  
This course surveys the culture and history of U.S. military affairs from the colonial origins of the American nation to the present. The course also emphasizes how warfare, military strategy, and technological development on the battlefield has continued to evolve throughout the 20th Century and beyond. (3 hr. lecture)

**AMH2070**  
**Florida History**  
3.00 credits  
Florida from the Spanish period to the present with emphasis on the modern development of natural resources, urbanization, industry, culture and tourism. (3 hr. lecture)

**AMH2079**  
**History of South Florida**  
3.00 credits  
A study of the history of South Florida (Lake Okeechobee south to Key West) including geological foundations exploration, settlement and contemporary cultural trends. (3 hr. lecture)

**AMH2091**  
**Afro-American History**  
3.00 credits  
A survey, including the African background, of the Afro-American in the United States history, with emphasis on their economic, political and cultural development. (3 hr. lecture)

**EUH2032**  
**History of the Holocaust**  
3.00 credits  
This is a foundation course in Holocaust Studies. Students will learn the historical origins, execution and consequences of the Holocaust. This course also examines the Holocaust’s place in context of genocides past and present. (3 hr. lecture)

**EUH2068**  
**History of Russia from 1917**  
3.00 credits  
The student will learn the origins and outcomes of the Russian Revolutions of 1917, and the founding, growth, and development of the Soviet State through the disintegration of the U.S.S.R. Students will also learn of recent developments in Russia since the 1990s. (3 hr. lecture)

**LAH2021**  
**Colonial Latin America**  
3.00 credits  
This course covers the history of Latin America, from the pre-Columbian civilizations of the region, to the Wars of Independence. Students will learn about the development of the political, social, economic and cultural structures of colonial Latin America to 1825. (3-hour lecture)

**LAH2023**  
**History of the Caribbean**  
3.00 credits  
This course introduces students to the economic, social, political, and cultural history of the Caribbean and its peoples. Students will learn of the changes and continuities that have affected Caribbean development. (3 hr. lecture)

**LAH2025**  
**History of Cuba**  
3.00 credits  
Historical analysis of the development of Cuban society, its culture and institutions. (3 hr. lecture)

**WOH2003**  
**History of Genocide**  
3.00 credits  
This course is designed to explore the history, causes, and consequences of genocide through identification of the patterns of intentional mass killings. Students will learn via case studies the characteristics of past and current incidents characterized as genocide. (3 hr. lecture)

**WOH2012**  
**History of World Civilization to 1789**  
3.00 credits  
This course covers the history of World Civilizations from the prehistoric period to the 18th century. Students will learn the major political, social, economic, and cultural structures of civilizations and their development through 1789. (3 hr. lecture)

**WOH2022**  
**History of World Civilization from 1789**  
3.00 credits  
The student will examine the historical development of world civilizations since 1789. Students will learn of historical processes and developments in social, cultural, political, and economic contexts since the 18th century. (3 hr. lecture)

**Hospitality Management**

**HFB2990**  
**CBE Food and Beverage Specialist**  
1.00 – 12.00 credits  
The Competency-Based Education course HFB 2990 - Food and Beverage specialist course is designed to assess learner mastery of the competencies and skills necessary for a successful career in the food and beverage industry. The competency-based approach allows learner the flexibility to self-direct their learning experience. As a
result, the learning is much more individualized and can be significantly accelerated. Learners enrolled HFB 2990 CBE Food and Beverage also will have the opportunity to achieve industry-recognized academic credentials, and will be prepared for positions such as restaurant server, room service attendant or banquet set-up staff.

**HFT1000**  
**Introduction to Hospitality**  
3.00 credits  
In this introductory course the student will learn a basic understanding of the lodging, travel, meeting planning, club management, food and beverage, gaming and cruise industry by tracing the industry’s growth and development, reviewing the organization of hospitality operations, and by focusing on industry opportunities and future trends. Career opportunities, interview and resume writing skills are discussed. (3 hr. lecture)

**HFT1210**  
**Human Resources**  
3.00 credits  
Provides information relating to the recruitment and selection of new staff, the handling of difficult employees, motivating employees and conducting performance evaluations. (3 hr. lecture)

**HFT1212**  
**Safety and Sanitation**  
3.00 credits  
Students will learn industry standards on sanitation as it relates to food preparation and kitchen operations. Students will recognize proper sanitation techniques and explain how to implement sanitation programs in food service operations. (3 hr. lecture)

**HFT1220**  
**Supervisory Development**  
3.00 credits  
This introductory course will assist students in learning basic supervisory skills. The students will learn how to conduct proper employee evaluations, as well as how to apply discipline. Effective communication techniques, use of delegation and diversity in the workforce are discussed. Issues concerning employee relations and current topics in management are addressed. (3 hr. lecture)

**HFT1300**  
**Executive Housekeeping**  
3.00 credits  
In this introductory course the student will learn the fundamentals of housekeeping management. This course describes the management functions, tools and practices required in today’s lodging and institutional housekeeping departments. Special attention to environmental, and safety implementations. Design and architectural elements and their relation to housekeeping will be discussed. (3 hr. lecture)

**HFT1841**  
**Dining Room Service**  
3.00 credits  
Provides students with the opportunity to acquire knowledge of advanced service techniques, including guest satisfaction, food, wine and beverage serving, types of menus, table service techniques, table-side cooking, napkin folding, table setting, safety, sanitation, emergency procedures, restaurant technology, and service styles. Students will gain experience in cash and non-cash handling, forecasting sales, and merchandising techniques. Corequisite: HFT 1000. (3 hr. lecture)

**HFT1852**  
**Menu and Facilities Planning**  
3.00 credits  
This course is a study of the factors involved in planning effective menus for a variety of food service operations. Students will learn to develop a firm working knowledge of menu-writing techniques and participate in actual menu design and facilities layout of a food service establishment. Prerequisites: HFT1000 (3 hr. lecture)

**HFT2223**  
**Training Skills and Development**  
3.00 credits  
In this intermediary course the student will learn effective training processes. The course considers the assessment and analysis of training needs, the systematic design of instruction, the evaluation of training programs, and management of the training programs, and functions. The student will have the necessary skills in order to develop and conduct training sessions. (3 hr. lecture)

**HFT2241**  
**Leadership and Quality Assurance Management**  
3.00 credits  
Provides an analysis of management issues related to the “personal touch” in customer service and quality assurance in the hospitality industry. Emphasis is placed on the importance of contemporary management and business practices to keep up with the demands of an ever-changing industry. (3 hr. lecture)

**HFT2261**  
**Restaurant Management**  
3.00 credits  
Familiarizes students with the general principles of food production management, work scheduling, and preparation supervision. Emphasis is placed on purchasing and financing, planning and equipping a kitchen, pricing and menu design, and marketing and promoting restaurants. Prerequisite: HFT 1000. (3 hr. lecture)

**HFT2410**  
**Front Office Procedures and Lodging Operations**  
4.00 credits  
In this intermediary course the student will learn about various positions in the rooms division. Focus in hotel front office procedures involved in reservations, registering and checking out guests. Guest services, revenue management, accounting procedures and the operation of a PMS (Property Management System) are discussed. Special attention to hotel operations including security, housekeeping and engineering. (3 hr. lecture; 2 hr. lab)

**HFT2421**  
**Managerial Accounting for Hospitality**  
3.00 credits  
Presents managerial accounting concepts and explains how they apply to specific
operations within the hospitality industry. 
(3 hr. lecture)

**HFT2449**
**E-Business for the Hospitality Industry**
**3.00 credits**
Prepares student to manage information systems within their organizations. Emphasis is on selecting the right computer systems technology and maximizing available technology in order to promote and sell services. Introduces the use of automation in the broad hospitality sector and exams technological applications ranging from distribution systems (GDS, CRS and Web based), Property Management Systems, and EPOS systems to developments in telecommunications, and assesses their effect on the tourism sector. While a broad interpretation of both technology and tourism will be used, particular emphasis will be placed on the hospitality sector (i.e. Hotels and catering) and on distribution technology. A combination of lecture, case studies, seminars, visiting lecture and lab sessions are used. Prerequisite: HFT 1000. (3 hr. lecture)

**HFT2500**
**Marketing of Hospitality Services**
**3.00 credits**
In this intermediary course the students will learn basic knowledge and practical experience which will enable them to develop strategic marketing plans for any hospitality business. Special focus on the marketing mix as it applies to hospitality. Marketing trends and case studies are discussed. (3 hr. lecture)

**HFT2501**
**Hospitality Sales**
**3.00 credits**
In this intermediary course the student will learn sales presentation skills and the importance of sales in an organization. Topics discussed are the organization of the sales department including the responsibilities of all involved in the sales process. Emphasis on sales presentations, looking for leads, negotiating skills, building rapport, and closing the sale. Role playing and other activities will be used to enhance learning. (3 hr. lecture)

**HFT2750**
**Event and Meeting Management**
**3.00 credits**
In this intermediary course the student will learn the complete set of skills necessary to adequately perform as an event planner, hotel banquet manager and convention and meeting planner. Actual events will be used to reinforce the general rules of table service, booking functions, staffing banquet/conventions, and responsibilities of a host venue as they apply to buffets and banquet plans. Prepares students in trade show administration, meeting management, and legal issues associated with banquet and conventions. (3 hr. lecture)

**HFT2772**
**Introduction to Cruise Line Industry**
**3.00 credits**
Provides students with an introduction to the cruise line industry, its evolution and relationship to other segments of tourism and hospitality. Sales and marketing methods, management, and strategic planning are major topics. Corequisite: HFT 1000. (3 hr. lecture)

**HFT2773**
**Cruise Line Sales and Marketing**
**3.00 credits**
Provides an introduction to the sales and marketing functions of the cruise industry. Students will gain an understanding of how cruises lines position themselves in the competitive business environment and the sales and marketing techniques used to attract customers and group business. Students will gain an understanding of yield management and the issues surrounding travel agents during the sales process. Prerequisites: HFT 2772. (3 hr. lecture)

**HFT2774**
**Shipboard Operations**
**3.00 credits**
Provides an understanding of shipboard operations on cruise ship and their relationship to the shore side headquarter office. Students will gain knowledge of the history of cruise ships and the activities and facilities that make cruise line operations complementary both to the industry and the guest. This course will focus on the ship as a hotel for passengers with the winning and dining aspects of service, as well as, casino practices on board. Prerequisite: HFT 2775. (3 hr. lecture)

**HFT2775**
**Shore side Operations**
**3.00 credits**
Provides a basic understanding of the shore side office operations and sales procedures of cruise line and how they relate to the general operations of the cruise ship itself. Students will acquire knowledge of pier, airport, ground services and hotel operations and create elements for cruise lines sales. Prerequisite: HFT 2772. (3 hr. lecture)

**HFT2800**
**Food and Beverage Management**
**3.00 credits**
Provides a basic understanding of the principles of food production and service management, menu planning, serving, purchasing, labor, food/bar service and costs, storage, beverage management, sales promotions, entertainment, and liability laws. (3 hr. lecture)

**HFT3263**
**Restaurant Management**
**3.00 credits**
This course prepares the student with analysis of principal operating problems facing managers in the restaurant industry. Various control systems necessary for profitability and quality are examined. Hands on Training opportunities on our Wolfson Campus food service establishments Bistro @ Tuyo and TUYO Restaurant.

**HFT3603**
**Hospitality Law**
**3.00 credits**
This course prepares the student with the legal aspects of the hotel, food and travel industry. Students will study the court system and basic legal principles governing the hospitality industry, with specific attention to hospitality business structures, innkeeper-guest relationships and the duty
owed to each other, and emerging areas of concern in contracts, torts, civil and property rights law, and insurable risks.

**HFT4064**  
**Bar and Beverage Management**  
**3.00 credits**  
This course prepares the student to manage the bar and beverage option of a restaurant, bar, hotel, country club, any place that serves beverages to customers. It provides students with the history of the beverage industry and showcases the appreciation of wine, beer, and spirits. Students will obtain the knowledge necessary to successfully equip, staff, manage, and market a bar and beverage establishment.

**HFT4253**  
**Hotel Management**  
**3.00 credits**  
This course provides the student an advanced focus on the hotel industry. The course examines modern-day and futuristic trends, career opportunities, and recent innovations in the hotel industry from a management perspective. Specific emphasis will be placed on the role of the general manager, as well as the varied roles of departmental managers within the hotel and lodging industry. Topics include operations, department organization and management, benchmarking, quality control, guest service management, and financial controls of hotels.

**HFT4468**  
**Revenue Management in the Hospitality Industry**  
**3.00 credits**  
This course prepares the student with revenue management practices in the hotel industry, which include capacity management, demand and revenue forecasting, discounting, overselling, displacement, rate management. How to apply pricing and length-of-stay tools and how to measure revenue management performance. Management from a focus on occupancy and average room rate to a focus on revenue per available room (RevPAR). This course prepares students to accurately forecast guest arrivals at hotels, examine pricing models in accordance with revenue management principles, and to manage overbooking. Prerequisite: ACG 2021, ACG 2021L or HFT 2421

**HFT4809**  
**Food Service Management**  
**3.00 credits**  
This course prepares the student with the theoretical, organizational and operational skills necessary to understand, synthesize and put into action the management philosophies and procedures of the foodservice industry. Students will learn key concepts of creating, developing, managing, and running a foodservice business, from concept to operation.

**HUS1302**  
**Basic Counseling Skills**  
**3.00 credits**  
Development of the skills of observation, recording, reporting, interviewing and counseling. These skills are presented in the context of general counseling theory. (3 hr. lecture)

**HUS1318**  
**Domestic Abuse and Family Violence**  
**3.00 credits**  
This course is designed to educate human services workers for the evaluation, counseling and outreach skills necessary for working with victims of domestic violence. The dynamics of partner violence, child abuse, and elder abuse will all be explored. (3 hr. lecture)

**HUS1421**  
**Assessment and Treatment Planning in Addictions**  
**3.00 credits**  
This course is designed to familiarize students with the core functions of Assessment and Treatment Planning for the chemically dependent client. Emphasis on treatment planning will be accomplished drawing from the Florida Certification Board for addiction professionals and the Department of Children’s and Family Services guidelines. Prerequisites: HUS 2493, PSB 2442. (3 hr. lecture)

**HUS1423**  
**Group Counseling in Substance Abuse**  
**3.00 credits**  
This course stresses development of effective group counseling leadership skills including organizing, implementing, and evaluating group counseling programs. The course includes actual group experiences. Prerequisite: PSB 2442. (3 hr. lecture)

**HUS1428**  
**Addiction Treatment Delivery Systems**  
**3.00 credits**  
This course is designed to survey the modalities of addiction treatment. The course will study federal and state systems as well as private-not-for-profit and private-for-profit programs. All of these
will be described using examples drawn from local agencies, the diverse populations they serve, and the politics and economics of the systems. This course will also present a critical exploration of the history and theory defining problems of addiction treatment and the characteristics and career issues of an addiction treatment services worker. (3 hr. lecture)

HUS1440  
**Family Issues in Chemical Dependency**  
3.00 credits  
This course is designed to analyze the effects of chemical abuse on the family system. Emphasis will be placed on family roles and dynamics; characteristics of children (including adult children) of chemical abusers; theories of co-dependence; and adaptations made individually and socially by family members. Critical issues and strategies in family treatment will be explored. (3 hr. lecture)

HUS1475  
**Addiction Counseling and the law**  
3.00 credits  
This course is designed to introduce addiction counseling students to the vocabulary, agencies and processes required to work with clients involved in both the criminal and civil justice systems. This course focuses on the relationship between the law and Human Services institutions, patterns of law-making and law-breaking, the legal structures and processes, and law as an instrument of public policy, social control and social change. The roles and functions of police, courts and correctional services will be surveyed. Common civil issues that affect clients in recovery will be explored. In addition, this course will enable students to explain the legal basis for alcohol and other drug services in Florida. State statutes pertaining to alcohol and drugs and their administrative rules will be reviewed. Confidentiality requirements, compliance standards, and professional ethics will be presented. Prerequisite: PSB 2442. (3 hr. lecture)

HUS1480  
**HIV/AIDS and the Substance Abuser**  
3.00 credits  
This course is designed to educate prospective addiction counselors for the evaluation, counseling and outreach skills necessary for working with HIV disease and AIDS. The course will explore not only how this disease affects one personally, but also how this pandemic has affected many psychosocial aspects of society. (3 hr. lecture)

HUS2303  
**Counseling Techniques**  
3.00 credits  
Specific counseling techniques are introduced within the various counseling theories. Work involves both group and individual techniques. (3 hr. lecture)

HUS2493  
**Addiction Counseling Competencies**  
3.00 credits  
This course is designed to enable students to master the TAP 21 competencies clinical evaluation, treatment planning, referral, service coordination, counseling, client, family, and community education, documentation and professional and ethical responsibilities. Additionally, the course will teach the student the process of identifying problems, establishing goals and deciding on a client treatment plan. Students will learn how to respond to an individual’s needs during acute emotional and physical distress. Prerequisite: PSB 2442 (3 hr. lecture)

HUS2500  
**Issues & Ethics in Human Services**  
3.00 credits  
This course is designed to familiarize students with the ethical problems that emerge from counseling the chemically dependent client. Emphasis will be placed on the following: the history and theory of ethics in health care; professionals’ and patients’ rights and responsibilities; the relationship between ethics and law; confidentiality and truth-telling in clinical relationships; technology; diagnostic testing and treatment; treatment of terminal illness; distribution of scarce medical resources and access to health care and systems payment. Prerequisite: PSB 2442. (3 hr. lecture)

HUS2820  
**Field Experience in Human Service**  
3.00 credits  
Volunteer work as counseling paraprofessionals in a community agency under supervision. Students meet regularly with the Field Coordinator. Prerequisites: HUS 1001, 1302, 2303. (144 hrs. Field Experience)

HUS2902  
**Directed Independent Study In Addiction Treatment**  
3.00 credits  
This course is designed to allow students to pursue projects under faculty advisement and supervision. Projects may be directed research, or development of skills and competencies. The proposed project must demonstrate competency in one of the core competencies of addiction counseling learned in HUS2493 and must be approved by the supervising instructor. Prerequisites: HUS 2493, PSB 2442. (3 hr. lecture)

HUS2941  
**Human Services Addiction Counseling Practicum**  
6.00 credits  
This course is designed to provide the student with an arena to practice the application of Human Services addiction counseling theories and techniques in a licensed addiction treatment facility. Prerequisites: HUS 1302, 1421, 1423, 2493, 2500 and PSB 2442. (6 hr. lecture)

**Humanities**

HUM1020  
**Humanities**  
3.00 credits  
An integral approach to the humanities: creative ideas, works, and accomplishments of various cultures from the areas of art, architecture, drama, music, literature and philosophy are presented. (3 hr. lecture)

HUM2513  
**Arts and Humanities**  
3.00 credits  
Selected examples of Art including painting, sculpture, architecture, literature and the performing arts to illustrate the variety of art in relation to man’s perception of
self, nature and God. Intended primarily for use in overseas academic programs. May be repeated for credit. (6 hr. lab)

Interdisciplinary Honors

IDH1001 Honors Leadership Seminar 1
1.00 - 3.00 credits
Rigorous, in-depth exploration of selected honors topics. The topic and content are arranged by the instructor, department chairperson and campus honors directors. These seminars will consist of small groups that meet on a regular basis and be offered in any subject area. (1-3 hr. lecture)

IDH1002 Honors Leadership Seminar 2
1.00 - 3.00 credits
Rigorous, in-depth exploration of selected honors topics. The topic and content are arranged by the instructor, department chairperson and campus honors coordinators. These seminars will consist of small groups that meet on a regular basis and be offered in any subject area. (1-3 hr. lecture)

IDH2003 Honors Leadership Seminar 3
1.00 - 3.00 credits
Hours taken by students to complete a capstone (thesis) project under the supervision of an advisor and a committee, which will produce a piece of work that students may take with them to upper division institution to demonstrate their ability to apply the principles learned and the quality of their work. (1-3 hr. lecture)

IDH2004 Honors Leadership Seminar 4
1.00 - 3.00 credits
Rigorous, in-depth exploration of selected honors topics. The topic and content are arranged by the instructor, department chairperson and campus honors coordinators. These seminars will consist of small groups that meet on a regular basis and be offered in any subject area. (1-3 hr. lecture)

Interdisciplinary Sciences

ISC4534C Research in the Sciences
3.00 credits
The student will develop a rich understanding of the processes of science through the development of a hands-on original scientific investigation in life, physical, and/or earth/space sciences. The student will generate hypothesis, develop an experimental design, collect data, and present an analysis of their findings. Special fee. (3 hr. lecture)

Interdisciplinary Studies

IDS1044 Leadership Seminar
3.00 credits
The student will develop critical thinking, team-building, leadership, and civic literacy in order to build leadership capacity and professional potential. Students will learn strategies and skills that are transferable to academic, personal, and professional endeavors. Service-learning may be included. Students will submit an end-of-term portfolio. (3 hr. lecture)

IDS1107 Tools for Success
1.00 credits
This course is for students majoring in science, technology, engineering, and mathematics (STEM). Students will learn writing, research, presentation, and technological skills necessary for success in STEM-related disciplines. Course topics include learning styles, collaborative skills, power study techniques and will use related technologies related to STEM. (1 hr. lecture)

IDS1153 Earth Literacy and Sustainability I
3.00 credits
This interdisciplinary course is designed to help students explore Earth Literacy and environmental sustainability. Students will learn principles of Earth Literacy and ecological sustainability, identify current issues in Earth ethics, and demonstrate an understanding of individual responsibility in contributing to a sustainable world through lectures, presentations, projects, guest presenters, and field experiences. (3 hr. lecture)

IDS2123 Leadership in Science, Technology, Engineering and Mathematics
1.00 credits
In this course students will research their career interests and interview professionals in Science, Technology, Engineering and Mathematics (STEM). Students will learn to identify, compare, and evaluate upper division degree programs and prepare applications for admission to these programs. Students will write successful application essays and develop interview skills for transfer. (1 hr. lecture)

IDS2124 Skills for Transfer Success
1.00 credits
This course is for students in science, technology, engineering and mathematics (STEM) for matriculation to the upper division. Students will learn to research, write, coordinate and present grants and scholarships in conjunction with the college application process. Students will document all of their efforts in an electronic portfolio. (1 hr. lecture)

IDS2930 The Economic Effects of Scientific Discovery
1.00 credits
Students will develop an understanding of the relationship between scientific discovery and/or development and its impact on a country's economic growth. Students will participate in a series of seminar sessions on campus, and will be assigned selected readings which reflect the course purpose. In a cooperative learning mode, students from Business will gain an understanding of scientific developments, while students from Natural Science will realize the economic value of scientific research. The capstone of the course is a trip to London.
and Paris to experience firsthand this relationship. (1 hr.)

**Interior Design**

**IND1020**
**Interior Design 1**
**4.00 credits**
Student’s projects develop the ability to plan simple interior floor plans and elevations. Corequisite: ARC 1115. Laboratory fee. (2 hr. lecture; 4 hr. lab)

**IND1100**
**History of Interiors 1**
**3.00 credits**
Acquaints the student with period styles in room decoration from Egyptian through the Renaissance. (3 hr. lecture)

**IND1130**
**History of Interiors 2**
**3.00 credits**
Historical development of interior design from the Renaissance through the 20th century. Fulfills Gordon Rule writing requirement. (3 hr. lecture)

**IND1200**
**Interior Design 2**
**4.00 credits**
Problems in room planning, correlation of color schemes and furnishings. Prerequisite: IND 1020. Laboratory fee. (2 hr. lecture; 4 hr. lab)

**IND1300**
**Interior Design Presentations 1**
**2.00 credits**
An introductory course in the use of various media for presentation of plans, schemes, and interior perspective renderings. Prerequisite: IND 1020; corequisite: IND 1200. Laboratory fee. (1 hr. lecture; 2 hr. lab)

**IND2201**
**Design Principles for Kitchen & Bath**
**3.00 credits**
A specialized design course for kitchen and baths. Students will learn the basic elements and principles of creating spaces for clients, blending architectural styles, colors and themes with function and purpose. Prerequisite: ARC 2461, IND 1200, IND 1300. Laboratory fee (3 hr. lecture)

**IND2210**
**Interior Design 3**
**4.00 credits**
Projects provide practice in planning traditional and contemporary interiors including working drawings and specifications. Prerequisite: IND 1200, corequisite: IND 2330. Laboratory fee. (2 hr. lecture; 4 hr. lab)

**IND2220**
**Interior Design 4**
**4.00 credits**
Advanced problems involving interior arrangements in residential and commercial areas. Prerequisite: IND 2210. Laboratory fee. (2 hr. lecture; 4 hr. lab)

**IND2230**
**Interior Design Presentations 2**
**3.00 credits**
Emphasis is on perfecting watercolor, casein and reproducible drawing techniques through the presentation of interior plans, elevations and perspectives. Projects also provide experience in assembling collages. Prerequisite: IND 1300; corequisite: IND 2210. Laboratory fee. (1 hr. lecture; 4 hr. lab)

**IND2421**
**Introduction to Furniture Design**
**3.00 credits**
Hands-on course dealing with the theoretical and practical considerations for designing and building furniture and cabinetry. Students will learn basic principles of designing furniture through researching history, theory, materials, methods and design considerations associated with the construction of furniture. Prerequisite: IND 1200, ARC 1302. Laboratory fee. (3 hr. lecture)

**IND2430**
**Lighting Design**
**3.00 credits**
A survey of utilitarian interior lighting and exterior architectural lighting including fundamentals and basic physical laws, practical applications to interior and exterior spaces and lighting design considering different levels of space utilization and fixture efficiency. Prerequisite: IND 1200. Special fee. (3 hr. lecture)

**IND2500**
**Professional Practices**
**3.00 credits**
Duties and responsibilities relative to employment and business practices. Prerequisite: Sophomore standing level or equivalent. (3 hr. lecture)

**IND2608**
**Sustainable Design**
**3.00 credits**
Introduction to basic theories and practices of ecological design in interiors. Students will learn to take responsibility for their work by understanding the impact their designs have on our environment, and ways to mitigate this impact by gaining a practical understanding of the field of sustainable design. Prerequisite: ARC 1126, IND 1200, IND 1300; Corequisite: ARC 2461. Laboratory fee (3 hr. lecture)

**Italian Language**

**ITA1000**
**Elementary Italian Conversation**
**3.00 credits**
A course emphasizing conversational Italian. Extensive use is made of oral exercises and audio tapes. This course cannot be substituted for ITA 1120 or 1121. (3 hr. lecture)

**ITA1120**
**Elementary Italian 1**
**4.00 credits**
An integrated (multi-media) approach to acquire proficiency in the basic skills (of the language)-listening/understanding, speaking, reading, writing, and cross-cultural awareness. Emphasis on practical vocabulary and accurate pronunciation. Practice in class and laboratory in understanding and using the spoken language; reading and writing with progressive grammatical explanations. (4 hr. lecture)
ITA1121
Elementary Italian 2
4.00 credits
A continuation of ITA 1120. A proficiency-oriented course emphasizing the mastery of the basic skills of the language. Prerequisite: ITA 1120. (4 hr. lecture)

ITA2220
Intermediate Italian 1
4.00 credits
Students will understand, speak, read, write, and gain cultural awareness of Italian through a systematic review (using an integrated, multimedia approach) of reading, grammar, and writing skills with emphasis on oral and written communication. Prerequisite: ITA 1121 or equivalent. (4 hr. lecture)

ITA2221
Intermediate Italian 2
4.00 credits
This is a continuation of Intermediate Italian 1. Students will learn to understand, speak, read, and write Italian. Students will also learn to develop cross-cultural awareness through a systematic review of reading and writing skills with emphasis on oral as well as written expression. Prerequisite: ITA 2220 or equivalent. (4 hr. lecture)

ITA2240
Intermediate Italian Conversation 1
3.00 credits
Training in the acquisition and application of language skills. Practical use of the language to develop fluency and correctness in speaking. Pre/corequisite: ITA 2221 or equivalent. (3 hr. lecture)

ITA2241
Intermediate Italian Conversation 2
3.00 credits
Practice in listening and speaking using topical materials. Development of oral proficiency skills. Prerequisites: ITA 2221 or 2240. (3 hr. lecture)

Japanese Language

JPN1120
Elementary Japanese 1
4.00 credits
An integrated (multi-media) approach to acquire basic language skills: listening/understanding, speaking, reading, writing, and cross-cultural awareness. Emphasis on practical vocabulary and accurate pronunciation. Practice in class and laboratory in understanding and using the spoken language; reading and writing with progressive grammatical explanations. (4 hr. lecture)

JPN1121
Elementary Japanese 2
4.00 credits
A continuation of JPN 1120. A proficiency oriented course emphasizing the mastery of the basic skills of the language. Prerequisite: JPN 1120. (4 hr. Lecture)

JPN2220
Intermediate Japanese 1
4.00 credits
Students will understand, speak, read, write, and gain cultural awareness of Japanese through a systematic review (using an integrated, multimedia approach) of reading, grammar, and writing skills with emphasis on oral and written communication. Prerequisite: JPN 1121 or equivalent. (4 hr. lecture)

JPN2221
Intermediate Japanese 2
4.00 credits
This is a continuation of Intermediate Japanese 1. Students will learn to understand, speak, read, and write Japanese. Students will also learn to develop cross-cultural awareness through a systematic review of reading and writing skills with emphasis on oral as well as written expression. Prerequisite: JPN 2220 or equivalent. (4 hr. lecture)

Journalism

JOU1100
Basic Reporting
3.00 credits
Journalistic writing emphasizing the elements of reporting with an emphasis on the modern news story, analysis of the elements of news, style structure of news stories, news sources, and the mechanics of newspaper production. (3 hr. lecture)

JOU1946
Journalism Internship
1.00 - 3.00 credits
Qualified students will receive practical experience working with local or college communications media under the supervision of professional media specialists and the journalism faculty. Prerequisite: JOU 1100 and permission of department faculty. May be repeated for credit. Not automatically transferable. (2-6 hr. lab)

JOU1949
Co-op Work Experience 1: JOU
3.00 credits
This course is designed to provide training in a student's field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-op Department approval. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-operative Education Office to obtain registration approval. (3 hr. lecture)

JOU2200
Editing and Makeup
3.00 credits
The application of copy desk techniques, including evaluating and editing copy, correcting faulty news stories, handling wire copy, writing headlines, and designing page layouts. Prerequisite: JOU 1100. (3 hr. lecture)

Library Science

LIS1001
Library Research
1.00 - 3.00 credits
Provides students with a practical working knowledge of the Library so that resources may be used efficiently for research purposes. Emphasis is placed on developing effective and efficient methods of using
the card catalog, the online catalog and databases, periodical indexes, CD-ROMS, general reference books and other library research technology. (1-3 hr. lecture/lab)

LIS2004 Strategies for Online Research
1.00 credits
LIS 2004, Strategies for Online Research, focuses on critical thinking skills for online research. Students will learn how to access, evaluate, and use information efficiently and ethically. (1 hr. lecture)

Linguistics

LIN 2011 Introduction to Linguistics
3.00 credits
The course provides an exploration of basic linguistic concepts including phonology, morphology, syntax, pragmatics and semantics, how a language is organized and functions, and will establish a connection between Linguistics and Translation Theory. The course will also introduce students to the study of how cultural and social factors affect human communication. (3 hr. lecture)

LIN2200 Phonetics
3.00 credits
An introduction to the elementary area of the sound systems of types of spoken English. Practice in recognition and transcription using IPA alphabet. (3 hr. lecture)

Management

FIN3400 Finance for Non-Financial Managers
3.00 credits
The students will learn to apply their financial skills and decision-making abilities to address financial issues in a business environment. They will learn how financial markets influence their decisions and the role of financial intermediaries in these markets. Emphasis will be placed on financial and capital budgeting, working capital management, short and long term financing, valuation of the firm, and overall capital structure. The course will require the student to apply the time value of money through the use of present and future value scenarios. Must pass course with a grade of "C" or higher. (3 hr. lecture)

FIN3403 Financial Management
3.00 credits
Students will learn the sources and uses of funds as they relate to financial decision making in the corporate form of enterprise. Emphasis is placed on working capital management, capital budgeting techniques, short and long term financing, and capital structure and the value of the firm. This course emphasizes the use of formulas and spreadsheets through Excel. Prerequisites: ACG 2071, 2071L, CGS 1060, QMB 2100 and 2100L. (3 hr. lecture)

ISM4011 Management Information Systems
3.00 credits
The student will use information technology software to assist in making decisions of a business nature. The course will examine the use of computer systems and information technology and their applications to make more effective business decisions. The course will include the latest terminology, techniques and applications of information systems in a business organization. Pre-requisites: CGS1060, Senior status or permission by department chair. Must pass course with a grade of "C" or higher. (4 hr. lecture)

MAN1023 Management for Non-Profit Organization
3.00 credits
This is a foundation course in the management of non-profit organizations. This course provides an overview of the range and variety of institutions and activities of the non-profit sector and the critical role they play. The student will learn what non-profits have in common and the basic rationale for this type of organization through clarifying the basic scope, structure, and role of the organizations of the non-profit sector. An emphasis will be placed upon the need for non-profit organizations to operate similarly to for-profit businesses be efficiently managing financial resources, developing new revenue sources, adapting to change and effectively evaluating their community impact. (3 hr. lecture)

MAN1949 Management Internship 1
3.00 credits
Students will learn to develop practical knowledge and skills in the application of theory to actual problems in a non-classroom setting in a student's field of study. (144 hr. Internship)

MAN2021 Principles of Management
3.00 credits
The student will learn to analyze the major functions of management. Emphasis is placed on learning how to manage organizations for excellence in both performance and employee satisfaction. Major topics include but are not limited to business ethics and social responsibility, strategic and operational planning, decision making, organization structure and behavior, managing groups and teams, communication and information technology. Special fee. (3 hr. lecture)

MAN2300 Human Resources Management
3.00 credits
Reviews how the personnel/human resources department contributes to overall planning and profitability of an organization. Major topics include typical personnel functions: recruitment and selection, training, performance appraisal, job analysis, and compensation and benefits administration. Class discussions will focus on changing value systems in the work force and the resulting challenges for managers. (3 hr. lecture)

MAN2604 Managing in a Multi-Cultural Environment
3.00 credits
This course will introduce opportunities and problems encountered by managers operating in a diverse environment either within or outside their home country’s borders. Discussions will cover the environment of multinational management as
well as planning, organizing, staffing, leading and controlling in both domestic and multinational companies. Current events and cultural issues that significantly affect international business will also be examined. (3 hr. lecture)

MAN2920
Management Internship 2
3.00 credits
Students will learn to enhance the practical experience gained in MAN 1949 to put into practice the knowledge and skills in the application of theory to actual problems in a non-classroom setting. Prerequisite: MAN 1949. (144 hr. Internship)

MAN2930
Creative Leadership
3.00 credits
Students will experience and analyze the dynamics of group behavior in establishing a creative work climate where managers and employees can perform more effectively. Topics to be examined include team building, the importance of trust in professional relations, giving and receiving feedback, the functions of sub-groups, roles and status, appointed power, elected power, informal power, and formal power. The class is conducted entirely in a discussion group setting. (3 hr. lecture)

MAN3065
Business Ethics
3.00 credits
In this course the student will learn how personal values and ethics influence the decision-making capacity of the manager within an organization. The student will learn about ethical theories and the roles they play in the social and corporate behavior of an organization. Issues such as diversity in the workplace, intuition, technology, and the global environment of business, will be included in case examples. The student will acquire an understanding of how an organization can institutionalize its ethical system. (3 hr. lecture)

MAN3240
Organizational Behavior
3.00 credits
The Students will learn about social behavioral sciences that can be applied to supervision and management through major topics include motivation, conflict, corrective actions and rewards, job related stress, organizational dynamics, the evolving global environment, and the responsibility to stakeholders and the planetary environment. The student will examine organizational behavior and how to integrate behavioral concepts in an effective managerial decision-making process. Must pass course with a grade of “C” or higher. (3 hr. lecture)

MAN3301
Human Resource Management
3.00 credits
The student will learn the functions of Human Resource Management including human resource planning, strategic development of human resources, recruitment techniques, selection and hiring processes, compensation systems, development of policy and procedures for effective and ethical human resource management, performance review and evaluation systems, working effectively with organized labor retention of employees, and current issues in human resource management. The course will also include an exploration of human resources within the global business environment of a boundless organization. (3 hr. lecture)

MAN3322
Human Resources Information Systems
3.00 credits
This course examines the role of human resources information system (HRIS) in today’s organizations and human resources departments. The student will address topics such as human resource information systems design, acquisition, and implementation. The role of these systems in talent acquisition and management is also examined. Prerequisite: MAN 3025, MAN 3301.

MAN3504
Production Operations and Logistics Management
3.00 credits
This course examines the integration of production operations and logistics management and how they enable an organization to compete successfully in business. Students will learn the relationships that exist between operations and the supply chain, including operations and supply chain strategies, business processes, project management, product design and development, and inventory management. This course uses case study methodology. Prerequisites: MAN 2021 and TRA 1114. (3 hr. lecture)
MAN3554
Safety and Risk Management
1.00 credits
This course will focus on safety and risk management with emphasis on how it applies to supply chain management. Students will learn the processes used to characterize and manage risk, as well as maintain a safe operating environment with the protection of personnel, assets, and services. Hazard characteristics of products, appropriate modes of transport, carrier selection and qualifications, packaging and container specifications, driver training requirements, financial issues, security precautions, warehousing risk, OSHA, hazardous materials handling, and customer assessment will be addressed in this course. (1 hr. lecture)

MAN3583
Project Management
3.00 credits
Students will learn project management concepts and theory, including attributes for a project lifecycle, global project management, benefits of project management, project management environments, planning and managing risk, project planning controls, and terminating a project. Prerequisite: MAN 2021. (3 hr. lecture)

MAN3786
Sustainable Enterprise Planning
3.00 credits
Students will learn the assessment tools, design and construction considerations, and operating planning requirements for sustainable enterprises. Students will also learn the ecological and economic benefits of sustainability practices, including construction, operations, supply chain decisions, recycling, reusing, and reconditioning to preserve the environment by increasing revenues. Best practices, case studies, evolving trends and experimental efforts are also covered. Prerequisite: MAN 2021. (3 hr. lecture)

MAN4113
Managing Diversity
3.00 credits
In this course, the student will examine, from a management perspective, mining the value in the vast similarities and dissimilarities that accrue to today’s workforce as a result of differences in individual backgrounds, abilities, socio-economic standing, gender, educational attainment, culture, religion, age, and other differentiating factors. Emerging styles of leadership among people of diverse backgrounds are explored as solutions, not as problems. (3 hr. lecture)

MAN4120
Leadership Challenges and Supervision
3.00 credits
The student will learn to analyze leadership theories and will acquire an awareness of the dynamics of supervisory and managerial decision-making. Emphasis will be placed on team building, crisis management, social and environmental responsibility, developing and communicating a vision, developing a full set of managerial and leadership skills. (3 hr. lecture)

MAN4162
Customer Relations for Managers
3.00 credits
Students will learn Customer Relations for Managers skills by exploring the dynamics of building solid and lasting relationships with customers. Topics will include doing business in a global environment, cultural diversity, the diversity of customs and global etiquette, negotiation tactics, global promotional tactics, and acceptable professional and corporate behaviors in a global business environment. (3 hr. lecture)

MAN4330
Compensation Management
3.00 credits
This course is a study of the strategic use of compensation system for the purposes of attracting, retaining, and motivating a competitive workforce. The student will address topics such as designing compensation systems, bases for pay, employee benefit programs, laws affecting compensation practices, and compensation challenges for various employee groups. Prerequisite: MAN3025, MAN3301.

MAN4335
Employee Benefit Planning
3.00 credits
This course focuses on the both wage and nonwage related benefits made available to employees by the firm and various related social and governmental programs. The student will examine various state and federal laws regarding employee benefits planning. Prerequisite: MAN3025, MAN3301.

MAN4350
Professional Development
1.00 credits
Students will learn to implement basic business etiquette, work habits, and career planning strategies required for successful transition into the business profession. Focus is on setting professional goals, preparing for a job search, networking, finding job leads, applying for jobs, interviewing for jobs, following up, and evaluating job offers. (1 hr. lecture)

MAN4352
Effective Employee Training
3.00 credits
This course focuses on professional development activities as performed by human resources specialists or organizational specialists. The student will analyze the benefits of employee training, establish employee development programs, and address the theories, issues, practices and problems regarding employee training and development. Prerequisite: MAN3025, MAN3301.

MAN4361
Organizational Staffing
3.00 credits
This course provides the student with an overview of the staffing function in organizations, including the topics of job analysis, forecasting, recruitment, selection, retention and turnover. It serves as an introductory course for the prospective human resources manager and as a survey of responsibility and activities of any manager with supervisory responsibilities. Prerequisite: MAN3025, MAN3301.
MAN4402
Employment Law and Regulation
3.00 credits
This course analyzes the federal and state regulation of the employment relationship, including wage and hour laws, EEO, and Affirmative Action programs. The student will address human resource issues such as employee benefits, insurance, workers’ compensation, safety, health, employees’ personal rights and collective bargaining legislation. Prerequisite: MAN3025, MAN3301.

MAN4520
Quality Management
3.00 credits
This course provides an understanding of various theories of quality management (QM). Students will learn how organizations can develop excellence through the adoption of continuous improvement and process management. The course analyzes and uses various process management techniques, continuous improvement tools, and strategies to improve quality. The conceptual and analytical skills acquired in this course enable students to provide leadership in shaping a culture for quality within an organization and determining the effectiveness of quality initiatives such as Total QM, Six Sigma, Process Capability, Process Control, and Customer Relationships. Prerequisite: MAN 2021. (3 hr. lecture)

MAN4523
Production Information Systems
3.00 credits
This course presents the fundamental aspects of computer technology required by the systems that provide data to, and derive information from, production in manufacturing. Students will learn the techniques to organize, store, manipulate data, report, derive and analyze production information, basics networking used in production, as well as various forms of information systems. Prerequisites: CGS 1060 and MAN 2021. (3 hr. lecture)

MAN4593
Supply Chain Management Theory & Methodology
2.00 credits
This course presents a range of advanced topics in integrated logistics and supply chain management. Students will learn new theoretical and methodological developments in the field of supply chain. Specific topics vary depending upon current industry developments and will incorporate the use of speakers in the classroom. Prerequisites: MAN 2021, 3583, 4523. (2 hr. lecture)

MAN4597
Global Supply Chain Management
3.00 credits
This course presents an overview of the management of sourcing, operations, and distribution processes along a supply chain in domestic and international markets. Students will learn how firms gain a competitive advantage through supply chain activities. Topics include: supply chain network design, purchasing, forecasting, inventory management, globalization and outsourcing, logistics, and information technology. Prerequisites: MAN 2021 and 3506. (3 hr. lecture)

MAN4720
Strategic Management Decision Making
4.00 credits
The student will learn the designing, planning, and implementation of strategic decision making in a business organization by identifying problems and designing possible solutions, formulating plans, goals, and feedback mechanisms. Through case studies, the student will conduct internal and external assessments to analyze effective strategic choices for companies. Must pass course with a grade of "C" or higher. (3 hr. lecture)

MAN4741
Change & Innovation Management
3.00 credits
In this course, the student will study the concepts and strategies for change management and diffusion of innovation. Topics covered include, but are not limited to, implementing change, becoming a learning organization, innovation process management, and technology forecasting.

MAN4894
Applied Case Studies in Management
3.00 credits
Students will learn to apply strategic management process through strategy formulation, implementation and evaluation utilizing the case study methodology. This course emphasizes on the identification of strategic management issues, evaluation of strategic goals, internal and external environment of the organization, as well as differentiating, categorizing and assessing strategic choices. (3 hr. lecture)

MAN4900
Capstone Project in Supervision and Management
4.00 credits
Student will apply and integrate the knowledge and skills learned throughout the program by completing a capstone project. Student will identify a business opportunity, conduct an industry feasibility assessment and operational mapping; evaluate market condition; construct a marketing plan, and formulate a financial plan for implementing and managing an existing or new business venture; and evaluate the role of ethical, social, and environmental responsibility within a business. Must pass course with a grade of "C" or higher. (3 hr. lecture)

MAN4940
Field Study and Research
2.00 credits
Students will learn to apply information and skills studied in core and concentration program courses through various special projects, field research, or internships designed for cognitve learning in a student-centered manner which requires the command, analysis, and synthesis of knowledge and skills. Prerequisites: MAN 2021, 3583, and TRA 1154. (2 hr. lecture)
MAN4941  
Management Internship  
3.00 credits  
The student will learn management techniques by becoming an employee or intern (on a paid or unpaid basis) at either a not-for-profit or for-profit organization. The student will be required to work at least 144 hours required by the state to earn the credit for the internship. The student will work with their MDC Faculty and Supervising Employer to establish a set of assignments/learning goals that will be achieved during the semester. Prerequisite: Departmental Permission. (144 hr. internship)

MNA1130  
Writing for Financial Services  
1.00-3.00 credits  
This course teaches business professionals a structured approach to create clear, effective, professional business writing, including e-mail, memos, letters, and reports. (1 hr. lecture)

MNA1322  
Training Methods  
3.00 credits  
Provides practical experience in the four most effective training methods used in organizations today: demonstration performance, lecture, teaching interview and guided discussion. Emphasis is placed on analyzing the methods through student practice-teaching presentations. (3 hr. lecture)

MNA1345  
Effective Supervision  
3.00 credits  
Students will learn to implement supervisory and management practices. Emphasis is placed on learning to communicate more effectively with employees, motivating employees, increasing one's leadership effectiveness, delegating, counseling problem employees, conducting performance reviews, maintaining a discrimination and harassment-free workplace, and managing time. Special fee. (3 hr. lecture)

MNA2120  
Human Relations in Business  
3.00 credits  
Students will learn to implement human relations and communication skills necessary for superior performance and career advancement in the business profession. Emphasis is placed on learning and practicing effective interpersonal communication skills, giving criticism tactfully, expressing feelings constructively, being more sensitive to body language messages, and active listening. Other major topics emphasized are building self-esteem, learning how values and attitudes influence job performance and work relationships, assertion skills, group dynamics and team building, managing conflict, dealing with difficult people, and the challenges and opportunities of getting along in a culturally diverse workplace. Special fee. (3 hr. lecture)

MAR1011  
Principles of Marketing  
3.00 credits  
This introductory course emphasizes key concepts and issues underlying the modern practice of marketing. The course provides the student with a clear understanding of marketing’s role in the 21st Century and introduces the student to both traditional and contemporary ways of marketing. The student will learn how marketers deliver value by satisfying customer needs and wants, determine which target markets to serve, and decide which goods and services are needed to serve these markets. (3 hr. lecture)

MAR1053  
Marketing for Non-Profit Organizations  
3.00 credits  
This course provides an overview of the ways in which a non-profit organization can become market or customer driven. The management process directed at satisfying customer needs and wants through an exchange process is marketing in the non-profit organization. The student will examine this marketing orientation that enables a non-profit organization to achieve its objectives more effectively and produce organizational benefits. (3 hr. lecture)

MAR1211  
Inventory and Warehouse Management  
3.00 credits  
Inventory and Warehouse Management is concerned with inventory control and cost concepts such as economic order quantity, reorder point, materials planning and just-in-time inventory systems. This course will discuss significant topics including strategic warehousing and distribution center decisions, storage facilities location and design, packing and containerization and performance measurements as they relate to the international environment. (3 hr. lecture)
MAR 1440
Fundamentals of Negotiations
3.00 credits
This course introduces the negotiation process and identifying consumer motivations. Students will analyze the various positions of negotiations from gaining leverage to making considerations. Students will examine a long-term sales strategy and how a balanced negotiation plan impacts it. (3 hr. lecture)

MAR 1502
Sales and Consumer Behavior
3.00 credits
This course introduces the process consumer's use in making purchase decisions. Students will analyze how developing a sales personality factors into producing prospects, leads, and ultimately generating sales. Students will identify how both buyer and seller behaviors interact in the sales process. (3 hr. lecture)

MAR 1720
Marketing in a Digital World
3.00 credits
This course provides an introduction to new marketing concepts and the broad spectrum of digital marketing. Students will learn to utilize digital tools, social networks and media, strategies, and tactics to create awareness and to promote products and services to consumers and businesses. (3 hr. lecture)

MAR 1930
Introduction to Salesforce Marketing Cloud
1.00-3.00 credits
This course introduces students on how to build and personalize a 1:1 marketing campaign that can help connect and deliver the right message, to the right person, at the right time. Students will learn how to manage the most utilized marketing channels in the industry and discover new marketing tools.

MAR 1931
Fundamentals to Social Media and Search Engine Marketing
1.00-3.00 credits
This course provides an introduction on how to use social media and search engines for marketing and learning how to grow the brand value of companies. Students will be exposed to the latest social media trends and search engine marketing techniques.

MAR 1932
Email Marketing Fundamentals
1.00-3.00 credits
This course introduces email marketing using Mailchimp with powerful marketing tips and techniques that will help students jump forward and build a list of targeted subscribers. Students will learn a variety of applications ranging from creating email lists, marketing campaigns, sending emails and how to read reports and analytics.

MAR 1933
Fundamentals of Marketing Analytics
1.00-3.00 credits
This course provides an introduction on how to build and define a brand architecture and how to measure the impact of marketing efforts on brand value over time. As an introduction to Google Analytics, students will learn how to create an account, setup and navigate the Google Analytics interface.

MAR 1934
Fundamentals of Google Analytics
1.00-3.00 credits
This course illustrates the advanced analytical tools of Google Analytics to provide students with an understanding of how to use data to drive digital business and marketing campaigns. The course will introduce topics ranging from performance measurements, basic metric definition, socio-demo data and website traffic evaluation.

MAR 2101
Social Media Marketing
3.00 credits
This course addresses the changes in marketing as a result of social media. The student will explore in-depth the role of social media in marketing. The student will focus on developing an effective marketing plan utilizing social media, with an emphasis on the importance of building an online customer community and developing customer engagement and loyalty. (3 hr. lecture)

MAR 2141
Export/Import Marketing
3.00 credits
Introduction to international marketing, with special emphasis on export/import procedures and documentation. The basic principles and concepts of the distribution of goods in international markets; provides an overview of the international marketing process, and the problem facing international marketers in a multinational setting. Emphasis is placed upon export/import transactions. (3 hr. lecture)

MAR 2150
International Marketing
3.00 credits
Students will learn the four P’s of product, price, place (distribution), and promotion as they relate to a global marketing strategy. The concepts are introduced within the international trade framework, as well as the cultural, social, economic, regulatory, and political environments affecting global marketing efforts. (3 hr. lecture)

MAR 2154
International Trade
3.00 credits
This is an exploratory course in the dimensions of international trade theory and policy. The background mechanics of world trade, the effect of world resource distribution on international trade and an appreciation of the interdependencies among cultures is discussed. (3 hr. lecture)

MAR 2419
Technology in Sales
3.00 credits
This course introduces the various technological tools used in the sales process. Students will explore sales management software, data management, artificial intelligence sales technology, and automated sales functions. Students will analyze the benefits of utilizing technology and the competitive advantage it provides to a sales force. Prerequisites: MKA1160. (3 hr. lecture)
**MAR2520**  
Hispanic Marketing Communications  
*3.00 credits*  
Students will learn how firms can formulate strategies to attract the U.S. Hispanic market and its various sub-segments. Emphasis is on strategy formulation and integrated marketing communications, including the use of case studies. (3 hr. lecture)

**MAR 2703**  
Marketing Content, Branding and Strategy  
*3.00 credits*  
This course provides an introduction into branding and content strategy. Students will explore concepts, such as integrated marketing communications, consumer psychology, buying motivations, appropriate content, branding, and marketing strategy as it relates to digital marketing. Students will have the opportunity to practice their writing and communications skills in the development of digital marketing content. (3 hr. lecture)

**MAR 2704**  
Marketing Web Analytics  
*3.00 credits*  
This course helps students to develop a deep understanding of the digital analytics landscape. The student will learn how to identify which metrics are best to measure web, mobile, social and marketing channels, and how organizations use web analytics to obtain higher profits, improved customer relationships, and measurable value. (3 hr. lecture)

**MAR2952**  
Digital Marketing Capstone  
*3.00 credits*  
This course provides a real-world approach to designing, implementing, managing and analyzing a digital marketing campaign or strategy. The student will engage in a comprehensive field experience designed to gain insights into the creative processes and demonstrate competence by applying the knowledge and concepts of marketing. (3 hr. lecture)

**MAR3803**  
Marketing Strategy  
*3.00 credits*  
Students will learn how managers implement the marketing elements within a strategic planning framework. Emphasis is on decision-making, and the development and execution of marketing strategies related to product and brand development, channels of distribution, pricing, and promotional efforts under varying marketplace conditions. This course incorporates the use of case studies. Prerequisite: MAN 2021. (3 hr. lecture)

**MAR4203**  
Supply Chain Marketing  
*3.00 credits*  
Students will learn the management of traditional and emerging marketing channels, with emphasis on legal, economic, and ethical considerations in wholesale and retail inventory control, raw goods, finished product transportation and relationship management. Prerequisites: MAN 2021, 3506, and TRA 1154. (3 hr. lecture)

**MKA 1021**  
Fundamentals of Selling  
*3.00 credits*  
The nature and requirements of selling, including a consideration of buyer motivations and selling theories in relation to various buyer-seller situations. (3 hr. lecture)

**MKA 1022**  
Relationship Selling  
*3.00 credits*  
This course introduces the role that relationship building plays in sales. Students will explore the communication process and the importance of interpersonal skills in developing a relationship for an effective sales strategy. Students will develop a sales presentation based around consumer needs. (3 hr. lecture)

**MKA1041**  
Principles of Retailing  
*3.00 credits*  
Major types of retail institutions and their organizational structure, activities of the merchandising, operating and controlling divisions; buying and merchandising functions; methods of financial, inventory, and credit control; and the selection and training of personnel. (3 hr. lecture)

**MKA 1160**  
Customer Relationship Management  
*3.00 credits*  
This course provides an introduction into Customer Relationship Management (CRM). Students will be exposed to concepts ranging from identifying customer needs, communication channels, customer acquisition cost, demographics and target marketing. Students will learn the role CRM plays in a sales strategy. (3 hr. lecture)

**MKA1161**  
Introduction to Customer Service  
*3.00 credits*  
A survey course which examines the attitudinal, behavioral and procedural basics which are common across all customer service sectors. An extensive vocabulary of customer service terms will be developed and students will understand their practical application in today’s business environment. (3 hr. Lecture)

**MKA1511**  
Principles of Advertising and Copywriting  
*3.00 credits*  
Techniques and behavioral factors used in advertising and copywriting which best motivate the consumer. Principles are applied in clear, concise written expression of various appeals used in selling goods and services. (3 hr. lecture)

**MKA1531**  
Advertising Layout and Production  
*3.00 credits*  
Principles of effective advertising layout and production techniques. Laboratory sessions emphasize use of color, art work, choice of type and methods and techniques of producing ads for various media. Prerequisite: MKA 1511 or equivalent. (3 hr. lecture)
MKA 1949  
Co-op Work Experience 1: MKA  
3.00 credits  
This is a course designed to continue training in a student’s field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-op Department Approval and completion of 1949 Co-op Work Experience. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-operative Education Office to obtain registration approval. (3 hr. lecture)

MKA 2024  
Organizational Sales Management  
3.00 credits  
This course introduces the role of a sales manager and sales team within an organization. Students will examine the management process of recruiting, leading, and setting sales targets and quotas for a sales team. Students will explore sales analytics that measure the effectiveness of an organizational sales strategy. (3 hr. lecture)

Mass Communications  
MMC 2000  
Introduction to Mass Communications  
3.00 credits  
Development of a critical perception of the mass communications process and its results in both printed and electronic media. Applications of the ethics and codes of journalism to the changing roles and forms of journalistic media. MMC 2000 will transfer for mass communications majors to various universities within the Florida State System. (3 hr. Lecture)

PUR 2003  
Public Relations  
3.00 credits  
This course provides students with a broad spectrum of topics as related to the Public Relations profession. Current practices or organized programs used in business to earn public acceptance and good will for products, services, personnel, and policies are explored, studied and experienced. The course employs a hands-on approach to applying public relations technique in hypothetical business situations. Students prepare press releases, brochures, and other collateral materials. (3 hr. lecture)

Mathematics College Level  
MAC 1105  
College Algebra  
3.00 credits  
This course introduces the student to the concept of functions and their graphs. The student will learn to graph linear, quadratic, rational, exponential, logarithmic, radical, power, and absolute value functions and their transformations. The student will perform operations on functions and compositions of functions, find the inverse of a function, apply the laws of logarithms to simplify expressions and solve equations, graph non-linear inequalities, and solve related applications and modeling problems. Prerequisite: MAT 1033 with a grade of "C" or better. Fulfills Gordon Rule computational requirement. (3 hr. lecture)

MAC 1106  
Integrated College and Precalculus Algebra  
5.00 credits  
The student will learn to analyze linear, quadratic, polynomial, rational, radical, absolute value, composite, inverse, piecewise, exponential, and logarithmic functions, conic sections, systems of equations/inequalities, matrices and determinants, sequences & series, the Binomial Theorem, and applications of mathematical modeling including exponential growth and decay. Prerequisite: MAT 1033 with a grade of "B" or better. Fulfills Gordon Rule computational requirement. (5 hr. lecture)

MAC 1114  
Trigonometry  
3.00 credits  
This course will cover the analysis and graph of trigonometric functions and inverse trigonometric functions, the fundamental trigonometric identities, solutions to conditional trigonometric equations, solutions for both right and oblique triangles, operations on complex numbers in trigonometric form, work with vectors, graph both polar and parametric equations, and solutions of applications and modeling problems related to the above topics. Prerequisite: MAC 1105 with a grade of "C" or better or departmental approval. (3 hr. lecture)

MAC 1140  
Pre-Calculus Algebra  
3.00 credits  
This course will cover properties and graphs of algebraic, exponential, and logarithmic functions, piecewise-defined functions, the Fundamental Theorem of Algebra, solutions of polynomial equations, conic sections, systems of equations, matrices, and determinants, arithmetic and geometric sequences and series, the Binomial Theorem, and corresponding applications and modeling. Prerequisite: MAC 1105 with a grade of "C" or better or equivalent. Fulfills Gordon Rule computational requirement. (3 hr. lecture)

MAC 1147  
Pre-Calculus Algebra and Trigonometry  
5.00 credits  
The course will cover the properties and graphs of algebraic, exponential and logarithmic functions, piecewise-defined functions, the Fundamental Theorem of Algebra, solutions of polynomial equations, conic sections, systems of equations, matrices and determinants, arithmetic and geometric sequences and series, the Binomial Theorem, graph of trigonometric functions and inverse trigonometric functions, the fundamental trigonometric identities, solutions to conditional trigonometric equations, solutions for both right and oblique triangles, operations on complex numbers in trigonometric form, vectors, graphs of polar and parametric equations, and solutions of applications and modeling problems related to the above topics. Prerequisite: MAC 1105 with a grade of "C" or better or departmental approval. (5 hr. lecture)
MAC2233
Business Calculus
3.00 credits
This course introduces the basic concepts of differential and integral calculus for students majoring in business administration and related fields. Topics include limits, continuity, differentiation and integration of polynomials, logarithmic and exponential functions with applications to business, economics, and the life sciences. Prerequisite: MAC1105 or MAC1106 with a grade of C or better or departmental permission. Fulfills Gordon Rule computational requirement. Special fee. (3 hr. lecture)

MAC2241
Life Science Calculus
3.00 credits
An introduction to calculus for the Life Sciences. Students will learn plane trigonometry, vectors and vector operations, algebraic and transcendental functions, differential and integral calculus, matrices, and elementary statistics with an emphasis in the application of these topics to the life sciences. Fulfills Gordon Rule computational requirement. Prerequisite: MAC 1105. Special fee. (3 hr. lecture)

MAC2311
Calculus and Analytical Geometry 1
5.00 credits
This course includes topics in analytic geometry, limits, continuity, differentiation of algebraic and transcendental functions and their inverses, differentials, indeterminate forms and L’Hopital’s Rule, introduction to integration and the fundamental theorem of calculus, basic rules of integration and integration by substitution, and applications of definite integrals and derivatives. Prerequisites: MAC1106 and MAC1114, or MAC1140 and MAC1114, or MAC1147 with a grade of “C” or better or departmental permission. Fulfills Gordon Rule computational requirement. (5 hr. lecture)

MAC2312
Calculus and Analytical Geometry 2
4.00 credits
This second semester calculus course the student will examine techniques of integration, applications of integration in STEM subjects, sequences and series, representation of functions by Taylor series, parametric equations, calculus in polar coordinates, and improper integrals. Prerequisite: MAC 2311 with a grade of “C” or better. Fulfills Gordon Rule computational requirement. (4 hr. lecture)

MAC2313
Calculus and Analytical Geometry 3
4.00 credits
The student will examine topics in analytic geometry in three dimensions, vectors and vector functions, curves and surfaces in three-space, partial differentiation and applications to optimization, multiple integrals and their applications, vector fields, line integrals and surface integrals, Green’s Theorem, and the Divergence and Stokes’ theorems. Prerequisite: MAC 2312 with a grade of “C” or better. Fulfills Gordon Rule computational requirement. (4 hr. lecture)

MAD1100
Discrete Mathematics for Computer Science
3.00 credits
This course introduces students to the principles of discrete mathematics that apply to computer science. Topics include set theory, logic, Boolean algebra, number theory, vectors and matrices, combinatorics, probability, relations, functions, and basic graph theory. Prerequisite: MAC105. Special fee. Fulfills Gordon Rule computational requirement. (3 hr. lecture)

MAD2104
Discrete Mathematics
3.00 credits
This course introduces the student to the principles of discrete mathematics that apply to computer science. The student will examine set theory, logic, Boolean algebra, number theory, vectors and matrices, combinatorics, probability, relations, functions, and basic graph theory. Prerequisite: MAC106 or MAC1140. Special fee. Fulfills Gordon Rule computational requirement. (3 hr. lecture)

MAD3107
Discrete Structures
3.00 credits
Topics include sets, logic, switching circuits, Boolean algebra, combinatorics, probability, mathematical proofs, mathematical induction, functions, relations, and graph theory. Credit is not also given for MAD 2104. Prerequisite: MAC 2312. (3 hr. lecture)

MAP2302
Introduction to Differential Equations
3.00 credits
This course emphasizes ordinary differential equations, methods of solution of first order linear and nonlinear equations and applications, homogeneous and non-homogeneous linear equations with constant coefficients, differential operator methods, higher order linear equations, the Laplace transform and its properties, elementary existence theorems, series solutions, numerical solutions of first order equations, initial and boundary value problems, vibrations and waves, and an introduction to autonomous systems. Prerequisite: MAC 2312 with a “C” or better or equivalent. Fulfills Gordon Rule computational requirement. (3 hr. lecture)

MAP2402
Applied Mathematics for Science and Engineering
3.00 credits
This course bridges mathematics and STEM fields by demonstrating applications such as angular momentum, vehicle positioning, coding, signals, graphics, sensors, and biological processes, using software and robotics. Students will learn topics such as: cross products, linear independence, subspaces, affine spaces, matrix operations, and eigenvectors, R2 and R3, as well as regression and dimensional analysis. Prerequisite: MAC105 (High School Geometry Recommended), Pre/Corequisite: MAC114 or MAC1147. Fulfills Gordon Rule computational requirement. (3 hr. lecture)
MAS2103
Elementary Linear Algebra
3.00 credits
This course introduces the student to linear algebra and its applications. The student will examine linear systems of equations, matrices, determinants, vectors, spaces, inner product spaces, linear transformations, linear independence and basis, eigenvalues and eigenvectors, decomposition theorems, and elements of proof writing. Prerequisite: MAC 2311. Fulfills Gordon Rule computational requirement. Special fee. (3 hr. lecture)

MAS3105
Linear Algebra
3.00 credits
This course is designed for students who are majoring in secondary mathematics education. Major topics include systems of linear equations, matrices, determinants, vector spaces, linear transformations, eigenvectors and eigenvalues, inner-product spaces and orthogonality. Prerequisite: MAC 2312. (3 hr. lecture)

MAS3301
Algebraic Structures
3.00 credits
This course is designed for students who are majoring in secondary mathematics education, mathematics, science or engineering. Topics include set theory, basic properties of the integers, groups, rings, fields and the homomorphism’s of these algebraic structures. Prerequisite: MAC 2312. (3 hr. lecture)

MAS4203
Number Theory
3.00 credits
Topics include mathematical induction, divisibility, the Euclidean algorithm, primes, the Fundamental Theorem of Arithmetic, number-theoretic functions, congruence, linear Diophantine equations, linear congruence’s, the Chinese Remainder Theorem, and the theorems of Euler, Fermat, and Wilson. Prerequisite: MAC 2312. (3 hr. lecture)

MAT1033
Intermediate Algebra
3.00 credits
The student will learn the concepts of linear equations, quadratic equations, rational equations, radical equations, rational expressions and equations, complex numbers, graphing linear equations and inequalities in one and two variables, and related applications. Prerequisites: MAT0022C, or MAT0028, or MAT0057 or by placement score, or eligible exemption. (3 hr. lecture)

MAT1033L
Intermediate Algebra Recitation Hall
0.00 credits
The student will receive individualized, small group or whole group instruction to deepen their conceptual understanding of mathematics. The student will reinforce and apply content knowledge with effective problem-solving techniques and non-cognitive activities to make mathematics meaningful and relevant to their fields of study while strengthening the concepts needed to achieve the objectives of MAT1033. (2 hr. Lab) Corequisite: MAT1033

MGF1106
Mathematics for Liberal Arts 1
3.00 credits
The student will examine sets, logic, Euclidean geometry, probability, and statistics. Prerequisite: MAT0029 or MAT1033 or MGF1107. (3 hr. lecture). Fulfills Gordon Rule computational requirement. (3 hr. lecture)

MGF1107
Mathematics for Liberal Arts 2
3.00 credits
The student will learn the concepts of financial mathematics, linear and exponential growth, numbers and number systems, history of mathematics, elementary number theory, voting techniques, and graph theory. Prerequisite: Course, placement score, or eligible exemption). Fulfills Gordon Rule computational requirement. (3 hr. lecture)

MGF1118L
Math Computation Review
1.00 credits
The purpose of this course is to prepare for the computational section of the CLAST exam. This course will cover all of the computational competencies of the CLAST exam as well as general test taking skills. This course will not count as a Gordon Rule mathematics course. Prerequisite: Departmental Permission. May be repeated. (2 hr. lab)

MTB1103
Business Mathematics
3.00 credits
Reviews the basic arithmetic processes and covers mathematics and computations used in business including cash and trade discounts, commissions, markup, markdown, depreciation, simple and compound interest and bank discounts, payroll records, taxes, insurance, inventory, analysis of financial statements, statistics (mean, median, and mode), charts and graphs, and consumer applications. (3 hr. lecture)

MTB1302L
Business Mathematics Laboratory
1.00 credits
Provides the business mathematics student with support to achieve the objective of MTB 1103. (2 hr. Lab)

MTB1322
Technical Mathematics 2
3.00 credits
Applications of algebra, trigonometry, and analytic geometry needed in technical programs. Prerequisite: MAC 1105. (3 hr. lecture)

MTG2204
Geometry for Educators
3.00 credits
This course will introduce basic elements of Euclidean geometry that includes measurement and properties of plane and solid figures, sets, logic, and proofs. Fulfills Gordon Rule computational requirement. Prerequisite: MAC101S or MAC 1106. (3 hr. lecture)
Mathematics – Developmental Education

MAT0018 Developmental Mathematics 1 4.00 credits
The student will learn operations with whole numbers, integers, fractions, decimals, percent’s and their applications; simplifying and evaluating algebraic expressions; ratios and proportions; solving linear equations in one variable and graphing solutions to linear inequalities. This course does not satisfy the college level mathematics requirements. Placement test scores or referral determine admission. Special Fee. (4 hr. lecture)

MAT0022 Developmental Mathematics Combined 5.00 credits
This course combines Developmental Mathematics I and II. The student will learn operations on signed numbers, solving linear equations and inequalities in one variable; operations with polynomials, factoring, integer exponents, radicals, rational expressions, graphing and applications of these topics. This course does not satisfy the college level mathematics requirements. Placement test scores or referral determine admission. Special Fee. (5 hr. lecture)

MAT0028 Developmental Mathematics 2 4.00 credits
The student will learn topics which include operations with signed numbers; solving linear equations and inequalities in one variable; operations with polynomials, factoring, integer exponents, radicals, rational expressions, graphing and applications of these topics. This course does not satisfy the college level mathematics requirements. Special Fee. Prerequisite: MAT0018 with a minimum grade of S or placement test scores. (4 hr. lecture)

MAT0029 Developmental Mathematics for Statistics 3.00 credits
This course will introduce the student to ratios, proportions, scaling, modeling with equations and inequalities, tables, graphs, linear functions, and non-linear functions, in preparation for Statistics. The student will learn the language of mathematics and mathematical symbols, procedural fluency, strategic competence, adaptive reasoning, quantitative investigative techniques, and questioning and solution-building skills. (3 hr. lecture)

MAT0057 Developmental Mathematics (Modules 3.0) 3.00 credits
Students will learn to strengthen arithmetic, geometry, and algebra skills. This course does not satisfy the college level mathematics requirements. Prerequisite: Placement test scores or departmental permission. Special fee. (3 hr. lecture)

Medical Laboratory Technology

MLT1040L Introduction to Medical Laboratory Technology 1.00 credits
Collection of blood by venipuncture, skin puncture and donor room techniques. This includes handling of specimens, professional ethics, basic anatomy and physiology of the circulatory system, medical terminology and safety practices including those for AIDS patients. (2 hr. lab)

MLT1191 Histotechnology 1 3.00 credits
This course will introduce students to the fundamental principles of histologic technology. These include the principles of fixation, processing for paraffin-embedding, microtome sectioning, staining and coverslipping and laboratory safety. (3 hr. lecture)

MLT1191L Histotechnology 1 Lab 3.00 credits
This course will introduce students to fundamental laboratory skills and safety concepts in histologic technology. It includes laboratory aspects of specimen preparation, fixation, sectioning and routine staining. The student will also be introduced to the basic principles of record keeping, use and maintenance of laboratory equipment and quality control. (4 hr. lab)

MLT1195C Tissue Identification 1 3.00 credits
This course will introduce students to the study of human organs and tissues for the purpose of developing histotechnology skills. It will include recognition, composition, and function of organs and tissues. Macroscopic and microscopic laboratory examination and evaluation of specimens will be included. (2 hr. lecture; 2 hr. lab)

MLT1196 Laboratory Safety and Regulations 2.00 credits
This course will introduce students to the rules and regulations governing safety in the histotechnology laboratory. It will also introduce students to the federal regulations pertaining to the histotechnology laboratory and methods of compliance. Prominent safety issues to be covered include the biological and chemical hazards in histology laboratory, formaldehyde standard, hazardous waste disposal and minimization. (2 hr. lecture)

MLT1210C Clinical Urinalysis with Lab 2.00 credits
Theoretical concepts and practice in the collection and analysis of urine and other
body fluids by combination didactic and laboratory instruction. Performance of routine urinalysis procedures including microscopy with identification of related disease states. Laboratory fee. (1 hr. lecture; 2 hr. lab)

**MLT1300**  
Clinical Hematology  
2.00 credits  
Didactic study of blood cells to include the origin, morphology, function and dysfunction of cells and related disease states of the blood. Theoretical concepts and principles of routine hematology procedures, quality control and instrumentation. Corequisite: MLT 1300L. (2 hr. lecture)

**MLT1330**  
Clinical Coagulation  
1.00 credits  
Didactic study of hemostasis, various clotting mechanisms, and related disease states. Corequisite: MLT 1330L. (2 hr. lecture)

**MLT1330L**  
Clinical Coagulation Laboratory  
1.00 credits  
Performance of selected coagulation assays by manual and automated methods. The significance of test results to assess hemostasis in health and disease is included. Corequisite: MLT 1330. Laboratory fee. (4 hr. lab/clinic)

**MLT1500**  
Clinical Immunology/Serology  
2.00 credits  
Theoretical concepts of the human immune system in health and disease. Relationships to immunohematology, infection, and serological procedures are analyzed. Pre/ corequisite: BSC 2085, prerequisite: BSC 2086, corequisite: MLT 1500L. (2 hr. lab)

**MLT1500L**  
Clinical Immunology/Serology Laboratory  
1.00 credits  
Performance of serological procedures that are identified in MLT 1500. The clinical significance of test results to disease states is included. Pre/corequisites: BSC 2085, 2086; prerequisite: MLT 1500. Laboratory fee. (2 hr. Lab)

**MLT1610**  
Clinical Chemistry 1  
2.00 credits  
Theoretical concepts and principles of carbohydrate, non-protein nitrogen, and electrolyte chemistry analyses with emphasis on their relationships to various disease states. Analytical procedures to assess liver function and acid-base balance are also included. Prerequisite: CHM 1025; corequisite: MLT 1610L. (2 hr. lecture)

**MLT1610L**  
Clinical Chemistry 1 Laboratory  
2.00 credits  
Performance of chemistry procedures on body fluids with emphasis on manual and automated instrumentation. Prerequisite: CHM 1025L. Laboratory fee. (4 hr. lab/clinic)

**MLT1752**  
Quality Control Laboratory Mathematics  
2.00 credits  
Emphasis on mathematical computations related to procedures in the clinical laboratory including dilutions, solutions, calorimetry, hematology math, enzymatic calculations, calculations relating to renal function tests, and mathematical principles related to ionic solutions. The student will also be given specific statistical tools necessary for quality control procedures as well as interpretations of Levy-Jennings charts and troubleshooting tools. (2 hr. lecture)

**MLT1840L**  
Histotechnology Practicum 1  
5.00 credits  
This is a clinical experience in which students will learn the techniques of processing human tissue for histological purposes. Prerequisite: MLT 2192. (240 hr. practicum)

**MLT2180C**  
Infectious Diseases & Control Practices  
3.00 credits  
This course will focus on the principles of transmission and control of diseases with an emphasis on infectious tissue specimens. Prerequisites: MCB 2013, 2013L. (2 hr. lecture; 2 hr. lab)

**MLT2192**  
Histotechnology 2  
3.00 credits  
This course is a continuation of Histotechnology 1. Students will be introduced to advanced processing techniques of human tissue for anatomical pathology and concepts of instrumentation. Prerequisite: MLT 1191. (3 hr. lecture)

**MLT2192L**  
Histotechnology 2 Laboratory  
2.00 credits  
This course is a continuation of Histotechnology Lab 1. Students will be introduced to more complex laboratory techniques in histotechnology. Prerequisite: MLT 1191L; corequisite: MLT 2192. (2 hr. lecture; 4 hr. lab)

**MLT2197C**  
Tissue Identification 2  
4.00 credits  
This course will provide the students with the correlations between histotechnological procedures and diseases processes. Students will study the changes in tissue that are associated with various disease states, and will learn the usefulness of selected special stains and techniques in identifying disease processes. Prerequisite: MLT 1195C. (2 hr. lecture; 4 hr. lab)

**MLT2198**  
Histochemistry  
3.00 credits  
This course will introduce students to organic chemistry of stains and special stains, dyes, hydrocarbons; aromatics, alcohols, ethers, aldehydes, ketones, carbonyl compounds, amines and amides. Prerequisites: CHM 1033, 1033L; corequisite: MLT 2198L. (3 hr. lecture)
MLT2198L
Histochemistry Laboratory
3.00 credits
This course will introduce students to biochemicals used in histology with emphasis on laboratory preparation and use of histochemical and immune histochemical stains. Prerequisite: CHM 1033L, corequisite: MLT 2918. Laboratory fee. (4 hr. lab)

MLT2403
Clinical Microbiology 2
2.00 credits
This course will provide a working knowledge of clinical bacteriology and should complement the Microbiology 2 Lab. The student will be exposed to some of the indigenous flora and the pathogenicity of microorganisms as they affect various body sites. Specimen transport, collection, laboratory identification techniques, and antimicrobial therapy also provides the knowledge base necessary for working in a clinical setting. (2 hr. lecture)

MLT2403L
Clinical Microbiology Lab 2
2.00 credits
This course is designed to complement the Microbiology 2 lecture and provide students with the necessary knowledge base and laboratory skills to effectively identify microorganisms associated with infectious diseases. (4 hr. lab)

MLT2440
Clinical Microbiology 1
1.00 credits
This course will provide an overview of clinical mycology and parasitology. Topics will include both parasites and fungi and will cover life cycles, epidemiology, and etiology. Emphasis will be given to the most commonly encountered yeasts and parasitic infestations. This course should be taken concurrently with Clinical Microbiology 1 Lab. (1 hr. lecture)

MLT2440L
Clinical Microbiology Lab 1
1.00 credits
This course provides a practical overview of mycology and parasitology. Students will also obtain hands-on experience working with formalin preserve ova and parasites. They will also obtain the knowledge necessary to be able to identify at least the genus level of the most commonly encountered yeasts and fungi using microscopic and macroscopic techniques. This course should be taken concurrently with Clinical Microbiology. Corequisite: MLT 2440. Laboratory fee. (2 hr. lab)

MLT2525
Immunohematology
2.00 credits
Theoretical concepts involving blood group systems, hemolytic diseases, and blood bank procedures relating to transfusion and component therapy. Prerequisite: MLT 1500; corequisite: MLT 2525L. (2 hr. lecture)

MLT2525L
Immunohematology Laboratory
2.00 credits
Performance of basic blood typing, blood bank assays on prepared specimens, and appropriate quality control procedures. Interpretation of results is included. Prerequisite: MLT 1500L; corequisite: MLT 2525. Laboratory fee. (4 hr. lab)

MLT2620
Clinical Chemistry 2
2.00 credits
Theoretical concepts and principles of proteins, enzymes, and lipids with emphasis on their relationship to various disease states. Prerequisite: MLT 1610; corequisite: MLT 2620L. (2 hr. lecture)

MLT2620L
Clinical Chemistry 2 Laboratory
1.00 credits
Performance on those analyses identified in MLT 2620 including electrophoresis and quality control. Prerequisite: MLT 1610L. Corequisite: MLT 2620. Laboratory fee. (2 hr. lab)

MLT2624L
Special Techniques in Clinical Chemistry
2.00 credits
The principles and performance of radioimmunoassay, EMIT, ELISA, and toxicological techniques for thyroid function, hormones, and toxic substances. Prerequisites: MLT 1610, 1610L; corequisites: MLT 2620, 2620L. Laboratory fee. (4 hr. lab)

MLT2807L
Hospital Practicum: Immunohematology
3.00 credits
A supervised laboratory rotation in a clinical immunohematology facility. This provides the student an opportunity for the practice of skills previously learned and for the acquisition of new procedural skills. The development of interpersonal skills and the transition from student to professional are emphasized. Prerequisites: MLT 2525, 2525L; corequisite: MLT 2930. (144 hr. practicum)

MLT2809L
Hospital Practicum: Hematology
3.00 credits
A supervised laboratory rotation in a clinical hematology facility. This provides the student an opportunity for the practice of skills previously learned and for the acquisition of new procedural skills. The development of interpersonal skills and the transition from student to professional are emphasized. Prerequisites: MLT 1300, 1300L, 1330, 1330L; corequisite: MLT 2930. (144 hr. practicum)

MLT2810L
Hospital Practicum: Chemistry
3.00 credits
A supervised laboratory rotation in a clinical chemistry facility. The development of interpersonal skills the transition from student to professional are emphasized. This provides the student an opportunity for the practice of skills previously learned and for the acquisition of new procedural skills. Prerequisites: MLT 1300, 1300L, 1330, 1330L; corequisite: MLT 2930. (144 hr. practicum)

MLT2811L
Hospital Practicum: Microbiology
3.00 credits
A supervised laboratory rotation in a clinical microbiology facility. This provides the student an opportunity for the practice of skills previously learned and for the acquisition of new procedural skills. Prerequisites:
MLT 2403, 2403L; corequisite: MLT 2930. (144 hr. practicum)

MLT2841L
Histotechnology Practicum 2
5.00 credits
This clinical experience will introduce the students to the basic techniques of microtomy, staining and preparation of human tissue for anatomical pathology. Corequisite: MLT 1840L. (45 hr. practicum)

MLT2930
Medical Laboratory Technology Seminar
2.00 credits
Clinical correlations, professional issues, updates in Medical Laboratory Technology with student’s reports on recent professional journal articles, and the use of microcomputers in the laboratory. Corequisite: MLT 2807L, 2809L, 2810L, 2811L. (2 hr. seminar)

MLT2931
Histotechnology Seminar
3.00 credits
This course will prepare students for career entry. Emphasis will be placed on current topics in histotechnology, legal and ethical responsibilities of health care professionals, knowledge of the health care delivery system, including health policies and financing and employability skills. Corequisite: MLT 1840L. (2 hr. lecture)

Meteorology

MET1010
Introduction to Weather
3.00 credits
An introduction to fundamentals of weather and their impact on human activities. Topics include temperature, humidity, clouds, precipitation, air masses fronts, and storms. Emphasis is on understanding how these processes take place and their results. Pre/corequisite: PSC 1515. Optional laboratory, MET 1010L. (3 hr. lecture)

MET1010L
Introduction to Weather Laboratory
1.00 credits
An elective laboratory to accompany MET 1010. An investigation through experimentation of fundamental meteorological problems. Map analysis, temperature and humidity experiments. Pre/corequisite: MET1010. Laboratory fee. (2 hr. lab)

MET3702
General Meteorology
3.00 credits
This course will cover general knowledge in meteorology. The student will learn about the atmospheric structure and composition, weather and circulation systems, physics of atmospheric processes, as well as global climate and climate change and their impact on human activities. Corequisite MET 3702L. (3 hr. lecture)

MET3702L
General Meteorology Laboratory
1.00 credits
The meteorology lab is a separate 1 credit course designed to be taken in conjunction with a meteorology lecture. Experiments performed each week are chosen with the material being studied in the lecture. Corequisite: MET3702. (2 hr. lab)

Military Science

AFR1101
The Foundation of the United States Air Force - Part 1
1.00 credits
This course is designed to show the potential Air Force officer, what role today’s Air Force plays in defense of our nation, what role they can fill into today’s Air Force, and finally what the Air Force offers them both today and AFROTC and later should they choose the Air Force as a profession after AFROTC.

AFR1111
Introduction to the United States Air Force - Part 3 Sem Basic Air Force ROTC
1.00 credits
This course is designed to examine general aspects of air and space power through a historical perspective. We will cover the time period from the first balloons and dirigibles to the space-age global positioning systems to the Persian Gulf War. Historical examples will be provided to extrapolate the development of Air Force capabilities and missions to demonstrate the evolution of what has become today’s U.S. Air Force air and space power.

AFR2130
The Foundation of the United States Air Force - Part 2
1.00 credits
This course is designed to show the potential Air Force officer, what role today’s Air Force plays in defense of our nation, what role they can fill into today’s Air Force, and finally what the Air Force offers them both today and AFROTC and later should they choose the Air Force as a profession after AFROTC.

AFR2131
Introduction to the United States Air Force - Part 2
1.00 credits
This course is designed to examine general aspects of air and space power through a historical perspective. We will cover the time period from the first balloons and dirigibles to the space-age global positioning systems to the Persian Gulf War. Historical examples will be provided to extrapolate the development of Air Force capabilities and missions to demonstrate the evolution of what has become today’s U.S. Air Force air and space power.

MSL1001
First Year Basic Army ROTC
2.00 credits
Introduction to Army organizations, military customs, basic marching drills, map reading, and land navigation techniques, drown-proofing, rappelling, river crossing
techniques, and physical fitness. Physical fitness training and laboratory required.

**MSL1002**  
**First Year Basic Army ROTC**  
2.00 credits  
Continues basic leadership training. Additionally introduces students to officer duties, awards and decorations, individual military skills, radio communication procedures and physical fitness. Physical training and lab required.

**MSL2101**  
**Second Year Basic Army ROTC**  
2.00 credits  
Instruction in squad and platoon marching drills, military training and inspections, leadership techniques, advanced map reading, and refresher in skills learned at earlier levels. Physical fitness training and lab required.

**MSL2102**  
**Second Year Basic Army ROTC**  
2.00 credits  
Continued instruction in drill and ceremony, nuclear, biological and chemical warfare, practical land navigation, orienteering, and introduction to combat troop leading procedures. Physical fitness training and laboratory required.

**MSL3201**  
**Leadership and Problem Solving**  
3.00 credits  
This is a leadership & problem solving course for ROTC Cadets. Students will learn to examine skills that underlie effective problem solving, analyze military missions and plan military operations, and execute squad battle drills. Prerequisite: Cadets Eligible to Contract per ROTC Enrollment Officer and/or MAN2021. (3 hr. lecture)

**MSL3202**  
**Leadership and Ethics**  
3.00 credits  
This course explores leader responsibilities that foster an ethical command climate. Students will learn to develop Cadet Leadership competencies, and apply principles and techniques of effective written and oral communication. Prerequisite: Cadets Eligible to Contract per ROTC Enrollment Officer and/or MAN2021. (3 hr. lecture)

**Music**

**MUC1201**  
**Composition 1**  
2.00 credits  
A two semester sequential course introducing the basic elements and construction blocks of a musical composition and analysis. In addition, students will be expected to compose original short pieces as well as have them performed in a composition recital at the end of the semester. (2 hr. lecture)

**MUC1202**  
**Composition 2**  
2.00 credits  
A two semester sequential course introducing the basic elements and construction blocks of a musical composition and analysis. In addition, students will be expected to compose original short pieces as well as have them performed in a composition recital at the end of the semester. (2 hr. lecture)

**MUC2001**  
**Experimental Composition**  
3.00 credits  
Experience with 20th century compositional techniques through listening, analysis, composition, and performance. May be repeated for credit by permission of the instructor. Prerequisite: MVK 1111. (3hrs. per week)

**MUC2101**  
**Composition Skills 3**  
2.00 credits  
This course is a continuance of Composition Skills 2 at a more advanced level. Students receive private lessons in music composition. Students are encouraged to apply their theoretical skills to a diverse media, including writing for a variety of small ensembles. This will culminate into a mini recital at the end of the term which will also help prepare the student to effectively coordinate and organize performances of his or her own works in front of an academic and general audience. In the process the student learns to work with a variety of performers and appreciate exposure and feedback from a diverse group of people. (2 hr. lecture)

**MUC2601**  
**Introduction to Songwriting**  
3.00 credits  
This course explores the art and craft of popular songwriting. Students will learn the basics of lyric writing, chord progressions, melodic creation, and structure as they apply to popular song. (3 hr. lecture)

**MUC2617**  
**Songwriting 2**  
3.00 credits  
This course continues the study of the art and craft of popular songwriting. Students will learn techniques of lyric writing, chord progressions, melodic creation, and structure as they apply to popular song. Prerequisite: MUC2601. (3 hr. lecture)

**MUE1430**  
**Voice Techniques**  
1.00 credits  
Class instruction designed to provide basic performance and teaching skills in voice or instruments from each area. (2 hrs. per week)
MUE1440
String Techniques
1.00 credits
Class instruction designed to provide basic performance and teaching skills in voice or instruments from each area. (2 hrs. per week)

MUH2111
Survey of Music History 1
3.00 credits
An introduction to the history of musical styles from antiquity through the Baroque Period by the examination of representative literature. (3 hr. lecture)

MUH2112
Survey of Music History 2
3.00 credits
An introduction to the history of musical styles from the Baroque Period through the present by the examination of representative literature. Prerequisite: MUH 2111. Fulfills Gordon Rule writing requirement. (3 hr. lecture)

MUL1010
Music Appreciation
3.00 credits
The development of the various styles, forms, and idioms, in music. The emphasis is given to the student's ability to understand and enjoy music. (3 hr. lecture)

MUL2380
Jazz and Popular Music in America
3.00 credits
A survey of the development of popular and jazz music with an emphasis on musical styles and outstanding artists. Fulfills Gordon Rule writing requirement. (3 hr. lecture)

MUM1949
Co-op Work Experience 1: MUM
3.00 credits
This course is designed to provide students with training in their chosen field of study (Sound Engineering or related area) through "on the job" work experience. Students are graded on the basis on documentation of learning acquired as reported by student and employer. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Cooperative Education office to obtain registration approval. Prerequisite: Co-op department approval. (3 hr. lecture and field experience)

MUM2030
Commercial Music Performance
3.00 credits
A performance experience with concentration on repertoire, style and management of commercial engagements. Includes transposition, harmonization and show reading. Prerequisite: MUT 1112 or permission of instructor. May be repeated for credit. (3 hrs. per week)

MUM2600
Sound Recording 1
3.00 credits
An introduction to techniques, practices and procedures in making eight-track recordings. The student will gain experience with acoustical balancing, editing and overdubbing in a wide variety of sound situations. Corequisite: MUM 2600L. (3 hr. lecture)

MUM2600L
Sound Recording 1 Lab
1.00 credits
Participation in MUM 2600L offers students directed "hands on" experience coinciding with lectures in MUM 2600. Corequisite: MUM 2600L. Special fee. (2 hr. lab)

MUM2601
Sound Recording 2
3.00 credits
This course explores advanced multi-track recording skills and audio production techniques. Emphasis is on mixing board skills, microphone techniques, and use of outboard equipment and live 2 track recording. Prerequisite: MUM 2600. (3 hr. lecture)

MUM2601L
Sound Recording 2 Lab
1.00 credits
Corequisite for MUM 2601. Advanced Sound Recording. Participation in MUM 2601L offers students directed "hands on" experience paralleling lectures in MUM 2601. Corequisite: MUM 2601. Special fee. (2 hr. lab)

MUM2604
Multi-Track Mix down Techniques
1.00 credits
This course deals with the application of signal processing gear to multi-track master recording mix down to 2 track stereo mastering machines; includes editing and packaging. Prerequisites: MUM 2600, 2600L. (2 hr. lab)

MUM2605
Multi-Track Production Techniques 1
1.00 credits
Multi-track production technique offers students with a background in multi-track recording an opportunity to sharpen their skills in recording, mix down editing, and audio production. Prerequisites: MUM 2600, 2600L. Must precede MUM 2606 and 2607. (1 hr. lecture)

MUM2606
Multi-Track Production Techniques 2
1.00 credits
Multi-track production technique offers students with a background in multi-track recording an opportunity to sharpen their skills in recording, mix down editing, and audio production. Prerequisites: MUM 2600, 2600L. Must precede MUM 2606 and 2607. (1 hr. lecture)

MUM2623C
MIDI Electronic Music 1
2.00 - 3.00 credits
This course is designed to acquaint music students with basic applications of Musical Instrument Digital Interface (MIDI) for the purpose of composition and performance and learning pre-production concepts with multi-track recording studio. Emphasis will be placed on keyboards, outboard gear, drum machines, and computer-assisted operations. Special fee. (1-2 hr. lecture; 2 hr. lab)

MUM2624C
MIDI-Electronic Music 2
2.00 - 3.00 credits
This course is designed to provide music students further study in the application of the Musical Instrument Digital Interface (MIDI) for the purpose of composition and performance and learning pre-production concepts with multi-track recording studio. Emphasis will be placed on keyboards, outboard gear, drum machines, and computer assisted operations. Special fee. (1-2 hr. lecture; 2 hr. lab)
Interface (MIDI). Emphasis will be placed on advanced techniques in sequencing, routing, synchronization, composition and arranging. Prerequisite: MUM 2623C. Special fee. (1-2 hr. lecture; 2 hr. lab)

MUM2640L Multi-Track Mix down Techniques 1.00 credits
This course deals with the application of signal processing gear to multi-track master recording mix down to 2 track stereo mastering machines includes editing and packaging. Prerequisites: MUM 2600, 2600L. Laboratory fee. (2 hr. lab)

MUM2700 Music Business 1 3.00 credits
The fundamentals, guidelines and the use of copyright law, contracts, agencies and management, publishing, song writing, recording production and marketing. Prerequisite: One year of college-level music study or equivalent. Corequisite: MUM 2703. Special fee. (3 hr. lecture)

MUM2702 Music Business 2-Careers 3.00 credits
A systematic look at career options in the Music Industry. Topics discussed include record promotion, marketing, distribution, music publishing, working in the local music industry, radio and television, film scoring, advertising, “jingle” production, teaching as a business, music merchandising, arts administration, working in the national and international scene, live performance, and recording agreements. Students will develop a written business plan for their own music business enterprise and write their resumes. This course will prepare the student for the Music Business Internship. Special fee. Corequisite: MUM 2704. (3 hr. lecture).

MUM2703 Music Business 3-Computer 3.00 credits
This course will provide an overview, and hands-on experience, with a wide variety of computer-based music technology and cross-platform software applications used within the Music Business environment. Software studies include Microsoft Word (word-processing), Microsoft Excel (spreadsheet), Microsoft PowerPoint (presentation), and Adobe Photoshop (scanning, photo touch-up). Students will present projects in class. Prerequisite: Basic computer experience with the Macintosh and/or Windows 95 operating systems. Special fee. (6 hr. lab)

MUM2704 Music Business 4-Computer Applications 3.00 credits
This course will provide an overview, and hands-on experience, with computer-based music technology and cross-platform software applications used within the Music Business environment. Software studies include Adobe Photoshop, Adobe PageMaker (page layout), Quicken (financial record keeping), and Adobe Page Mill (Web page development). Students will create their own Web site, useful for promotion and networking in their own Music Business enterprise. Students will present projects in class. Special fee. Prerequisite: MUM 2703. (6 hr. lab)

MUN1120 Symphony Orchestra 1.00 - 3.00 credits
Experience in performing and reading orchestra literature through participation in the College Orchestra. This course is open to all students. May be repeated for credit. (2-6 hr. lab)

MUN1310 College Choir 1.00 credits
An opportunity for participation in the College Choir. Repertoire includes a wide range of music literature from various periods. This course is open to all students. May be repeated for credit. (3 hrs. per week)

MUN1340 Chamber Singers 1.00 credits
An opportunity for talented singers to study and perform the smaller choral works, with special emphasis on the madrigal. This course is open to all students with the permission of the instructor. May be repeated for credit. (3 hrs. per week)

MUN1391 Gospel Ensemble 1.00 credits
Provides an opportunity to study and perform music of Black composers with emphasis placed on contemporary gospel idioms. This course is open to all students with the permission of the instructor. May be repeated for credit. (3 hrs. per week)

MUN1420 Chamber Music, Woodwind Ensemble 1.00 - 3.00 credits
A performing group introducing students to literature for small woodwind ensembles. Chamber music from Baroque to modern is covered. This course is open to all students with the permission of the instructor. May be repeated for credit. (3-9 hrs. per week)

MUN1430 Chamber Music, Brass Ensemble 1.00 - 3.00 credits
A performing group providing experience with brass literature from the five major
periods. This course is open to all students with the permission of the instructor. May be repeated for credit. (3-9 hrs. per week)

**MUN1440**  
Percussion Ensemble  
1.00 - 3.00 credits  
An opportunity for percussion majors to gain experience in ensemble playing. Open to all percussion students with the permission of the instructor. May be repeated for credit (3-9 hrs. per week)

**MUN1460**  
Chamber Music, Strings and Mixed Ensemble  
1.00 - 3.00 credits  
The performance of ensemble literature involving strings or other instruments in combination with strings. Particular attention given to literature of the five major periods. Open to all students with the permission of the instructor. May be repeated for credit. (3-9 hrs. per week)

**MUN1480**  
Guitar Ensemble  
1.00 - 3.00 credits  
Extended rehearsal schedule provides acquisition of specialized ensemble performance techniques. Literature includes classical and popular. May be repeated for credit or taken for variable (1-3) credit by permission of instructor. (3-9 hrs. per week)

**MUN1710**  
Jazz Workshop  
1.00 - 3.00 credits  
A course providing the opportunity for performing both modern big-band jazz as well as experience in smaller combo groups. This course is open to all students with permission of the instructor. May be repeated for credit. (3-9 hrs. per week)

**MUN1720**  
Vocal Jazz/Pop Ensemble  
1.00 credits  
The study and performance of jazz and commercial music for vocal ensemble, including improvisation. May be repeated for credit. (3 hrs. per week)

**MUN2030**  
Performance Lab  
1.00 credits  
Lab held in conjunction with weekly concert hour performance. This course is designed to provide music majors with the varied musical experiences necessary to broaden a musician's background. May be repeated for credit. (1 hr. lecture)

**MUN2341**  
Vocal Ensemble  
2.00 - 3.00 credits  
An in-depth performance experience including classical and popular choral literature. Extensive public performance schedule provides professional training. Prerequisite: permission of instructor. Maybe repeated for credit. (4-6 hr. Lab)

**MUN2410**  
String Ensemble  
2.00 - 3.00 credits  
Extended rehearsal schedule provides acquisition of specialized ensemble performance techniques. Literature includes classical and popular. May be repeated for credit. By permission of instructor. (4-6 hr. Lab)

**MUN2473**  
Early Music Consortium  
1.00 credits  
The performance of chamber music to introduce the instruments, literature, styles, and performance practices of the music of the middle Ages, Renaissance, and Baroque periods. Enrollment requires the instructor’s permission and selectivity is dependent upon the instrumentation required and the instruments available. Prerequisite: by audition or permission of instructor. May be repeated for credit. (3 hrs. per week)

**MUN2711**  
Jazz Ensemble  
2.00 - 3.00 credits  
A performing group providing advanced skill in reading and interpreting jazz literature. Prerequisite: Permission of instructor. May be repeated for credit. (4-6 hr. Lab)

**MUN2712**  
Studio Jazz  
1.00 credits  
The class will rehearse standard and original tunes commonly played by small jazz ensembles. The student will develop the basic skills required of a musician performing with such a group, and will develop an understanding of the musical concepts involved in the performance of this style of music. A small ensemble would consist of a rhythm section plus 1-4 horns. The class will perform jazz tunes including, but not limited to, those based on the 12-bar blues form, I Got Rhythm chord changes, II-V-I chord changes, and the modes of major and minor scales. Concepts will include the various approaches to soloing, the use of chord substitutions, chord-scale relationships, playing in correct rhythmic time, and the use of dynamics and rhythmic variation. Group concepts discussed will include rhythm section function, musical interplay between soloist and rhythm section, and the creation of introductions, interludes, and endings. May be repeated for credit. (3 hr lecture)

**MUO1501**  
Opera Workshop  
1.00 - 3.00 credits  
The study and performance of scenes from standard operas and musical comedies with special attention to the fundamentals of stage movement, acting, and characterization as related to musical production. This course is open to all students. May be repeated for credit. (3-9 hr. lab)

**MUS1211**  
Diction in Singing 1  
2.00 - 3.00 credits  
Diction in Singing 1 will introduce the student to the International Phonetic Alphabet and instruct the student to the proper diction for English to the standard Vocal Repertoire. Emphasis will be placed on practical application through actual performances by students of assigned and individually selected songs. (2-3 hr. lecture)
MUS1241
Diction in Singing 2
2.00 - 3.00 credits
Diction in Singing 2 will introduce the student to the International Phonetic Alphabet and instruct the student in the proper diction for Italian in the standard Vocal Repertoire. Emphasis will be placed on practical application through actual performance by students of assigned and individually selected songs. Prerequisite: MUS 2231. (2-3 hr. lecture)

MUS1935
Piano Seminar
1.00 - 3.00 credits
Extended rehearsal schedule provides acquisition of specialized ensemble and accompanying performance techniques. Literature includes classical and popular. May be repeated for credit or taken for variable (1-3) credits by permission of instructor. (7.5 hrs. per week)

MUT1001
Fundamentals of Music Theory
3.00 credits
Basic music reading, notation, scales, intervals, triads, keys, rhythm, and meter. For students with little or no previous musical experience. Corequisite: MUT 1003. (3 hr. lecture)

MUT1003
Fundamentals of Music Theory Lab
1.00 - 3.00 credits
The development of basic aural skills through sight singing and ear training exercises. Corequisite: MUT 1001. (2-6 hrs. per week)

MUT1111
Theory 1
3.00 credits
The techniques of writing four-part chord progressions using root position and inversions of the primary and secondary triads and the dominant and supertonic seventh; also, non-harmonic tones, melodic writing, and an introduction modulation. Prerequisite: MUT 1001 or passing score on departmental placement exam; corequisites: MUT 241. (3 hr. lecture)

MUT1112
Theory 2
3.00 credits
The techniques of writing four-part chord progressions using root position and inversions of the primary and secondary triads and the dominant and supertonic seventh; also, non-harmonic tones, melodic writing, and an introduction modulation. Prerequisite: MUT 1111 or passing score on departmental placement exam; corequisites: MUT 1241. (3 hr. lecture)

MUT1241
Sight singing & Ear Training 1 Year
1.00 - 2.00 credits
The development of aural skill by means of rhythmic and melodic dictation and sight singing. Prerequisite: MUT 1241 for 1242; corequisites: MUT 1111, 1112. (2-4 hrs. per week)

MUT1242
Sight singing & Ear Training 2 Year
1.00 - 2.00 credits
The development of aural skills by means of rhythmic and melodic dictation and sight singing. Prerequisite: MUT 1241 for 1242; corequisites: MUT 1111, 1112. (2-4 hrs. per week)

MUT2116
Theory 3
3.00 credits
The continuation of modulation and the presentation of diatonic sevenths, secondary dominants, altered chords, augmented and Neapolitan sixths; melodic and harmonic analysis of selected works; ninth, eleventh, and thirteenth chords, and instrumental part writing. Prerequisites: MUT 1112; corequisites: MUT 2246. (3 hr. lecture)

MUT2117
Theory 4
3.00 credits
The continuation of modulation and the presentation of diatonic sevenths, secondary dominants, altered chords, augmented and Neapolitan sixths; melodic and harmonic analysis of selected works; ninth, eleventh, and thirteenth chords, and instrumental part writing. Prerequisites: MUT 2116; corequisites: MUT 2247. (3 hr. lecture)

MUT2238
Introduction to Jazz Keyboard Harmony
1.00 credits
Jazz harmonic progression as related to music arranging. Includes jazz harmonization of melodic lines, chord symbol interpretation and chord construction. Prerequisite: MUS 1111 or permission of instructor; corequisite: MUS 2351. Special fee. (2 hrs. per week)

MUT2239
Jazz Keyboard Harmony 2
1.00 credits
Experience with extended and altered harmonic progression. Will include harmonic analysis and bitonal structures. Prerequisite: MUT 2238; corequisite: MUT 2352. (2 hrs. per week)

MUT2246
Sight singing and Ear Training 1
1.00 - 2.00 credits
Develops aural and visual skills by means of rhythmic, melodic and harmonic dictation and sight singing. Emphasis is on chromatic materials. Prerequisites: MUT 1242 for 2246; MUT 2246 for 2247; corequisites: MUT 2116, 2117. (2-4 hrs. per week)

MUT2247
Sight singing and Ear Training 2
1.00 - 2.00 credits
Develops aural and visual skills by means of rhythmic, melodic and harmonic dictation and sight singing. Emphasis is on chromatic materials. Prerequisites: MUT 1242 for 2246; MUT 2246 for 2247; corequisites: MUT 2116, 2117. (2-4 hrs. per week)

MUT2351
Introduction to Popular Music Arranging
3.00 credits
Provides basic experience with instrumental, ranges, transpositions, two- and three-part writing. Prerequisite: MUT 1112 or permission of instructor; corequisite: MUT 2238. (3 hrs. per week)
MUT2352
Popular Music Arranging 2
3.00 credits
A continuation of Introduction to Popular Music Arranging with the addition of four-, five- and six-part writing. Concentration on scoring techniques. Prerequisite: MUT 2351; corequisite: MUT 2239. (3 hrs. per week)

MUT2641
Introduction to Jazz Improvisation 1
3.00 credits
A performance experience with concentration on scales, rhythmic patterns, chord progression, and blues forms. Prerequisite: MVK 1111 or permission of instructor; corequisite: MUT 2351. Special fee. (3 hrs. per week)

MUT2642
Jazz Improvisation 2
3.00 credits
A continuation of Introduction to Jazz Improvisation 1 with the introduction to modal improvisation, jazz structures, and complex harmonic progressions. Prerequisite: MUT 2641 (3 hrs. per week)

MVB1011
Pre-Applied Trumpet
2.00 credits
Private instrumental for those music students who are not prepared to perform at the college music major level. Special fees. (1 hr. per week)

MVB1012
Pre-Applied French Horn
2.00 credits
Private instrumental for those music students who are not prepared to perform at the college music major level. Special fees. (1 hr. per week)

MVB1013
Pre-Applied Trombone
2.00 credits
Private instrumental for those music students who are not prepared to perform at the college music major level. Special fees. (1 hr. per week)

MVB1014
Pre-Applied Tuba
2.00 credits
Private instruction for those music students who are not prepared to perform at the college music major level. Special fees. (1 hr. per week)

MVB1015
Pre-Applied Tuba
2.00 credits
Private instrumental for those music students who are not prepared to perform at the college music major level. Special fees. (1 hr. per week)

MVB1211
Trumpet Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVB1212
French Horn Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVB1213
Trombone Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVB1214
Baritone Horn Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVB1215
Tuba Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVB1311
Trumpet Principal Instrument - First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVB1312
French Horn Principal Instrument - First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVB1313
Trombone Principal Instrument - First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)
MVB1314
Baritone Horn Principal Instrument - First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVB1315
Tuba Principal Instrument - First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVB2221
Trumpet - Secondary Instrument
Second Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVB2222
Baritone Horn Secondary Instrument
Second Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVB2225
Tuba Secondary Instrument Second Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVB2321
Trumpet Principal Instrument Second Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVB2322
French Horn Principal Instrument Second Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVB2323
Trombone Principal Instrument Second Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVB2324
Baritone Horn Principal Instrument Second Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVJ1010
Pre-Applied Jazz Piano
2.00 credits
Private instrumental for those music students who are not prepared to perform at the college music major level. Special fee. (1 hr. per week)

MVJ1011
Pre-Applied Jazz Voice
2.00 credits
Private instrumental for those music students who are not prepared to perform at the college music major level. Special fee. (1 hr. per week)

MVJ1013
Pre-Applied Jazz Guitar
2.00 credits
Private instrumental for those music students who are not prepared to perform at the college music major level. Special fee. (1 hr. per week)

MVJ1014
Pre-Applied Jazz Electric Bass
2.00 credits
Private instrumental for those music students who are not prepared to perform at the college music major level. Special fee. (1 hr. per week)

MVJ1016
Pre-Applied Jazz Saxophone
2.00 credits
Private instrumental for those music students who are not prepared to perform at the college music major level. Special fee. (1 hr. per week)

MVJ1017
Pre-Applied Jazz Trumpet
2.00 credits
Private instrumental for those music students who are not prepared to perform at the college music major level. Special fee. (1 hr. per week)

MVJ1018
Pre-Applied Jazz Trombone
2.00 credits
Private instrumental for those music students who are not prepared to perform at
Private instruction in a principal instrument. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVJ1310
Jazz Piano Principal Instrument First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVJ1311
Jazz Voice Principal Instrument First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVJ1313
Jazz Guitar Principal Instrument First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVJ1314
Electric Bass Principal Instrument First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVJ1210
Jazz Piano Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVJ1211
Jazz Voice Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVJ1212
Jazz Violin Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVJ1213
Jazz Guitar Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVJ1214
Electric Bass Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVJ1215
Jazz Flute Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVJ1216
Jazz Saxophone Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVJ1217
Jazz Trumpet Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVJ1218
Jazz Trombone Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVJ1219
Jazz Percussion Drum Set Secondary Instrument 1 year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)
MVJ1315
Jazz Flute Principal Instrument First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVJ1316
Jazz Saxophone Principal Instrument First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVJ1317
Jazz Trumpet Principal Instrument First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVJ1318
Jazz Trombone Principal Instrument First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVJ2220
Jazz Piano Secondary Instrument Second Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVJ2221
Jazz Voice Secondary Instrument Second Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVJ2222
Jazz Violin Secondary Instrument Second Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVJ2223
Jazz Guitar Secondary Instrument Second Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVJ2224
Electric Bass Secondary Instrument Second Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVJ2225
Jazz Flute Secondary Instrument Second Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVJ2226
Jazz Saxophone Secondary Instrument Second Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVJ2229
Jazz Percussion Drum Set Secondary Instrument 2 Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVJ2320
Jazz Piano Principal Instrument Second Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVJ2321
Jazz Voice Principal Instrument Second Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Term</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>MVJ2322</td>
<td>Jazz Violin Principal Instrument</td>
<td>2.00 - 3.00</td>
<td>Second Year</td>
<td>Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)</td>
</tr>
<tr>
<td>MVJ2323</td>
<td>Jazz Guitar Principal Instrument</td>
<td>2.00 - 3.00</td>
<td>Second Year</td>
<td>Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)</td>
</tr>
<tr>
<td>MVJ2324</td>
<td>Electric Bass Principal Instrument</td>
<td>2.00 - 3.00</td>
<td>Second Year</td>
<td>Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)</td>
</tr>
<tr>
<td>MVJ2326</td>
<td>Jazz Saxophone Principal Instrument</td>
<td>2.00 - 3.00</td>
<td>Second Year</td>
<td>Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)</td>
</tr>
<tr>
<td>MVJ2327</td>
<td>Jazz Trumpet Principal Instrument</td>
<td>2.00 - 3.00</td>
<td>Second Year</td>
<td>Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)</td>
</tr>
<tr>
<td>MVJ2328</td>
<td>Jazz Trombone Principal Instrument</td>
<td>2.00 - 3.00</td>
<td>Second Year</td>
<td>Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)</td>
</tr>
<tr>
<td>MVJ2329</td>
<td>Jazz Percussion Drum Set Principal Instrument</td>
<td>2.00 - 3.00</td>
<td>Second Year</td>
<td>Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)</td>
</tr>
<tr>
<td>MVK1011</td>
<td>Pre-Applied Piano</td>
<td>2.00</td>
<td></td>
<td>Private instrumental for those music students who are not prepared to perform at the college music major level. Special fee. (1 hr. per week)</td>
</tr>
<tr>
<td>MVK1012</td>
<td>Pre-Applied Harpsichord</td>
<td>2.00</td>
<td></td>
<td>Private instrumental for those music students who are not prepared to perform at the college music major level. Special fee. (1 hr. per week)</td>
</tr>
<tr>
<td>MVK1013</td>
<td>Pre-Applied Organ</td>
<td>2.00</td>
<td></td>
<td>Private instrumental for those music students who are not prepared to perform at the college music major level. Special fee. (1 hr. per week)</td>
</tr>
<tr>
<td>MVK1111</td>
<td>Class Piano 1</td>
<td>1.00</td>
<td></td>
<td>The secondary area of piano with emphasis on sight-reading, melody harmonization, and ensemble playing. Required of all music students except piano majors. May be repeated for credit. (2 hrs. per week)</td>
</tr>
<tr>
<td>MVK1112</td>
<td>Class Piano 2</td>
<td>1.00</td>
<td></td>
<td>A continuation of MVK 1111. Prerequisite MVK 1111 or placement by exam. (2 hr. lab)</td>
</tr>
<tr>
<td>MVK1211</td>
<td>Piano Secondary Instrument First Year</td>
<td>1.00</td>
<td></td>
<td>Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)</td>
</tr>
<tr>
<td>MVK1212</td>
<td>Harpsichord Secondary Instrument First Year</td>
<td>1.00</td>
<td></td>
<td>Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)</td>
</tr>
<tr>
<td>MVK1213</td>
<td>Organ Secondary Instrument First Year</td>
<td>1.00</td>
<td></td>
<td>Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)</td>
</tr>
<tr>
<td>MVK1311</td>
<td>Piano Principal Instrument First Year</td>
<td>2.00 - 3.00</td>
<td></td>
<td>Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)</td>
</tr>
<tr>
<td>MVK2121</td>
<td>Class Piano 3</td>
<td>1.00</td>
<td></td>
<td>Further development of elementary keyboard techniques and musicianship,</td>
</tr>
</tbody>
</table>
enhancing skills previously developed.
Prerequisite MVK 1112 or placement by exam. (2 hr. lab)

**MVK2122**
*Class Piano 4*
*1.00 credits*
A continuation of MVK 2121. Prerequisite MVK 2121 or placement by exam. May be repeated for credit. (2 hr. lab)

**MVK2221**
*Piano Secondary Instrument Second Year*
*1.00 credits*
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

**MVK2222**
*Harpischord Secondary Instrument Second Year*
*1.00 credits*
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

**MVO1214**
*Recorder Secondary Instrument First Year*
*1.00 credits*
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

**MVP2221**
*Percussion Secondary Instrument Second Year*
*1.00 credits*
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

**MVP2321**
*Percussion Principal Instrument Second Year*
*2.00 - 3.00 credits*
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

**MVP1011**
*Pre-Applied Percussion*
*2.00 credits*
Private instrumental for those music students who are not prepared to perform at the college music major level. Special fee. (1 hr. per week)

**MVP1211**
*Percussion Secondary Instrument First Year*
*1.00 credits*
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

**MVP1311**
*Percussion Principal Instrument First Year*
*2.00 - 3.00 credits*
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)
MVS1015
Pre-Applied Harp
2.00 credits
Private instrumental for those music students who are not prepared to perform at the college music major level. Special fee. (1 hr. per week)

MVS1016
Pre-Applied Guitar
2.00 credits
Private instrumental for those music students who are not prepared to perform at the college music major level. Special fee. (1 hr. per week)

MVS1211
Violin Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVS1212
Viola Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVS1213
Cello Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVS1214
Bass Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVS1216
Guitar Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVS1311
Violin Principal Instrument First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVS1312
Viola Principal Instrument First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVS1313
Cello Principal Instrument First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVS1314
Bass Principal Instrument First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVS1315
Harp Principal Instrument First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVS1316
Guitar Principal Instrument First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVS2223
Cello Secondary Instrument Second Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVS2224
Bass Secondary Instrument Second Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)
### COLLEGE CREDIT COURSES

Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

**MVS2225**  
Harp Secondary Instrument Second Year  
**1.00 credits**  
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

**MVS2226**  
Guitar Secondary Instrument Second Year  
**1.00 credits**  
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

**MVS2321**  
Violin Principal Instrument Second Year  
**2.00 - 3.00 credits**  
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

**MVS2322**  
Viola Principal Instrument Second Year  
**2.00 - 3.00 credits**  
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

**MVS2323**  
Cello Principal Instrument Second Year  
**2.00 - 3.00 credits**  
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

**MVV1311**  
Voice Principal Instrument First Year  
**2.00 - 3.00 credits**  
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

**MVV2221**  
Voice Secondary Instruments Second Year  
**1.00 credits**  
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

**MVV2321**  
Voice Principal Instrument Second Year  
**2.00 - 3.00 credits**  
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

**MVV1011**  
Pre-Applied Voice  
**2.00 credits**  
Private instrumental for those music students who are not prepared to perform at the college music major level. Special fee. (1 hr. per week)

**MVV1111**  
Voice Class  
**1.00 credits**  
Designed for non-music students providing class instruction in the elective area of voice. Prerequisite: MUE 1430. May be repeated for credit. (2 hrs. per week)

**MVV1211**  
Voice Secondary Instrument First Year  
**1.00 credits**  
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

**MVW1011**  
Pre-Applied Flute  
**2.00 credits**  
Private instrumental for those music students who are not prepared to perform at the college music major level. Special fee. (1 hr. per week)

**MVW1012**  
Pre-Applied Oboe  
**2.00 credits**  
Private instrumental for those music students who are not prepared to perform at the college music major level. Special fee. (1 hr. per week)

**MVW1013**  
Pre-Applied Clarinet  
**2.00 credits**  
Private instrumental for those music students who are not prepared to perform at
the college music major level. Special fee. (1 hr. per week)

MVW1014
Pre-Applied Bassoon
2.00 credits
Private instrumental for those music students who are not prepared to perform at the college music major level. Special fee. (1 hr. per week)

MVW1015
Pre-Applied Saxophone
2.00 credits
Private instrumental for those music students who are not prepared to perform at the college music major level. Special fee. (1 hr. per week)

MVW1211
Flute Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVW1212
Oboe Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVW1213
Clarinet Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVW1214
Bassoon Secondary Instrument First Year
2.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVW1215
Saxophone Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVW1311
Flute Principal Instrument First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVW1312
Oboe Principal Instrument First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVW1313
Clarinet Principal First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVW1314
Bassoon Principal Instrument First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVW1315
Saxophone Principal Instrument First Year
2.00 - 3.00 credits
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVW2221
Flute Secondary Instrument Second Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVW2222
Clarinet Secondary Instrument Second Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVW2223
Bassoon Secondary Instrument First Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)

MVW2224
Bassoon Principal Instrument Second Year
1.00 credits
Private instruction in a secondary instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1/2 hr. per week)
MVW2321  
Flute Principal Instrument Second Year  
2.00 - 3.00 credits  
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVW2322  
Oboe Principal Instrument Second Year  
2.00 - 3.00 credits  
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVW2323  
Clarinet Principal Instrument Second Year  
2.00 - 3.00 credits  
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

MVW2325  
Saxophone Principal Instrument Second Year  
2.00 - 3.00 credits  
Private instruction in a principal instrument or voice. Required each term for music majors. Courses in each area must be taken in sequence. Prerequisite: Departmental approval. Special fee. May be repeated for credit. (1 hr. per week)

Nuclear Medicine

NMT1002  
Introduction to Nuclear Medicine  
2.00 credits  
This course is designed to provide an introduction to the field of Nuclear Medicine. Students will learn about the history of the profession, terminology, hospital and patient safety, infection control, patient assessment, accessing and utilizing the patients’ medical record, critical thinking, Nuclear Medicine protocols, and patient education. Prerequisites: CHM 1033, 1033L; co-requisite: NMT 1002L. (2 hr. lecture)

NMT1002L  
Introduction to Nuclear Medicine Laboratory  
1.00 credits  
The student will learn the fundamentals of clinical nuclear medicine before going to the hospital and/or clinical site for actual patient interaction. The student will be introduced to radio-pharmacology, radiopharmaceutical chemistry, and characterization of radiopharmaceuticals, localization, and FDA approval process. Prerequisites: CHM1033, 1033L. Corequisites: NMT 1002, 1312, 2613. (2 hr. lab)

NMT1312  
Radiation Protection  
2.00 credits  
This course covers all local, state and federal regulations related to Nuclear Medicine. Students will learn the appropriate protection procedures to limit exposure, the performance of area surveys and wipe tests, the proper decontamination procedures, the disposal of radioactive waste procedures, and personnel monitoring of radiation exposure. Corequisites: NMT 1002L, 1002, 2613. (2 hr. lecture)

NMT1713  
Nuclear Medicine Procedures 1  
2.00 credits  
This course will include the imaging parameters necessary to obtain images for the basic procedures performed in a Nuclear Medicine department. Students will learn about imaging procedures related to the following systems: skeletal, central nervous, cardiovascular, genitourinary, respiratory and gastrointestinal. Instrumentation necessary to produce the required images as well as patient management during the procedures will be addressed. Prerequisites: BSC 2085, 2085L, 2086, 2086L, CHM1033, 1033L; corequisites: NMT 2130, 2534, 2504C. (2 hr. lecture)

NMT2102  
Nuclear Medicine Administration  
2.00 credits  
The student will learn the administrative duties required of a nuclear medicine technologist. Areas covered include patient scheduling, radiophosphate ordering, scheduling and testing, communication, patient and clinician satisfaction. Prerequisites: NMT 2130, 2534; corequisites: NMT 2723, 2573, 2814C. (2 hr. lecture)

NMT2130  
Nuclear Medicine Pharmacology  
2.00 credits  
Students will learn how to maintain radiopharmaceutical laboratory records and materials, obtain a generator equate, prepare radiopharmaceuticals and perform quality control tests, as well as dispose of radioactive waste appropriately. The ordering of pharmaceuticals in appropriate dosage and effective time frames will also be included. Prerequisites: NMT 1002, 1002L, 1312, 2613; corequisites: NMT 1713, 2534, 2804C. (2 hr. lecture)

NMT2534  
Nuclear Medicine Instruction  
2.00 credits  
This course will integrate and correlate the principles of electrical and nuclear physics associated with the operation and calibration of radiation detection devices employed in nuclear medicine. The student will learn the various types of devices that are used to provide information from which the diagnostic images are obtained. Prerequisites: NMT 1002, 1002L, 1312, 2613 and PHY1004; corequisites: NMT 1713, 2130, 2804C. (2 hr. lecture)

NMT2573  
Nuclear Medicine QA/QC  
2.00 credits  
The student will learn to perform quality assurance and quality control testing of imaging systems; calibrate and operate scintillation counters; calibrate and operate gas-filled detectors; and perform quality assurance testing of routine imaging and assay procedures. Prerequisites: NMT 1713, 2534, 2613; co-requisites: NMT 2102, 2814C, 2723. (2 hr. lecture)
NMT2613
Nuclear Medicine Physics
2.00 credits
Students will learn the basic concepts of atomic, nuclear and radiation physics with an emphasis on the interactions of radiation with matter. Alpha, beta, and gamma sources are explained in this course. Prerequisites: MAC 1105, PHY 1004; corequisites: NMT 1002, 1002L, 1312. (2 hr. lecture)

NMT2723
Nuclear Medicine Procedures 2
2.00 credits
A continuation of Nuclear Medicine Procedures 1, students will learn the imaging parameters necessary to obtain images as well as the use of instrumentation necessary to produce the required images performed in a nuclear medicine department. Exposure to patient management during the procedures will also be addressed. Prerequisites: NMT 1713, 2804C, corequisites: NMT 2573, 2814C. (2 hr. lecture)

NMT2804C
Nuclear Medicine Clinic Practice & Conference 1
6.00 credits
This course will introduce the student to the fundamentals of clinical nuclear medicine primarily through hospital involvement. The student will learn practical experience in a Nuclear Medicine department by performing the principles taught in class. Prerequisites: NMT 1002L, 1002, 1312, 1713. (21 hr. clinic)

NMT2814C
Nuclear Medicine Clinic Practice & Conference 2
6.00 credits
This course is a continuation of NMT 2804C Clinic and will provide the student the opportunity to participate in the fundamentals of clinical nuclear medicine in the hospital involvement. The student will learn practical experience in a Nuclear Medicine department by performing the principles taught in class. Prerequisites: NMT 2804C, 2130, 2534, 2613. (21 hr. clinic)

NMT2824C
Nuclear Medicine Clinic 3
7.00 credits
This is the final course in the series of three clinical courses. Students will learn to apply all didactic competencies in the Nuclear Medicine department setting, as well as perform all procedures from the two Nuclear Medicine Procedures courses with minimal supervision. The ARRT Competency Requirements must be completed in this course. Prerequisites: NMT 2814C. (24.5 hr. clinic)

NMT2932
Nuclear Medicine Seminar
2.00 credits
The student will learn to incorporate all theory related to the production of a nuclear medicine image. The student will also learn about radiation protection, instrumentation, physics, pharmacology, and Quality Assurance/Quality Control. Prerequisites: NMT 1312, 2534, 2573, 2613; co-requisite: NMT2824C. (2 hr. lecture)

Nursing

NSP3685
End-of-Life Nursing Care
3.00 credits
The purpose of this course is to provide healthcare professionals an overview of End-of-Life palliative and hospice care. Students will learn pain and symptom management, ethical and cultural considerations, assess psychosocial and emotional concerns of the patient and family, and describe the care of the patient during the last hours. Course is restricted to BSN students, requires departmental permission. (3 hr. lecture)

NUR1002
Transition to Professional Nursing
6.00 credits
This course introduces students with prior healthcare education to the nursing profession, nursing role, nursing process and the implementation of health-promoting activities to meet patient needs. Students will learn the nurse’s role in meeting short and long term needs of the patient through preventive, therapeutic and palliative care. Students will also explore nursing care of the adults with moderate alterations in health within a body systems framework. Prerequisite: Admission to the School of Nursing. Co-requisites: NUR 1002L, 1142. Special fee. (6 hr. lecture)

NUR1002L
Transition to Professional Nursing Laboratory
4.00 credits
This lab introduces students with prior health care education to the nursing profession. Students will learn the nurse’s role in meeting short and long term needs of the patient through preventive, therapeutic and palliative care. Students will also explore nursing care of the adults with moderate alterations in health within a body systems framework. Prerequisite: Program Admission; co-requisites: NUR 1002, 1142. (8 hr. lab)

NUR1025
Fundamentals of Nursing
3.00 credits
This course provides an introduction to the nursing profession. Students will learn the roles basic to nursing practice, nursing process, and how nurses are involved in health promoting activities to meet client needs. Prerequisite: Program Admission; co-requisites: NUR 1025C, 1060C, and 1142. Special fee. (3 hr. lecture)

NUR1025C
Fundamentals of Nursing Skills Lab
2.00 credits
Students will learn of the opportunities for the explanation, demonstration, and practice of care provider activities essential to the basic practice of nursing. Learning experiences are provided in the skills laboratory. Prerequisite: Program Admission; corequisites: NUR 1025, 1060C, 1142. Special fee. (1 hr. lecture; 2 hr. lab)

NUR1025L
Fundamentals of Nursing Clinical Lab
2.00 credits
This course provides an introduction to the profession of nursing. Students will learn the roles basic to nursing practice and opportunities to apply the nursing
NUR1060C
Adult Health Assessment
2.00 credits
This course is designed to provide students with the necessary skills to perform an in-depth nursing history and a complete physical examination on an adult client. The focus will be on clients with minimal or no alterations in their health state. Students will be introduced to and will demonstrate the techniques used in physical examination. Prerequisite: Admission to the School of Nursing. Corequisites: NUR 1025, 1025L, 1060C, 1142. Special fee. (2 hr. lecture)

NUR1141
Nursing Math & Pharmacology
2.00 credits
Students will learn about medications and their effects on different body systems. The conceptual and mathematical operations necessary for safe and effective administration of intravenous medications, preparing medications that come in powdered form and adjusting medication administration based on medical protocols are discussed. Prerequisites: NUR 1025, 1025C, 1025L, 1060C, 1142; corequisites: NUR 1211, 1214C. Special fee. (192 Hr. Clinical Lab)

NUR1142
Introduction to Nursing Math & Pharmacology
1.00 credits
Students will learn concepts of medications including history, nomenclature, sources of drug information, federal drug laws and standards, medication classifications, pharmacokinetics, pharmacodynamics, variables affecting medication actions and effects, and methods of delivery. Prerequisites: Program Admission; corequisites: NUR 1025, 1025C, 1060C or NUR 1002, 1002L. (1 hr. lecture)

NUR1211
Medical-Surgical Nursing
4.00 credits
This course provides an introduction to the adult nursing care. Students will learn the nurse’s role in meeting the short and long term needs of the client and community through preventive, therapeutic and palliative care are discussed. Prerequisites: NUR 1025, 1025C, 1060C, 1142; corequisites: NUR1211L, 1214C. Special fee. (4 hr. lecture)

NUR1211L
Medical Surgical Nursing Clinical Lab
4.00 credits
Students will learn how to apply concepts of adult health nursing. Experiences in both in-patient and community settings will be provided. Students are encouraged to participate in projects emphasizing preventive aspects of nursing care. Prerequisites: NUR 1025, 1025C, 1025L, 1060C, 1142; corequisites: NUR 1211, 1214C. Special fee. (192 Hr. Clinical Lab)

NUR1214C
Medical Surgical Nursing Skills Lab
1.00 credits
Students will learn the opportunities for the explanation, demonstration, and practice of skills related to adult health nursing. Learning experiences are provided in the School of Nursing Skills Laboratory. Prerequisites: NUR 1025, 1025C, 1025L, 1060C, 1142; corequisites: NUR 1211, 1214C. Special fee. (.5 hr. lecture; 1 hr. lab)

NUR2212
Advanced Medical-Surgical Nursing
3.00 credits
This course explores the medical surgical nursing care of clients with complex alterations in health. Students will learn advanced concepts in medical surgical nursing which is discussed within a body systems framework focusing on the nurse’s role in meeting the needs of the client, family, and community. Prerequisites: NUR 2310, 2310L, 2420, 2420L, 2680L; corequisites: NUR 2212L Special fee. (3hr. lecture)

NUR2212L
Advanced Medical-Surgical Nursing Clinical
3.00 credits
This course provides students with the opportunity to apply advanced concepts of medical surgical nursing. Students will learn to provide health care delivery in both in-patient and community settings. Students will focus on the nurse’s role in meeting the needs of the client, family and community. Students are encouraged to actively participate in projects assisting clients in preventive care and maintenance of health. Prerequisites: NUR 2310, 2310L, 2420, 2420L, 2680L; Corequisites: NUR 2212Special fee. (144 hr. clinical)

NUR2310
Pediatric Nursing
2.00 credits
This course provides a family centered approach to the nursing care of pediatric clients and their families. Students will learn the nurse’s role in meeting the short and long term needs of the pediatric client, family, and community through preventative, therapeutic and palliative care, with recognition for the multicultural aspects of client needs. Prerequisites: 1211, 1211L, 1214C or 1002, 1002L, 1142; corequisites: NUR 2310L, 2420, 2420L, 2680L. Special fee. (2 hr. lecture)

NUR2310L
Pediatric Nursing Clinical Lab
1.00 credits
This course allows the student to apply the nursing process to the care of clients in selected pediatric clinical settings. Students will learn to observe cultural diversity and implement care to the pediatric client, family, and community through preventative, therapeutic and palliative measures. Prerequisites: 1211, 1211L, 1214C or 1002, 1002L, 1142. Corequisites: NUR 2310, 2420, 2420L, 2680L. Special fee. (48 hr. Clinical)

NUR2420
Obstetrical Nursing
2.00 credits
This course provides a family centered approach to the nursing care of obstetri-
NUR2680L
Community Health Nursing Lab
1.00 credits
This laboratory course assists the students in applying knowledge of community health resources. Students will learn to manage community health resources to support the delivery of care to the childbearing/child-rearing families. Special emphasis is placed on understanding of cultural influences on the health practices and beliefs within the family. Prerequisites: NUR 1211, 1211L, 1214C or 1002, 1002L, 1142. Corequisites: NUR 2310, 2310L, 2420, 2680L. Special fee. (2 hr. clinical)

NUR2811C
Professional Nursing Leadership
4.00 - 5.00 credits
This course provides the student with the theoretical and clinical knowledge necessary for actualization of the role of the registered professional nurse. Students will learn how to apply the role of the registered nurse with emphasis on delegation and supervision. Prerequisites: NUR 2310, 2310L, 2420, 2420L.OL. Special fee. (48 hr. clinical)

NUR2520
Psychiatric Nursing
2.00 credits
This course introduces students to the basic concepts of psychiatric nursing. Students will learn to provide care in inpatient and community settings, focusing on the nurse's role in meeting the needs of the patient, family, and the community. Prerequisites: NUR 1211, 1211L, 1214C or 1002, 1002L, 1142. Co-requisites: NUR 2520L. Special fee. (2 hr. lecture)

NUR2520L
Psychiatric Nursing Clinical Lab
2.00 credits
This course provides the student opportunities to apply concepts of psychiatric nursing. Students will learn psychiatric procedures for both in-patient and community settings, focusing on the nurse's role on meeting the needs of the client, family, and community. Students actively participate in projects assisting clients in preventative care and maintenance of mental health. Prerequisites: NUR 1211, 1211L, 1214C or 1002, 1002L, 1142. Co-requisites: NUR 2520. Special fee. (96 hr. clinical)

NUR2420L
Obstetrical Nursing Clinical Lab
1.00 credits
This course provides an introduction to obstetrical nursing clinical practice. Students will learn to apply the nursing process to the care of clients in selected obstetrical clinical settings. Prerequisites: NUR 2311, 2311L, 2314C or 1002, 1002L, 1142. Corequisites: NUR 2310, 2310L, 2420, 2680L. Special fee. (2 hr. lecture)

NUR3045
Culture in Nursing Practice
3.00 credits
This course focuses on the special health care needs of the geriatric population. Students will learn the physical, psychological, psychosocial and gerontologic implications related to aging. The trends in the changing demographics and the social consequences of aging will be identified. Established geriatric assessment and evaluative tools will also be discussed. Prerequisite: Admission to the program. (3 hr. lecture)

NUR3069
Advanced Health Assessment
3.00 credits
This course will focus on the assessment of individuals, families, and culturally diverse communities throughout the life span. The course will also include relevant theories, evidenced based practice concepts for the comprehensive assessment and management of health throughout the family life cycle. The course includes lecture, discussion and demonstration of history-taking and an integrated physical assessment. Minimum grade of “C” or better required. Corequisite NUR 3846. (3 hr. lecture)

NUR3165
Nursing Research
3.00 credits
This course provides a basic understanding of the steps and processes of qualitative and quantitative nursing research, with an emphasis on the development of the basic skills of analyzing research findings and how they can be incorporated and applied to clinical practice. Ethical and theoretical issues will be discussed. Minimum grade of “C” or better required. Prerequisite: Admission to the program. (3 hr. lecture)

NUR3178
Complementary and Alternative Health Care
3.00 credits
This is an upper division course in complementary and alternative healthcare. Students will learn holistic aspects of care while evaluating complementary and alternative healthcare in diverse populations across the lifespan and around the globe. The course addresses different complementary and alternative treatment practices through evidence-based research. (3 hr. lecture)

NUR3289
Foundations of Gerontology
3.00 credits
This course focuses on the special healthcare needs of the geriatric population. Students will learn the physical, psychological, psychosocial and gerontologic implications related to aging. The trends in the changing demographics and the social consequences of aging will be identified. Established geriatric assessment and evaluative tools will also be discussed. Prerequisite: Admission to the BSN - RN program N9100. (3 hr. lecture)
COLLEGE CREDIT COURSES

**NUR3674**  
Faith Based Community Nursing  
3.00 credits  
This course will provide education in faith-based community nursing to registered nurses. Students will learn the skills needed to integrate the care of mind, body, and spirit in faith-based communities. The intentional care of the spirit is part of the process in preventing and minimizing illness in a faith-based community. Prerequisite: RN with at least 2 years of experience and baccalaureate degree standing. Departmental permission required. (3 hr. lecture)

**NUR3805**  
Transition to Professional Nursing  
3.00 credits  
This course focuses on the transition of nursing students from an associate degree program to the role of the BSN nursing graduate. The BSN role builds on concepts and experiences previously introduced. The history and evolution of the nursing profession, ethical imperatives, and current trends and issues impacting professional practice in an evolving healthcare delivery environment are foundations for the development of the professional nurse. The role of the BSN prepared graduate focuses on utilization of evidenced-based nursing practices and advanced leadership and management skills in a variety of settings within a global community. Minimum grade of "C" or better required. Corequisite: NUR 3045. (3 hr. lecture)

**NUR3826**  
Ethical Issues in Health Care and the Environment  
3.00 credits  
This course is designed to acquaint students with current ethical issues in health care and the environment. Students will learn to analyze issues/dilemmas using ethical decision making models. Students will learn the process involved in advocating for change in the health care setting and the global environment. Prerequisites: PHI 2604 or NUR 3041. (3 hr. lecture)

**NUR3846**  
Foundations of Professional Nursing  
3.00 credits  
This course explores the evolution of professional nursing knowledge and theories. Concepts are analyzed in relation to conceptual theoretical frameworks within Nursing. Students will integrate philosophies and theories in the delivery of healthcare and theories are introduced as a foundation for the delivery of healthcare in a multicultural/global environment. Minimum grade of "C" or better required. Corequisite: NUR 3069. (3 hr. lecture)

**NUR4636**  
Community Health Nursing  
3.00 credits  
This course focuses on the holistic aspects of community nursing care applied to diverse global populations across the lifespan. The course introduces students to community nursing practice and formulates a paradigm shift from individual patient’s to the global community, addressing the history, evolution, theoretical framework, and purpose of community health nursing practice with an introduction to epidemiological principles, concepts of community assessment, health promotion, maintenance and education. The course involves the analysis of current knowledge and practice to illness prevention, health promotion, health restoration, community education and empowerment. Minimum grade of "C" or better required. Prerequisite: NUR 3669, 3805; corequisite: NUR 4636L. (3 hr. lecture)

**NUR4636L**  
Community Health Nursing Practicum  
3.00 credits  
This course focuses on the clinical application of Community Health Nursing Theory. Students will utilize the nursing process in the delivery of healthcare within the community environment. Students will assess the individual, family, and/or community, develop a plan of care, and deliver care to an individual, family and/or community within a multicultural environment. Minimum grade of "C" or better required. Corequisite: NUR 4636. (144 hr. Practicum)

**NUR4667**  
Globalization of Nursing Practice  
3.00 credits  
This course focuses on world health issues that influence international health practices with an emphasis on preparing the professional nurse to become a major contributor to the international healthcare team. The course will include economic, political, social, and demographic issues that affect health care systems of select countries and address the role of nurses in the delivery of global health care. Minimum grade of "C" or better required. Prerequisite: NUR 3669, 3805; corequisite: NUR 4827. (3 hr. lecture)

**NUR4827**  
Leadership and Management Theory  
3.00 credits  
This is an introductory course to leadership and management concepts and theories needed in today’s health care environment. The course focuses on unique and innovative approaches to delegation, decision-making, budgeting, quality improvement, evidence-based practice, and population-based practice. Minimum grade of "C" or better required. Prerequisite: NUR 4667. (3 hr. lecture)

**NUR4945C**  
Advanced Concepts Practicum  
3.00 credits  
This course is a capstone of prior learning, including evidenced-based interventions, theoretical concepts, and critical thinking skills, with an emphasis on the application to professional nursing practice. The focus is on multicultural populations which are experiencing physical, psychological, social, or spiritual imbalances. The student, working with a preceptor, will facilitate the delivery of health care to diverse cultures in various specialized settings. Prerequisites: Minimum grade of "C" or better required, NUR 4636, NUR 4667. (96 hr. practicum)

**Nutrition**
HUN1012  
Nutritional Counseling  
3.00 credits  
Basic principles of nutrition of an optimum diet for building and maintaining sound teeth and body tissues. Emphasis is placed on nutritional counseling. (3 hr. lecture)

HUN1201  
Essentials of Human Nutrition  
3.00 credits  
The Essentials of Human Nutrition is a general education course designed to acquaint students with the specific role of carbohydrates, fats, proteins, vitamins, minerals, and water in daily life. Students will learn how the human body systems manage the breakdown, assimilation, and excretion of nutrients and their metabolic wastes. Students will also learn the relationships between food and optimal health including physical fitness and the relationships between nutritional imbalances and diseases. (3 hr. lecture)

Oceanography  

OCE1001  
Introduction to Oceanography  
3.00 credits  
The oceans, their nature and extent. The causes and effects of waves and current; biology of sea life; geology of the sea floor, erosion and bottom deposits and related meteorological and economic effects. (3 hr. lecture)

OCP3002  
Survey of Oceanography  
3.00 credits  
This course explores the ocean origin, physical properties, salinity, temperature, sound, radiative properties, heat budget and climatic controls, tides, wind-driven motion, monsoon circulation, El Nino phenomenon, subsurface water masses, oceanic circulation and paleoclimates. This course is designed for upper level students pursuing a BS in Science Education. Prerequisites: GLY 1010, OCE1001; Corequisite: OCP 3002L. (3 hr. lecture)

OCP3002L  
Survey of Oceanography Laboratory  
1.00 credits  
A laboratory course designed to give students hands-on knowledge of specific concepts discussed in OCP 3002. (2 hr. lab)

Office Technology  

OST2335  
Business Writing  
3.00 credits  
Covers the procedures for writing effective business letters and memorandums, a review of grammar, and the proper format of today’s business correspondence. Students learn how to prepare inquiry letters, direct and indirect response letters, application letters and resumes, and short reports. Prerequisite: OST 1330. (3 hr. lecture)

Paralegal  

PLA2003  
Legal Research  
3.00 credits  
This course provides students with an understanding of how to present legal research and analysis in proper written format. As legal research is an integral part of legal writing, the course will reinforce the skills used in legal research. It will also cover basic writing skills, the process of legal analysis, methodology involved in drafting a Memorandum of law, practice in drafting pleadings, and various types of specific law office correspondence. Prerequisites: ENC 1101, PLA 2003, 2104. (3 hr. lecture)

PLA2104  
Trial Preparation  
3.00 credits  
Trial Preparation focuses on the role of the paralegal in litigation and involves knowledge of the rules of civil procedure and the preparation and use of various written instruments utilized throughout the trial process. Prerequisites: PLA 2104, 2114. Special fee. (3 hr. lecture)

PLA2203  
Trial Practice & Appeals  
3.00 credits  
Trial Practice and Appeals examines the differences between jury and bench trials, the trial process, and the role of the litigation paralegal who assists the attorney in the
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preparation for trial. Prerequisites: PLA 2114, 2203. Special fee. (3 hr. lecture)

PLA2273
Torts
3.00 credits
This course provides an examination of the theories governing tort law and the use of various pre-litigation tools. Topics covered include intentional torts, negligence and strict liability. The course also requires students to utilize the knowledge obtained to draft documents employed in practice. Prerequisites: PLA 2114, 2203. Special fee. (3 hr. lecture)

PLA2303
Criminal Law & Litigation
3.00 credits
This course focuses on the substantive areas of criminal law including the offenses, elements, defenses and parties to a criminal law proceeding. It also emphasizes the role of the criminal justice system in adjudicating, enforcing and sentencing criminal defendants. It examines the Florida Rules of Criminal Procedure and provides practice in drafting documents required in the conduct of a criminal trial. Prerequisites: PLA 2114, 2203. Special fee. (3 hr. lecture)

PLA2600
Wills, Trust, Estate
3.00 credits
Wills, Trusts, and Estates is a study of the laws governing wills and interstate succession. The course provides practice in drafting a simple will and trust. It also examines the procedures and rules involved in probate administrations and explains the ethical obligations of attorneys and paralegals who are involved in this area of practice. Prerequisites: PLA 2114, 2203, REE 2040. Special fee. (3 hr. lecture)

PLA2763
Law Office Management
3.00 credits
A survey of economical and efficient law office practices and procedures including the proper use of law office equipment; business data processing law office management, personnel selection, training and management; employer/employee relationships; correct utilization of time and space; correct time keeping and billing procedures. Prerequisites: PLA 2114, 2203. Special fee. (3 hr. lecture)

PLA2800
Family Law
3.00 credits
An examination of the legal aspects of domestic relations. This course focuses upon dissolution of marriage law with emphasis on pleadings, discovery, and property settlements. Other areas of family law such as adoption and annulment will be reviewed. Prerequisites: PLA 2114, 2203. (3 hr. lecture)

PLA2931
Legal Specialty Seminars
1.00 credits
Intensive practical and theoretical training is provided in a seminar format. The seminar topics cover current and timely legal issues and are addressed by practicing attorneys. The topics are announced at the beginning of the fall and winter semesters. Prerequisites: PLA 2003, 2104, 2114. (1 hr. lecture)

PLA2934
Legal Specialty Seminars
1.00 credits
Intensive practical and theoretical training is provided in a seminar format. The seminar topics cover current and timely legal issues and are addressed by practicing attorneys. The topics are announced at the beginning of the fall and winter semesters. Prerequisites: PLA 2003, 2104, 2114. (1 hr. lecture)

PLA2935
Legal Specialty Seminars
1.00 credits
Intensive practical and theoretical training is provided in a seminar format. The seminar topics cover current and timely legal issues and are addressed by practicing attorneys. The topics are announced at the beginning of the fall and winter semesters. Prerequisites: PLA 2003, 2104, 2114. (1 hr. lecture)

PLA2940
Legal Assisting Internship
1.00 - 3.00 credits
Prerequisite: Permission of the Program Director.

PHI1100
Introduction to Logic
3.00 credits
This is a foundation course in philosophy. Students will learn the basic principles of valid reasoning, and practice in the application of various techniques of analysis. (3 hr. lecture)

PHI2010
Introduction to Philosophy
3.00 credits
This is a foundation course in philosophy. Students will learn about topics such as epistemology, metaphysics and ethics. The course introduces the methods of philosophy, addresses some major philosophical questions and examines the views of various philosophers from around the world. Prerequisite: ENC 1101. Fulfills Gordon Rule writing requirement. (3 hr. lecture)
PHI2070
Introduction to Eastern Philosophy
3.00 credits
This is a foundation course in philosophy. Students will learn various philosophies of the East. Philosophers from various traditions such as Buddhism, Confucianism, Hinduism and Taoism will be discussed and analyzed. (3 hr. lecture)

PHI2604
Critical Thinking and Ethics
3.00 credits
This is a foundation course in philosophy. Students will learn critical thinking skills and will study major theories of ethics. Students will use methods of effective reasoning to reflect critically upon their values, ethical standards, and the ethical permissibility of topics such as euthanasia, animal rights, and environmental ethics. Prerequisite: ENC 1101 (3 hr. lecture)

PHI280
Aesthetics
3.00 credits
This course is designed to introduce students to philosophy of art and aesthetics. Students will learn critical terminology; historical and contemporary aesthetic theories; and the practical application of critical approaches to art criticism. (3 hr. lecture)

PHM2300
Political Philosophy
3.00 credits
This is a foundation course in philosophy. Students will learn major political theories by examining the ideas of various political philosophers. In order to evaluate the policies and practices of contemporary societies, basic philosophical concepts which underlie modern societies such as rights, duties, legal obligations, and freedoms will be discussed and analyzed. (3 hr. lecture)

Photography

PGY2110C
Color Photography 1
3.00 - 4.00 credits
An introductory course in the making of Type C photographic prints, including the darkroom techniques of developing color film, color filtering, color balance and density control. There will be an exploration of significant contributions to the aesthetics of color photography. Students must provide their own cameras, film and photographic paper. Prerequisite: PGY 2401C. Laboratory fee. (1-2 hr. lecture; 4 hr. lab)

PGY2111C
Color Photography 2
4.00 credits
Deals primarily with printing methods used in printing color negatives. Concentrated practice is given in light, color balancing, exposure and processing of color printing materials; the techniques of producing matched multi-size prints are demonstrated. Prerequisite: PGY 2110C. Laboratory fee. (1-2 hr. lecture; 4 hr. lab)

PGY2112C
Color Photography 3
4.00 credits
An introduction to the use of the view camera to explore the problems of form and content in large format color photography. View camera will be provided. Special fee. (1-2 hr. lecture; 4 hr. lab)

PGY2211
Portrait and Still Photography
4.00 credits
Fundamentals of portrait and still photography are presented. Basic and advanced exercises are taught in lighting, posing, make-up and camera angles. Composition, lighting and design functioning to describe people and objects for a variety of clients are explored. Prerequisite: PGY 2410C. (1-2 hr. lecture; 4 hr. lab)

PGY2222
Fashion Photography
4.00 credits
The production of commercially viable photographs illustrating clothes as desirable objects as well as recent trends in fashion industry are studied. An awareness of mood, make-up, and dramatic impact is stressed. (1-2 hr. lecture; 4 hr. lab)

PGY2238
Illustrative Photography 1
4.00 credits
The use of the camera to illustrate either an original concept or a concept provided by an art director for clients such as magazines, manufacturing concerns, advertising agents, newspapers, technical publications and schools. The creative approach is stressed in planning and production-effective color and black/white illustrations. Prerequisite: PGY 2410C. Laboratory fee. (1-2 hr. lecture, 4 hr. Lab)

Physical Education

HLP1080
Wellness
2.00 credits
This course enables students to assess their present aerobic fitness level, lung capacity, percentage of body fat, flexibility and strength. From data collected, the student will be able to set personal wellness goals. Lectures, demonstrations, and multi-media materials will be used to provide the scientific basis for meeting one’s personal wellness goals. (2 hr. lecture/lab)

HLP1081
Fitness & Wellness for Life
3.00 credits
In this course students will learn the roles of exercise, physical activity, diet, and stress management in achieving optimal wellness. Students will explore current developments in health and complete lab assignments, which will assist in the determination of their current health status. Individualized exercise and dietary protocols based on these assessments will be developed. Special fee. (3 hr. lecture/lab)

HLP1083
Weight Management
3.00 credits
This course is designed for students to develop an understanding of the role of exercise and nutrition as they apply to the implementation of a weight management plan. (3 hr. lecture)
PEO2321
Skills and Practices in Volleyball
2.00 credits
Develops and analyzes the teaching and coaching of volleyball. This course also emphasizes skills and practices in volleyball. Special fee. (1 hr. lecture; 2 hr. lab)

PEO2621
Skills and Practices Basketball
2.00 credits
Develops and analyzes the teaching and coaching of basketball. This course also emphasizes skills and practices of basketball. Special fee. (1 hr. lecture; 2 hr. lab)

PET1949
Co-op Work Experience 1: PET
3.00 credits
This is a course designed to continue training in a student's field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-op Department approval. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-operative Education Office to obtain registration approval. (3 hr. lecture)

PET2622C
Techniques of Athletic Training
3.00 credits
Develops competence, knowledge and skill in the prevention and care of athletic injuries. A familiarization with the latest equipment, supplies, modalities and therapeutic aids is provided. Special fee. (2 hr. lecture; 2 hr. lab)

PET2949
Co-op Work Experience 2: PET
3.00 credits
This is a course designed to continue training in a student's field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-op Department approval and completion of 1949 Co-op work experience. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-operative Education Office to obtain registration approval. (3 hr. lecture)

Physical Therapist Assistant

PHT1102C
Anatomy for the Physical Therapist Assistants
4.00 credits
Regional description of the musculoskeletal landmarks utilized in implementing and documenting assessment and treatment procedures in physical therapy. Prerequisite: Departmental Approval, Corequisites: PHT 1201, PHT 1201L, PHT 1211, PHT 1211L. (3 hr. lecture and 2 hr. lab)

PHT1201
Introduction to Physical Therapy
2.00 credits
Survey and history of the physical therapy profession. Role and responsibilities of the physical therapist assistant as they react with patients and other health care workers are discussed. Overview of common medical and surgical conditions treated in physical therapy is presented. Pre-Req BSC 2085, 2085L, PHY 1004, 1004L. Co-Req PHT 1102C, 1201L, 1211, 1211L. (2 hr. lecture)

PHT1201L
Introduction to Physical Therapy Laboratory
1.00 credits
Basic patient care and treatment procedures which are typically required in a physical therapy service area. Treatment procedures include the proper administration of steam packs, cold packs, paraffin, whirlpool, and gait training. Pre-Req BSC 2085, 2085L, PHY 1004, 1004L Co-Req PHT 1102C, 1201L, 1211, 1211L. Laboratory fee. (2 hr. lab)

PHT1211
Disabilities and Therapeutic Procedures 1
2.00 credits
Cause and effect factors associated with selected orthopedic and neuromuscular disabilities. Pre-Req BSC 2085, 2085L, PHY 1004, 1004L Co-Req PHT 1102C, 1201, 12010, 1211L (2 hr. lecture)

PHT1211L
Disabilities and Therapeutic Procedures 1 Lab
2.00 credits
Laboratory practice of basic technical skills relating to electro-hydrotherapy, therapeutic exercise and patient care procedures. Pre-Req BSC 2085, 2085L, PHY 1004, 1004L Co-Req PHT 1102C, 1201, 12010, 1211. Laboratory fee. (2 hr. lab)

PHT1949
Co-op Work Experience 1: PHT
3.00 credits
This is a course designed to continue training in a student's field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-op Department approval. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-operative Education Office to obtain registration approval. (3 hr. lecture)

PHT2120
Applied Kinesiology
2.00 credits
Anatomical structures and movements as related to physical therapy procedures. Recognition and understanding of biomechanics of all human motion as related to the function of the musculoskeletal system during therapeutic exercise and gait training is discussed. Pre-Req BSC 2085, 2085L, PHT 1102C, 1201, 1201L, 1211, 1211L Co-Req PHT 2120L, 2224, 2224L, 2801C. (2 hr. lecture)

PHT2120L
Applied Kinesiology Laboratory
1.00 credits
Procedures in measuring and analyzing muscle strength and function as related to the biomechanics of human motion. Pre-Req BSC 2085, 2085L, PHT 1102C, 1201, 1201L, 1211, 1211L Co-Req PHT 2120L, 2224, 2224L, 2801C. Laboratory fee. (2 hr. lab)

PHT2162
Survey of Neurological Deficits
3.00 credits
Survey and description of clinical manifestations of neurological dysfunction
frequently treated in physical therapy. Pre-Req PHT 2120, 2120L, 2224, 2224L, 2801C. Co-Req PHT 2701, 2701L, 2810. (3 hr. lecture)

PHT2224
Disabilities and Therapeutic Procedures 2
3.00 credits
Cause and effect factors associated with the more complex medical and surgical problems resulting in disability. Pre-Req BSC 2085, 2085L, PHT 1102C, 1201, 1201L, 1211, 1211L, Co-Req PHT 2120, 2120L, 2224L, 2801C. (3 hr. lecture)

PHT2224L
Disabilities and Therapeutic Procedures 2 Lab
2.00 credits
Laboratory practice of more complex technical skills and competencies related to preparing equipment and treatment of patients with a variety of medical, surgical and neuromuscular disabilities. Pre-Req BSC 2085, 2085L, PHT 1102C, 1201, 1201L, 1211, 1211L, Co-Req PHT 2120, 2120L, 2224, 2801. Laboratory fee. (4 hr. lab)

PHT2701
Rehabilitation Procedures
3.00 credits
Clinical manifestations and treatment techniques related to physical therapy, intervention for children and adults with injuries and disabilities (spinal cord and brain injuries or disease, limb amputations, burns). Pre-Req PHT 2120, 2120L, 2224, 2224L, 2801C. Co-Req PHT 2162, 2701L, 2810. Laboratory fee. (4 hr. lab)

PHT2701L
Rehabilitation Procedures Laboratory
2.00 credits
Laboratory practice in the technical skills and competencies required in the total rehabilitative care and treatment of the child or adult who has had a severe injury or disease resulting in multiple disabilities. Pre-Req PHT 2120, 2120L, 2224, 2224L, 2801C. Co-Req PHT 2162, 2701, 2810. Laboratory fee. (4 hr. lab)

PHT2801C
Clinical Practice and Conference I
2.00 credits
The students will be exposed to clinical experiences in supervised patient care activities in a variety of clinical facilities including general hospitals and physical therapy clinics. Prerequisites: PHT 1102C, PHT 1201, PHT 1201L, PHT 1211, PHT 1211L; Corequisites: PHT 2120, PHT 2120L, PHT 2224, PHT 2224L. (96 hr. clinical)

PHT2810
Clinical Practice and Conference II
7.00 credits
Intermediate clinical experiences in selected patient care activities under the supervision of a licensed physical therapist. Pre-Req PHT 2120, 2120L, 2224, 2224L, 2801C; Co-Req PHT 2162, 2701, 2701L (21. hr. clinical)

PHT2820
Clinical Practice and Conference III
7.00 credits
Advanced clinical experiences in patient care activities under the direct supervision of a licensed physical therapist. Prerequisites: PHT 2810, 2931. (27 hr. clinic)

PHT2931
Seminar for Physical Therapist Assistants
3.00 credits
Recognition of the expected current competency levels, and ethical and legal responsibilities of the physical therapist assistant in the health care system. Prerequisites: PHT 2162, 2701, 2701L, 2801. Corequisite: PHT 2810. (3 hr. lecture)

PHT2949
Co-op Work Experience 2: PHT
3.00 credits
This is a course designed to continue training in a student’s field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-op Department approval and completion of 1949 Co-op work experience. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-operative Education Office to obtain registration approval. (3 hr. lecture)

Physician Assistant

PAS1800C
Physical Diagnosis 1
3.00 credits
A course which provides the students with the critical basis for and clinical exposure to techniques used in the proper performance and recording of the physical examination of patients. Prerequisites: BSC2085, BSC2085L, BSC2086, BSC2086L, CHM1045, CHM1045L, CHM1046, CHM1046L, MCB2010, and MCB2010L. (1 hr. lecture; 2 hrs. clinical)

PAS1801C
Physical Diagnosis 2
2.00 credits
In the hospital and classroom setting, the student will obtain experience in performing and recording patient histories and physical examinations and presenting clinical data. Prerequisites: HSA2532, PAS1800C, PAS1803, PAS1831, PAS2936. (1 hr. lecture; 2 hrs. clinical)

PAS1803
Clinical Anatomy and Physiology
2.00 credits
This course is designed for students accepted into the Physician Assistant Program. The course will review basic Anatomy and Physiology principles, while integrating important clinical concepts. Students will learn to transition from Anatomy and Physiology to Pathophysiology. Prerequisite: BSC2085, BSC2085L, BSC2086, BSC2086L, CHM1045, CHM1045L, CHM1046, CHM1046L, MCB2010, MCB2010L. (2 hr. lecture)

PAS1811
Introduction to Medicine 1 for PAs
5.00 credits
The first course in the sequence PAS 1811, 1820. Focuses on signs, symptoms, and pathophysiology of common diseases affecting pediatric, adult, and geriatric patients; diagnosis, therapeutic intervention and follow-up; patient education and preventative medicine are included.
PAS1812
Behavioral & Community Medicine 1 for PAS
1.00 credits
A biopsychosocial system approach to identify the individual, the family and community within the health care delivery system. Studies the American health care system, emphasizing the role of the PA profession, patient education, preventative medicine, community health, and medical legal ethics. Prerequisites: BSC2085, BSC2085L, BSC2086, BSC2086L, CHM1045, CHM1045L, CHM1046, CHM1046L, MCB2010, and MCB2010L. (1 hr. lecture)

PAS1813
Pathophysiological Basis of Disease 1
2.00 credits
First course in the sequence PAS 1813, 1824. An introduction to the underlying pathologic bases for specific disease processes. Prerequisites: HSA2532, PAS1800C, PAS1803, PAS1831, PAS2936. (2 hr. clinical)

PAS1820
Introduction to Medicine 2 for PAs
5.00 credits
The second course in the course PAS 1813, 1824. Focuses on signs, symptoms, and pathophysiology of common diseases of all ages. Prerequisites: PAS 1800C, PAS1803, PAS1831, PAS2936. (2 hr. clinical)

PAS1821
Behavioral & Community Education Medicine 2 for PAS
1.00 credits
The second course in the PAS 1812, PAS 1821 sequence. A continuation of the study of the biopsychosocial model for health. Prerequisites: PAS 1800C, 1812, 1813, 1822C, 1823, 1831. (1 hr. lecture)

PAS1822L
Electrocardiography
1.00 credits
A study of the principles and practical application of electrocardiography for the physician assistant. Includes practice in Basic and Advanced Cardiac Life Support measures for life threatening emergencies. Prerequisites: HSA2532, PAS1800C, PAS1803, PAS1831, PAS2936. (2 hr. lab)

PAS1823
Pharmacology 1
4.00 credits
The first course in the sequence PAS 1823, 1830. The study of the preparation, uses, and action of drugs. Prerequisites: HSA2532, PAS1800C, PAS1803, PAS1831, PAS2936. (4 hr. lecture)

PAS1824
Pathophysiological Basis of Disease 2
2.00 credits
A continuation of PAS 1813 Focus is on cell dynamics and immunity. Prerequisites: HSA 2532, PAS 1801C, 1811C, 1812, 1813, 1822C, 1823. (2 hr. lecture)

PAS1831
Clinical Diagnostic Imaging
1.00 credits
A study of multiple imaging modalities employed in the diagnosis of pathologic processes. Prerequisites: BSC2085, BSC2085L, BSC2086, BSC2086L, CHM1045, CHM1045L, CHM1046, CHM1046L, MCB2010, and MCB2010L. (1 hr. lecture)

PAS2936
Contemporary Issues for the PA
1.00 credits
In this course the student will examine current issues, challenges, and practices influencing leaders in the field of health care education. The student will learn to use evidenced based medicine to research topics including leadership perspectives on health care education and promotion; the changing nature of health care delivery in the United States; demographic, economic, ethical, and political factors influencing the practice of health education. (1 hr. lecture)

PAS3019
Pathophysiological Basis of Disease III
2.00 credits
This course establishes scientific core knowledge and bridges the basic medical sciences with clinical medicine. The course covers the pathophysiology of human diseases that appear as a result of structural and functional alterations of the human body systems. The course begins with the study of human anatomy and physiology pertinent to the pathological conditions presented and progresses to the pathophysiologic topics needed by physician assistant students. The course will enhance decision-making ability when working as a PA in clinical practice. Prerequisite: PAS 1821, 1824, 3038C, 3075

PAS3038C
Physical Diagnosis III
2.00 credits
This course will build upon skills learned in Physical Diagnosis I and II and will prepare the physician assistant student with the essential skills for entry into clinical practice. Students will learn to perform medical interviews and physical examinations on professional patients and high-fidelity simulators. Prerequisite: HSA 2532, PAS 1800C, 1801C, 1811C, 1812, 1813, 1822C, 1823, 1831

PAS3042C
Clinical Medicine III for Physician Assistants
5.00 credits
Students will learn the signs and symptoms, diagnosis, therapeutic and non-therapeutic interventions of common diseases affecting pediatric, adult, and geriatric patients. Patient education and preventative medicine will also be included. Prerequisite: PAS 1821, 1824, 3038C, 3075

PAS3070
Clinical Pharmacotherapeutics
4.00 credits
This course will provide a team-based, active, and applied learning environment to solve patient cases related to the management of pharmacotherapy. Students will work within specified learning groups to solve patient cases. Students will learn from their future colleagues by working together to develop treatment plans and answer questions which are designed to promote active learning and critical thinking skills. Following each case, facilitated discussion will occur to promote student
learning and retention of material. Real world examples will be incorporated into discussions and explanations of patient cases. Prerequisite: PAS 1821, 1824, 3038C, 3075

PAS3075
Pharmacotherapeutics
4.00 credits
The second course in the sequence PAS 1823, 1830. The study of the use of drugs to treat disease, including contraindication and incompatibilities; drug interactions; side effects and their treatment, and dosages and calculations. Prerequisites: HSA 2532, PAS 1801C, 1811C, 1812, 1813, 1822C, 1823. (4 hr. lecture)

PAS3140
Genetics
4.00 credits
The study of the use of drugs to treat disease, including contraindication and incompatibilities; drug interactions; side effects and their treatment, and dosages and calculations. Prerequisite: PAS 1821, 1824, 3038C, 3075

PAS3203C
Surgical Problems & Procedures
5.00 credits
During this course the student will be exposed to the various aspects of general, orthopedic, cardiovascular, thoracic, ENT, neurologic, urologic, and pediatric surgical problems, their diagnosis and treatment. Laboratory components of this course will include learning fundamental techniques necessary in preoperative and postoperative care, including nasogastric intubation, central venous line placement, arterial and venous punctures and sterile techniques. Prerequisites: HSA 2532, PAS 1801C, 1811C, 1812, 1813, 1822C, 1823. (4 hr. lecture; 1 hr. lab)

PAS4290
Surgery
2.00 credits
During the clinical course the student will be exposed to a variety of clinical problems routinely seen on the surgical service. Emphases will be placed on preoperative, intraoperative and postoperative management of the patient. In the operating room the student will practice aseptic technique, operating room principles, and assist in surgery. Prerequisites: PAS 3019, 3042C, 3070, 3140, 3203C. (18 hr. lab)

PAS4391
Pediatrics
4.00 credits
This clinical course in pediatric care settings will introduce students to childhood illnesses and normal variations of growth and development. Students will perform histories and physical examinations and manage patients in the newborn nursery, pediatric out-patient clinic and emergency room. Prerequisites: PAS 3019, 3042C, 3070, 3140, 3203C. (96 hr. clinical)

PAS4470
Physician Assistant Practice Management
3.00 credits
This course is designed to assist the PA in understanding and applying the principles of management to a primary care practice. Students will learn the basic concepts of managing the patient/client, the office and medical team. (3 hr. lecture)

PAS4493
Family Medicine
4.00 credits
This clinical course introduces the student to the family practice setting where emphasis is placed on the common diseases treated by primary care practitioners in conjunction with other members of the health care team. The student is exposed to rural epidemiology, cultural diversity, and problems that affect delivery of health care in rural and under-served areas. Prerequisites: PAS 3019, 3042C, 3070, 3140, 3203C. (192 hr. clinical)

PAS4590
Obstetrics/Gynecology
2.00 credits
During this clinical course the student will participate on the obstetrical service managing pregnancy, labor and delivery and be introduced to pre- and postnatal complications. The student will also participate in the management of common gynecologic problems. Prerequisites: PAS 3019, 3042C, 3070, 3140, 3203C. (96 hr. clinical)

PAS4690
Emergency Medicine
2.00 credits
This clinical course in an emergency care setting will provide opportunities for the student to manage the acutely ill and traumatized patient. The student will learn to perform history and physical examination on the acutely ill patient with emphasis being placed on the management and support measures necessary in situations which are life threatening. Prerequisites: PAS 3019, 3042C, 3070, 3140, 3203C. (96 hr. clinical)

PAS4841
Geriatrics
2.00 credits
This clinical course provides the opportunity for students to become familiar with common physical and psychological problems encountered by the geriatric patient including cardiac and respiratory insufficiency, urinary tract infection, strokes, and diabetes mellitus. Prerequisites: PAS 3019, 3042C, 3070, 3140, 3203C. (96 hr. clinical)
Physics

AST1002
Descriptive Astronomy
3.00 credits
The solar system, the nature of electromagnetic radiation, astronomical instruments, stars, galaxies, and cosmology. Sessions are devoted to viewing the sky and to laboratory activities. Special fee. (3 hr. lecture)

AST1002L
Descriptive Astronomy Laboratory
1.00 credits
This is a laboratory course available to students taking the introductory Astronomy course AST 1002. Students will learn to obtain astronomically relevant scientific information by performing experiments, exercises or observations. They will learn to measure, collect, and analyze scientific data, to do calculations with the data, and to report their results. (2 hr. lab)

PHY1004
Physics with Applications 1
3.00 credits
Emphasizes the basic concepts and principles and their practical applications. Designed specifically for students in technical studies and for others wishing to strengthen their physics background before taking advanced courses. Prerequisite: MAT 1033 with a grade of "C" or better; Corequisite: PHY 1004 with a grade of "C" or better. Special fee. (3 hr. lecture)

PHY1004L
Physics with Applications 1 Lab
1.00 credits
Laboratory for PHY 1004. Prerequisite: MAT 1033; corequisite: PHY 1004. Laboratory fee. (2 hr. lab)

PHY1005
Physics with Applications 2
3.00 credits
Emphasizes the basic concepts and principles and their practical applications. Designed specifically for students in technical studies and for others wishing to strengthen their physics background before taking advanced courses. Prerequisite: PHY 1004; Corequisite: PHY 1005L. Special fee. (3 hr. lecture)

PHY1005L
Physics with Applications 2 Lab
1.00 credits
Laboratory for PHY 1005. Prerequisite: PHY 1004; corequisite: PHY 1005. Laboratory fee. (2 hr. lab)

PHY1020
General Education Physics
3.00 credits
This is a general education course for non-science majors. The students will learn the fundamentals laws of physics at an introductory level. Must be completed with a grade of "C" or better. (3 hr. lecture)

PHY1025
Basic Physics
3.00 credits
This course will help students to facilitate the transition from high school to college/university physics. The course will emphasize problem-solving techniques. Topics may include units of measure, particle mechanics, conservation laws, and basic field concepts. Prerequisite: MAC 1105. (3 hr. lecture)

PHY2048
Physics with Calculus 1
4.00 credits
Foundation course for physical science and engineering majors. PHY 2048 covers classical mechanics and thermodynamics. PHY 2049 includes electricity, magnetism, waves and optics. Prerequisites: High school physics or PHY 1025, PHY 2053 or departmental approval and MAC 2311; corequisite: PHY 2048L. Special fee. (4 hr. lecture)

PHY2048L
Physics with Calculus 1 Lab
1.00 credits
Laboratory for PHY 2048. Prerequisite: High school physics or PHY 1025 or PHY 2053 or departmental approval and MAC 2311; corequisite: PHY 2048. Laboratory fee. (2 hr. lab)

PHY2049
Physics with Calculus 2
4.00 credits
Foundation course for physical science and engineering majors. PHY 2048 covers classical mechanics and thermodynamics. PHY 2049 includes electricity, magnetism, waves and optics. Prerequisites: PHY 2048, corequisites: PHY 2049L and MAC 2312. Special fee. (4 hr. lecture)

PHY2049L
Physics with Calculus 2 Lab
1.00 credits
Laboratory for PHY 2049. Prerequisite: PHY 2048, corequisites: PHY 2049 and MAC 2312. Laboratory fee. (2 hr. lab)

PHY2053
Physics (without Calculus) 1
3.00 credits
An introduction to the basic principles of physics. PHY 2053 covers mechanics, sound and thermodynamics. Prerequisite: MAC 1114 or MAC 1147; corequisite: PHY 2053L. Special fee (3 hr. lecture)

PHY2053L
Physics (without Calculus) 1 Lab
1.00 credits
Laboratory for PHY 2053. Prerequisite: MAC 1114 or MAC 1147 corequisite: PHY 2053L. Special fee. (2 hr. lab)
**PHY2054**  
Physics (without Calculus) 2  
3.00 credits  
An introduction to the basic principles of physics. PHY 2053 covers mechanics, sound and thermodynamics. PHY 2054 includes electricity, magnetism and optics. Prerequisite: PHY 2053; corequisite: PHY 2054L. Special fee. (3 hr. lecture)

**PHY2054L**  
Physics (without Calculus) 2 lab  
1.00 credits  
Laboratory for PHY 2054. Prerequisite: PHY 2053. Corequisite: PHY 2048. Laboratory fee. (2 hr. lab)

**PHY3101**  
Modern Physics  
3.00 credits  
This course will provide students with a deep understanding in areas of physics that lie beyond the scope of classical mechanics, thermo-dynamics and electromagnetism. Its content includes: the theory of relativity; wave properties of matter; an introduction to the quantum theory of atoms; the properties of molecules and solids; nuclear properties, interactions and applications; a brief description of elementary particles; and an overview of modern cosmology. The course will emphasize descriptive models and problem-solving techniques. Prerequisites: PHY 2048, 2049; Corequisite: PHY 3125L. (3 hr. lecture)

**PHY3101L**  
Modern Physics Laboratory  
1.00 credits  
This course is a laboratory course designed to enhance the student’s practice and understanding of areas of physics that lie beyond the scope of classical mechanics, thermo-dynamics and electromagnetism. These areas are covered in PHY 3101. While the main purpose of the course is to promote scientific understanding, the student will also acquire and demonstrate skills in the observation, measurement, recording, analysis, and reporting of experimental data. Prerequisites: PHY 2049, MAP 2302; corequisite: PHY 3125. (2 hr. lab)

**PHY3504C**  
Thermodynamics & Waves  
4.00 credits  
This course is an introduction to mechanical waves and classical thermodynamics. The student will learn the physics of oscillations and mechanical waves and the postulates and results of the kinetic theory of gases, the laws of thermodynamics and their applications to heat engines. (3 hr. lecture; 2 hr. lab)

**PHY3802L**  
Intermediate Physics Laboratory  
1.00 credits  
This is a laboratory course consisting of a series of experiments related to intermediate courses in classical mechanics, waves, thermodynamics, electromagnetism and modern physics. The student will learn skills in the design, performance and reporting of physics experiments as well as reinforcing concepts learned in the corresponding physics courses. Prerequisites: PHY 2048L, 2049L, PHY 3504. (2 hr. lab)

**PHY4220**  
Classical Mechanics  
3.00 credits  
This one-semester course will provide students with a deep understanding of some fundamental topics of classical mechanics, reinforcing the concepts learned in PHY 2048, and providing a sound foundation for their comprehension. Most of the topics of elementary mechanics will be studied in a rigorous manner, requiring a higher level of math. Content includes Newtonian particle mechanics, oscillations, no inertial reference frames, central forces, dynamics of systems, mechanics of rigid bodies, the lagrangian formulation of dynamics, and an overview of the Hamiltonian formulation. The course will emphasize problem-solving techniques and computer simulations. Prerequisites: PHY 2048, 2049, MAP2302. (3 hr. lecture)

**PHY4320**  
Intermediate Electromagnetism  
3.00 credits  
This course will provide students with a deep understanding of electricity and magnetism at an intermediate level. It will reinforce the concepts learned in PHY 2049, providing a better understanding of the fundamental electromagnetic phenomena. Content includes: vector calculus, electrostatics, dielectrics, electric currents, magneto statics, electromagnetic induction, Maxwell’s equations, wave optics, and electromagnetic radiation. The course will emphasize classical models and problem-solving techniques. Prerequisites: PHY 2049, MAP 2302, PHZ 3113. (3 hr. lecture)

**PSC1121**  
General Education Physical Science  
3.00 credits  
A study of the major concepts and principles from each of the following areas: physics, chemistry, and astronomy. Prerequisite: MAT1033. (3 hr. lecture)
on the environment and on the lives of people. Special fee. (3 hr. lecture)

**PSC1515L**  
Energy in the Natural Environment  
Laboratory  
1.00 credits  
A laboratory course designed to complement PSC 1515. Laboratory exercises explore the ways in which energy moves through the atmosphere, hydrosphere, lithosphere and biosphere, the advantages and disadvantages of various energy sources, and the potential of conservation as an energy resource. Laboratory fee. (2 hr. lab)

**Political Science**

**CPO2100**  
Comparative European Government  
3.00 credits  
This course discusses the structures and functioning of the systems of government of three European states: Britain, France, and the Federal Republic of Germany. An attempt is made to analyze some of the current problems facing parliamentary governments, and to assess their performance in resolving them. A prior course in History or Social Science is desirable. Offered first semester. Given in English. Offered through Overseas Study Program. (3 hr. lecture)

**CPO2408**  
Comparative Middle Eastern and North African Governments  
3.00 credits  
The Middle East & North Africa (MENA) region has uninterrupted been at the forefront of international geopolitics for almost a century. This enduring geopolitical visibility has important cultural, societal, economic, and security implications at national, regional, and international levels. This course is designed to tackle some of these issues by providing students with a historico-cultural, politico-economic, and geo-strategic survey of the Middle East. (3 hr. lecture)

**CPO2441**  
Islam in the Modern World  
3.00 credits  
The survey course is designed to grant students a broad-based exposure across a variety of conceptual debates, historical events, and policy issues at the intersection of Islam and the modern world and the paths forward. The issues especially religiously-inspired and informed violence/conflict and debates surrounding them have assumed prominence in the 21st century with the resurgence of religion in politics and the subsequent struggle for Islam. These issues will be contextualized in normative, empirical and historical frameworks to equip students with a sophisticated and multi-dimensional conceptual toolbox to analyze them. (3 hr. lecture)

**INR1949**  
Co-op Work Experience 1: INR  
3.00 credits  
This is a course designed to continue training in a student’s field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-op Department approval and completion of 1949 Co-op work experience. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-operative Education Office to obtain registration approval. (3 hr. lecture)

**ISS2270**  
Multicultural Communications and Relations  
3.00 credits  
This course uses an interdisciplinary approach to examine the complex interactions among ethnicity, race, gender, age, and class, as well as other ways in which we differ as they pertain to shaping personal awareness, understanding, and skills that will allow them to interact more effectively with diverse populations, age, groups, and lifestyles and to think through and value human diversity. This course has an overriding principle based on the concept of human rights. (3 hr. lecture)

**POS2041**  
American Federal Government  
3.00 credits  
The American Constitution and its development, the organization and functions of the national government, political parties and the electoral process, and the relationship of the individual to the federal government. (3 hr. lecture)
**PO2293**  
**Islam and America**  
**3.00 credits**  
Islam and the United States offers a survey treatment of the historically charged relationship between America and the Muslim World and the path forward. The course analyzes the intersection of religion, identity politics, geopolitics and economics of Islam-US relations in a historical context. These issues will be contextualized in normative, empirical and historical frameworks to equip the student with a sophisticated and multi-dimensional conceptual toolkit to analyze them. (3 hr. lecture)

**POT2014**  
**European Political Theory 1**  
**3.00 credits**  
This course covers the more important trends in European political thought from Plato to the present. It examines those ideas which have contributed to the shaping of the political cultures of Western and Eastern Europe. It discusses the historical evolution of key concepts of politics such as freedom, order, political obligations, justice, consent, rights and duties, power and authority. A prior course in Government, History or Philosophy is desirable. Given in English. Level 1. Offered through Overseas Study Program. (3 hr. lecture)

**Psychology**

**CLP1006**  
**Psychology of Personal Effectiveness**  
**3.00 credits**  
This is an applied psychology course which emphasizes understanding of the principles of effective human behavior and applying these to the areas of personal awareness, interpersonal relations, communication, and work/career development. Students will learn strategies to apply these principles in both their personal and professional lives. (3 hr. lecture)

**CLP2000**  
**Dynamics of Behavior**  
**3.00 credits**  
Analysis of mechanisms of adjustment, motivation, frustration and conflict, learning personality and psychotherapy. Emphasis is on the psychological processes of the normal individual functioning in society rather than on behavior disorders. (3 hr. lecture)

**CLP2001**  
**Basic Human Development**  
**2.00 - 3.00 credits**  
Identification and classification of personal strengths, potentials, feelings, needs and values, to articulate personal goals, and to develop behavioral guidelines to increase the possibility of achieving these goals. Emphasis is on congruency between strengths, needs, feelings, and values, and behavior in order to experience greater interpersonal integrity and self-esteem. This is an experientially-taught course, with regular use of student interaction in dyads, triads, and small group experience. (2-3 hr. lecture)

**DEP2000**  
**Human Growth and Development**  
**3.00 credits**  
This course examines the physical, cognitive, social and emotional development of human beings from conception to death. Students will learn about theories of development, key issues in the field and apply research in developmental psychology throughout the prenatal, infancy, child-
Effort is made to develop an awareness of action patterns of individuals and groups, known laws and generalizations about the nature of a person’s relationship to others, and the process of interaction and the nature of group structures. (3 hr. lecture)

DEP2100
Child Growth and Development
3.00 credits
This course in Child Growth and Development is designed especially for the student interested in the human life span from birth through the first eight years. The course is intended to acquaint the student with basic theoretical models of development and such specific topics as heredity teratogenic agents, learning, intelligence, socialization, personality, sex role identification, language acquisition and moral development. (3 hr. lecture)

DEP2481
Death Attitudes and Life Affirmation
3.00 credits
An analysis of the psychology, philosophy, and social function of death and dying, especially in relation to the general negative view of death in American society. Encourages a reconstruction of the participant’s approach to living through a confrontation of their fear of death and of those life-denying traits and values which inhibit their growth. The course also investigates humane possibilities for funeral, bereavement, and counseling the terminally ill. (3 hr. lecture)

INP2390
Psychology of Work
3.00 credits
Applies the understanding of effective human relations to work situations. Personal dynamics for success are also considered. Students will be taught how to influence behavior on the job as they apply their knowledge and interpersonal skills to specific experiences in the work place. (3 hr. lecture)

PCO2731
Human Relations
3.00 credits
Emphasizes an awareness of the problems of a person’s relationship to others, and the known laws and generalizations about the action patterns of individuals and groups. Effort is made to develop an awareness of the techniques of effective interpersonal relations. (3 hr. lecture)

PSB2442
The Psychology of Addiction
3.00 credits
This course will examine psychological, medical, pharmacological, legal, economic and sociological aspects of addiction to and use of various chemicals. The course will take an in-depth look at narcotic sedatives, and stimulants including alcohol, cocaine, heroin, cannabis, caffeine and tobacco. (3 hr. lecture)

PSY2012
Introduction to Psychology
3.00 credits
This course provides an overview of the field of psychology. Students will learn about the biological and environmental bases of behavior, and theories and concepts in such areas as personality, intelligence, learning, motivation, emotions and mental illness. Students will increase their knowledge about the brain-body connection and applied neurosciences. (3 hr. lecture)

PSY2050
Introduction to Forensic Psychology
3.00 credits
This course explores the interaction between psychology and the legal system. Students will learn the foundations, history, and terminology of forensic psychology and the influence of media and cultural issues. Students will also learn about the forensic psychologist’s role in criminal and civil proceedings, public policy, law enforcement, and victimization. Prerequisite: PSY2012. (3 hr. lecture)

PSY2800
Psychology of Genocide
3.00 credits
Students will learn the psychological, social, and cultural roots of genocide, human cruelty, and mass violence. Students will examine the various factors influencing such acts, and the emotional and psychological impact upon victims, perpetrators, rescuers, and society. Prerequisite: ENC1101. (3 hr. lecture)

SOP2002
Social Psychology
3.00 credits
Combines a knowledge of psychology and sociology, in an interdisciplinary approach to the study of human interaction. Main themes deal with the nature of attitudes, how attitudes may be changed, the processes of interaction and the nature of group structures. (3 hr. lecture)

SOP2772
Human Sexuality
3.00 credits
This course examines the biological, theoretical, social, psychological, and cultural aspects of human sexuality. Students will learn about sexual anatomy, sexual response cycle, sex and gender development, sexual attraction and relationships, reproductive health issues, and social issues in sexuality. (3 hr. lecture)

Quantitative Methods in Business

QMB2100
Basic Business Statistics
3.00 credits
The application of basic statistical methods to business problems. Emphasis is on learning to select the appropriate statistical method of solving a given business problem, applying the chosen method, and interpreting the solution. Prerequisite: Acceptable score on the Algebra Placement test or equivalent; Fulfill Gordon Rule computational requirement. (3 hr. lecture)

Radiation Therapy Technology

RAT1021
Principles and Practice of Radiation Therapy 1
2.00 credits
A study of all major radiotherapy equipment such as linear accelerators and superficial ortho- and mega-voltage units. Auxiliary equipment such as simulators, immobilization devices, beam directors and modifiers will also be discussed. Patient
positioning, treatment planning, patient flow, and quality assurance will be presented in detail. Corequisites: RAT 1021, 1614, 1814L, 2243. (2 hr. lecture)

**RAT1211**  
**Human Disease 1.00 credits**  
The relationship of the human body to neoplastic and other pathologic diseases. Topics will include cells, tissues, organs and systems. Skeletal, muscular, nervous, endocrine, circulatory, reticuloendothelial, digestive, urinary, respiratory, and reproductive systems will be discussed. Corequisites: ENC 1101, MAC 1105, BSC 2085, BSC 2083L; corequisites: RAT 1001, 1840. (1 hr. lecture)

**RAT1614**  
**Radiation Therapy Physics 1 2.00 credits**  
A basic radiation physics course containing fundamental principles and concepts. The course includes radiation production, properties, and characteristics as well as structure of the atom and matter, electrostatics, magnetism, electromagnetics, and the electromagnetic spectrum. Corequisites: RAT 1001, 1021, 1211, 1804L. (2 hr. lecture)

**RAT1619**  
**Elements of Treatment Planning 2.00 credits**  
Determination of radiation doses in treatment planning using computerized methodology. Corequisites: RAT 2690, 2834L. (2 hr. lecture)

**RAT1801L**  
**Introduction to Clinic 2.00 credits**  
Students will rotate through various diagnostic imaging areas of the hospital in order to observe the equipment, procedures, and images produced. Opportunities to apply the skills learned in HSC0003 as well as the competencies achieved in RTE1000 will be included. Prerequisite: RAT 1840. (96 hr. clinic)

**RAT1804L**  
**RAT Clinic 1 5.00 credits**  
Students will learn radiation therapy procedures in a local radiation therapy department. Students are closely supervised by certified radiation therapy technologists as they are introduced to record-keeping and treatment units. Prerequisite: RAT 1801L. (240 hr. clinic)

**RAT1814L**  
**Clinical Oncology & Neoplasms 2.00 credits**  
A continuation of medical oncology and pathology. The responsibilities of the students increase as more complex competencies in patient treatment are mastered under direct supervision. Prerequisite: RAT 1804L. (384 hr. clinic)

**RAT1824L**  
**RAT Clinic 3 8.00 credits**  
Continuation of advanced patient treatment assignments. The responsibilities of the students increase as more complex competencies in patient treatment are mastered under direct supervision. Prerequisite: RAT 1804L. (384 hr. clinic)

**RAT2022**  
**Principles & Practice of Radiation Therapy 2 2.00 credits**  
Continued application of radiation therapy and its effectiveness in treatments. Advanced patient positioning, planning and flow, and quality assurance will be discussed. Prerequisite: RAT 1021; corequisites: RAT 1657, 1824L, 2241, 2618. (2 hr. lecture)

**RAT2241**  
**Radiobiology 2.00 credits**  
Principles of cell response to radiation. Factors influencing the effects of radiation, tissue sensitivity, and environmental factors are discussed. Corequisites: RAT 1657, 1824L, 2022, 2618. (2 hr. lecture)

**RAT2243**  
**Clinical Oncology & Neoplasms 2.00 credits**  
A continuation of medical oncology and pathology 1. Corequisites: RAT 1021, 1614, 1814L. (2 hr. lecture)

**RAT2618**  
**Radiation Therapy Physics 2 2.00 credits**  
Specifics of ionizing radiation such as details of production, interactions, and types of radiation and their application to the patient treatment. Properties of production, photon interactions, beam characteristics, and particle irradiation will be discussed. Prerequisite: RAT 1614; corequisites: RAT 1657, 1824L, 2022, 2241. (2 hr. lecture)

**RAT2690**  
**Integration of Radiation Therapy Concepts 2.00 credits**  
This course integrates anatomy, clinical oncology and neoplasms, radiation physics, radiation biology, and radiation protection as they relate to the treatment planning process. Basic concepts used to develop the treatment plan for patients with particular needs will be discussed. Prerequisite: RAT2022; corequisites: RAT 1619, 2690. (2 hr. lecture)

**RAT2834L**  
**Clinic 4 6.00 credits**  
This course includes clinical rotations through the radiation therapy department. Students will be provided the opportunity to apply theory learned from the previous semester in the various areas of the treatment process. Prerequisites: RAT 1824L; corequisites: RAT 1619, 2690. (288 hr. clinic)
RTE1000
Orientation to the Imaging Sciences
2.00 credits
This course is an introduction to the overall field of Imaging Sciences, radiography in particular. Students will learn the basic principles of radiation protection as it applies to the various modalities in imaging and treatment, a history of the imaging sciences, ethical/legal issues, professional behavior, medical terminology, and math/physics. (2 hr. lecture)

RTE1418
Radiographic Technology 1
3.00 credits
Introduction to radiographic imaging including the relation of technical factors and accessories. The chemistry of manual and automatic film processing is included. Prerequisites: RTE 1503, 1503L, 1804. (3 hr. lecture)

RTE1503
Radiographic Positioning 1
3.00 credits
Basic routine positioning of the chest, abdomen, upper and lower extremities, digestive and urinary systems. Prerequisites: RTE 1000, 1418, 1503L, 1804. (3 hr. lecture)

RTE1503L
Radiographic Positioning Laboratory 1
1.00 credits
Laboratory for RTE 1503. Corequisite: RTE 1503. Laboratory fee. (2 hr. lab)

RTE1513
Radiographic Positioning 2
3.00 credits
Positioning of the bony pelvis, shoulder girdle, bony thorax, spinal column, skull and facial bones. Prerequisites: RTE 1418, 1503, 1503L, 1804; corequisites: RTE 1513L, 1613, 1814. (3 hr. lecture)

RTE1513L
Radiographic Positioning Laboratory 2
1.00 credits
Laboratory for RTE 1513. Corequisite: RTE 1513. Laboratory fee. (2 hr. lab)

RTE1613
Radiologic Physics
2.00 credits
Basic principles of physics involving x-radiation equipment, production and control. Prerequisite: RTE 1000. (2 hr. lecture)

RTE1804
Radiographic Clinic 1
5.00 credits
The first in a series of six clinical courses. Under direct supervision of faculty and clinical staff, performance of basic diagnostic radiographic procedures is carried out. Corequisites: RTE 1418, 1503, 1503L. (15 hr. clinic)

RTE1814
Radiographic Clinic 2
5.00 credits
The student will be evaluated on competency performances in routine fluoroscopic, and urographic procedures. This is the second of six clinical education courses. Prerequisite: RTE 1804; corequisites: RTE 1513, 1513L, 1613. (15 hr. clinic)

RTE1824
Radiographic Clinic 3
5.00 credits
The student continues to rotate, under supervision, through different units of a Radiology Department. Development of a capability to assist in diagnostic procedures at a more complex level. Prerequisite: RTE 1814. (24 hr. clinic)

RTE2010
New Imaging Modalities in Radiology
1.00 credits
This course will enable the students to compare and contrast the current imaging modalities with the emerging technologies available in Radiology departments. Included in this course will be pictorial archiving and communications systems (PACS), digital imaging, and fusion imaging. Prerequisites: RTE 1418, 1613, 2457, corequisite: RTE2854. (1 hr. lecture)

RTE2385
Radiation Biology
2.00 credits
The biologic effects of the interaction of ionizing radiation with living matter. Prerequisite: RTE1000, 2834. (2 hr. lab)

RTE2457
Radiologic Technology 2
3.00 credits
A more in-depth study of radiographic exposure factors as they relate to specialized procedures and equipment. Prerequisite: RTE 1824; corequisites: RTE 2563, 2834, 2782. (3 hr. lecture)

RTE2563
Radiographic Positioning 3
2.00 credits
Radiographic procedures which utilize contrast media, sterile techniques, and/or specialized equipment and accessories. Prerequisite: RTE1824; corequisites: RTE 2457, 2782, 2834. (2 hr. lecture)

RTE2834
Radiographic Clinic 4
5.00 credits
Performance of procedures of increasing levels of complexity and responsibility including specialized diagnostic procedures. At this level the program faculty and clinical supervisor will determine if the student can perform procedures with less supervision. Prerequisite: RTE 1824; corequisites: RTE 2457, 2563, 2782. (15 hr. clinic)

RTE2844
Radiographic Clinic 5
8.00 credits
The fifth in a series of six clinical education courses. During this clinical course the student will perform standard quality assurance tests on radiographic equipment and accessories. In addition, the student will have competency evaluations to include a gastrointestinal series and either paranasal sinuses or facial bone studies. Prerequisite: RTE 2834. (24 hr. clinic)
**Reading**

**REA 0007**  
*Developmental Reading I*  
*4.00 credits*  
The student will complete the competencies required by the American Registry of Radiologic Technologists to become eligible to apply to sit for the certification exam. The student will socialize into radiography practice by beginning to work more independently of a radiographer. The student will use organizational skills to provide care to patient clients assigned to them during radiographic exams. During this course the student will be assigned to one rotation during hours other than the normal working hours of the radiology department to gain competency in procedures not usually available during the day. Prerequisite: RTE 2844. (9 hr. clinic)

**REA 0017**  
*Developmental Reading II*  
*4.00 credits*  
REA 0017 is an intermediate college preparatory reading course. Students will learn to build vocabulary skills, literal and critical comprehension skills, and successful reading strategies. Lab time required. Laboratory fee. Prerequisite: Computerized Placement Test (CPT) or the Post-secondary Education Readiness Test (PERT). (2 hr. lecture; 4 hr. lab)

**REA 0056**  
*Developmental Reading Module*  
*2.00 credits*  
This course is designed to develop reading comprehension skills for students whose entry placement scores do not meet requirements for degree credit courses (course not applicable for graduation requirements). This course may be taken in place of REA 0017 for students who completed REA 0017 in a prior term but did not earn a passing grade. Students will learn to focus on their individual reading skills to prepare for successful entry into college credit English courses. Prerequisite: Students must score 102-103 on the PERT or receive departmental permission. (2 hr. lecture)

**Reading Education**

**LAE 4211**  
*Methods and Resources for Literacy Development in Young Children*  
*3.00 credits*  
The student will utilize a variety of assessment tools to measure and evaluate literacy in a K-3 setting. The student will learn to create and administer informal assessments, evaluate results, and differentiate instruction encompassing the reading components. Twenty hours of clinical experience required in an approved first-third grade setting with ESOL students.). Pre-requisites: RED 3009; Co-requisites: EEC 4268. Special Fee. (3 hr. lecture)

**Reading College Preparatory**

**REA 1125**  
*Reading Skills Review*  
*1.00 - 3.00 credits*  
This course is designed to help students to develop specific literal and critical reading comprehension skills which are needed in preparation for the CLAST exam. Course content will focus on prescribed instruction based on reading assessment scores. (1-3 hr. lecture)

**REA 2854**  
*Radiographic Clinic 6*  
*3.00 credits*  
The student will complete the competencies required by the American Registry of Radiologic Technologists to become eligible to apply to sit for the certification exam. The student will socialize into radiography practice by beginning to work more independently of a radiographer. The student will use organizational skills to provide care to patient clients assigned to them during radiographic exams. During this course the student will be assigned to one rotation during hours other than the normal working hours of the radiology department to gain competency in procedures not usually available during the day. Prerequisite: RTE 2844. (9 hr. clinic)

**RED 3009**  
*Early and Emergent Literacy*  
*3.00 credits*  
Pre-requisites: EEC 2224, EEC 3301. Special Fee. (3 hr. lecture)

**RED 3013**  
*Foundations of Reading Instruction*  
*3.00 credits*  
The student will develop an understanding of reading components as a systematic process including oral language, phonological awareness, phonics, fluency, vocabulary, and comprehension. The student will recognize the principles, techniques, and procedures required to develop foundational reading skills to increase reading proficiency in K-12 settings utilizing evidence-based literacy instructional approaches. This course addresses Just Read, Florida! reading endorsement competencies 1 and 2. (15 hours of clinical experience). Pre/ Co-requisites: EDG 3321. Special Fee. (3 hr. lecture)

**RED 3393**  
*Differentiated Instruction in Content Reading*  
*3.00 credits*  
The student will differentiate instruction for diverse learners by applying the principles of research-based strategies and integrating six components of reading: phonological awareness, phonics, oral language, fluency, vocabulary and comprehension. The student will learn about research-based practices related to instruction of efferent reading and select effective strategies to improve comprehension. This course addresses Just Read, Florida! reading endorsement competencies 2 and 3. Fifteen hours of clinical hours are required in a grade 4-8 setting. Pre-requisites: RED 3013. Special Fee. (3 hr. lecture)

**RED 4033**  
*Teaching Foundations of Reading Instruction*  
*3.00 credits*  
The student will develop a foundational understanding of the six components of reading as a systematic process: oral language, phonological awareness, phonics, fluency, vocabulary, and comprehension.
The student will recognize the principles, techniques, and procedures required to develop the foundational reading skills that are essential to increasing reading proficiency in students from grades K-12. This is the first of five courses that lead to the Florida Department of Education Reading Endorsement. This course corresponds to Competency 1. (3 hr. lecture)

**RED 4342**  
Applications of Research-Based Instructional Practice  
3.00 credits  
Building on the foundation of RED4033, the student will apply the principles of evidence-based research in comprehensive reading instruction. The student will use the reading skills, techniques, and strategies that facilitate reading comprehension. The student will apply the principles of research-based reading instruction, and integrate the six components of reading to facilitate the comprehension of different texts. This is the second of five courses that lead to the Florida Department of Education Reading Endorsement. This course corresponds to Competency 2. Prerequisite: RED4033. (3 hr. lecture)

**RED 4514**  
Foundations of Assessment  
3.00 credits  
The student will select and administer appropriate assessments and analyze data to inform reading instruction to meet the needs of all students. The student will engage in a systematic problem-solving process to remediate reading difficulties in emergent, beginning, and fluent readers and will plan effective instructional interventions. This is the third of five courses that lead to the Florida Department of Education Reading Endorsement. This course corresponds to Competency 3. Prerequisite: RED4342. (3 hr. lecture)

**RED 4519**  
Diagnosis and Instructional Intervention in Reading  
3.00 credits  
The student will obtain skills to evaluate and remediate reading difficulties in P-12 settings.

The student will identify, select, and administer appropriate assessments to differentiate instruction. The student will engage in a systematic problem-solving process to identify and remediate reading difficulties, using the results of informal reading assessments, to plan interventions. This course addresses Just Read, Florida reading endorsement competencies 3 and 4. Fifteen clinical hours are required in a grade 1-3 setting. Pre-requisites: RED3933. Special Fee. (3 hr. lecture)

**RED 4654**  
Foundations and Applications of Differentiated Instruction  
3.00 credits  
The student will apply research-based best practices in educational neuroscience research related to the instruction of reading. Using knowledge of diverse learners, he or she will apply intensive, explicit, multisensory sequential approaches and instructional practices by differentiating the process, product, or context of their reading instruction, and providing scaffolds to enhance comprehension in all areas. This is the fourth of five courses that lead to the Florida Department of Education Reading Endorsement. This course corresponds to Competency 4. Prerequisite: RED4619. (3 hr. lecture)

**RED 4854**  
Reading Practicum  
3.00 credits  
The student will synthesize and apply knowledge of the six components of reading, formal and informal reading assessments, skills related to data analysis, and differentiation of instruction in order to plan and implement a comprehensive, intensive, effective, systematic, multisensory, research-based reading plan of instruction for all students. This is the fifth of five courses that lead to the Florida Department of Education Reading Endorsement. This course corresponds to Competency 5. Prerequisite: RED4654. (3 hr. lecture)

**REE2040**  
Real Estate Principles and Practices (P&P 1)  
4.00 credits  
Topics include real property, liens, titles, contracts, tax factors, mortgages, property evaluation, real estate market, licensing requirements, legal aspects of the real estate business, and property management. Completion of this course is required by the Florida Real Estate Commission for approval to take the State Examination. (4 hr. lecture)

**REE2085**  
Post Licensure Education for Salespersons  
3.00 credits  
Is a state required course that all newly licensed salespersons must complete within two years of obtaining their first sales license. This survey course covers finance, appraising, salesmanship, property management and office management. It is the intent of the Florida Real Estate Commission that this course prepare a new licensee in a more functional and in-depth basis than does the license course. (3 hr. lecture)

**REE2200**  
Real Estate Finance  
3.00 credits  
Methods of financing Real Estate, in fixed rate, variable rate, FHA, VA, and graduated mortgage compared from the lender’s and the borrowers’ point of view. Creative financing techniques such as buy-downs, and wrap-around mortgages will be discussed. (3 hr. lecture)

**REE2270**  
Mortgage Banking and Brokerage  
3.00 credits  
Development of an understanding of the finance industry as it relates to real estate. Detailed information concerning legal aspects of mortgages, brokerage regulations, ethics and all major sources of funds for real estate financing will be covered. Prerequisite: REE 2200 (3 hr. lecture)
REL1210
Religion of the Old Testament
3.00 credits
The historical sources and material in the Old Testament, with emphasis on its literary and cultural importance. (3 hr. lecture)

REL1240
Religion of the New Testament
3.00 credits
The historical sources and material in the New Testament, with emphasis on its literary and cultural importance. (3 hr. lecture)

REL2121
Survey of Religion in the U.S.
3.00 credits
A survey of non-native American religions in the United States from the 17th century to the present and their impact on American culture. The course will examine four general areas: the colonial era, the religions of the frontier, the South and African-American responses to before and after the Civil War; the 19th century continuing social, political and theological tension. (3 hr. lecture)

REL2300
Survey of World Religions
3.00 credits
A survey of the origins, beliefs and contemporary practices of the world’s religions: Hinduism, Islam, Taoism, Zen Buddhism, Judaism, Christianity and Confucianism. Attention is given to the interactions between specific religions and the cultures in which they are practiced. (3 hr. lecture)

REL2600
Jewish History and Culture
3.00 credits
A survey of the development of Jewish history and culture from Biblical times to the present. (3 hr. lecture)

Respiratory Care

RET1024
Introduction to Respiratory Care
2.00 credits
This is an introductory course to the Respiratory Care discipline. Students will learn the history of the profession, terminology, hospital and patient safety, infection control, patient assessment, accessing and utilizing the patient’s medical record, critical thinking, Respiratory Care protocols, and patient education. Prerequisite: ENC 1101, corequisite: RET 1024L, 1484. (2 hr. lecture)

RET1024L
Introduction to Respiratory Care Laboratory
1.00 credits
Laboratory for RET 1024. Corequisite: RET 1024. Laboratory fee. (2 hr. lab)

RET1484
Respiratory Care Pathophysiology 1
2.00 credits
This is an introductory course in the study of pulmonary and cardiovascular anatomy, physiology and pathology. Students will learn terminology, disease classification, diagnostic techniques and related physiological concepts. Prerequisite: ENC 1101. Corequisite: RET 1024. (2 hr. lecture)

RET2264
Advanced Modalities and Monitoring
2.00 credits
This is an advanced course relating to critical care. Students will learn advanced techniques in invasive and non-invasive monitoring, electrocardiographic monitoring and interpretation, alternatives to conventional ventilation and advanced cardiovascular support systems. Prerequisite RET 2274; corequisite: RET 2714. (2 hr. Lecture)

RET2274
Respiratory Care Theory 1
2.00 credits
Theory of supplemental oxygen and humidity in respiratory pathology. Special emphasis is given to the medical, surgical, and pediatric patients and their cardiopulmonary physiology as it relates to therapeutic oxygen techniques. Corequisite: RET 1024, 1484, 2274L. (2 hr. lecture)

RET2274L
Respiratory Care Theory Laboratory 1
1.00 credits
Laboratory for RET 2274. Corequisite: RET 2274. Laboratory fee. (2 hr. lab)

RET2275
Respiratory Care Theory 2
2.00 credits
Emphasis on pressure breathing modalities, chest physiotherapy, and incentive devices. Prerequisite: RET 2274; corequisite: RET 2275L. (2 hr. lecture)

RET2275L
Respiratory Care Theory Laboratory 2
1.00 credits
Laboratory for RET 2275. Corequisite: RET 2275. Laboratory fee. (2 hr. lab)

RET2284
Principles of Mechanical Ventilation
2.00 credits
A continuation of RET 2275. A concentrated course of study which focuses on the theoretical operation, application and procedures related to critical care and mechanical ventilation. Prerequisites: RET 2275, 2275L; corequisite: RET 2284L. (2 hr. lecture)

RET2284L
Principles of Mechanical Ventilation Laboratory
2.00 credits
Laboratory for RET 2284. This course will provide an in depth study of the operation of mechanical ventilation devices and associated monitors. Patient safety, troubleshooting and application are stressed. Corequisite: RET 2284. Laboratory fee. (4 hr. lab)

RET2350
Respiratory Care Pharmacology
2.00 credits
This course is designed to provide training in the basic principles of the administration of medications including dosage and solutions. The drugs administered by respiratory therapists are covered in-depth, along with an introduction to the general pharmacological classifications of other drugs that may be administered to pulmonary patients.
Prerequisites: CHM 1033, RET 1484; corequisites: RET 2503, 2275, 2275L. (2 hr. lecture)

RET 241L
Pulmonary Studies Laboratory
2.00 credits
Laboratory for RET 241L. Simulated clinical settings of diagnostic techniques used to evaluate pulmonary functions. Laboratory fee. (2 hr. lab)

RET 2714L
Perinatal & Pediatric Respiratory Care Laboratory
1.00 credits
This is an introductory laboratory course that will explore assessment and Respiratory Care therapeutics of the perinatal and pediatric patient populations. The student will learn to apply physical assessment techniques, oxygen aerosol and humidity therapies, therapeutic procedures, airway management, resuscitation and management of mechanical ventilation. Corequisite: RET 2714. (2 hr. lab)

RET 2832
Respiratory Care Clinic 1
2.00 credits
This is an introductory clinical practice course. The student will learn psychomotor skills related to basic respiratory care and patient care procedures including patient charting, vital signs, infection control and non-pressurized oxygen adjuncts. Prerequisites: RET 2274, 2274L. (6 hr. clinical)

RET 2833
Respiratory Care Clinic 2
5.00 credits
In conjunction with RET 2274, 2274L and RET 1024, 1024L, RET 2832 is designed to allow the student to develop psychomotor skills related to basic respiratory care and patient care procedures (patient charting, vital signs, infection control and non-pressurized oxygen adjuncts). During the rotation, the student is provided with the opportunity to apply and discuss the theory and techniques as presented in corequisite courses. Corequisites: RET 1024, 1024L, 1484, 1484L, 2274, 2274L, 2285. (15 hr. clinical)

RET 2834
Respiratory Care Clinic 3
8.00 credits
This course is a continuation of RET 2833. Training will be provided on the clinical application of procedures and techniques relating to respiratory critical care. Prerequisites: RET 2284, 2284L, corequisites: RET 2714. (24 hr. clinic)

RET 2835
Respiratory Care Clinic 4
8.00 credits
This course is designed to provide the student with the clinical application of adult, pediatric, and neonatal intensive respiratory care. Procedures and techniques presented in RET 2280, 2714, 2264 as it relates to their clinical application will be emphasized. Prerequisite: RET 2834; corequisite: RET 2601. (24 hr. clinic)

Russian Language

RUS 1120
Elementary Russian 1
4.00 credits
An integrated (multi-media) approach to acquire proficiency in the basic skills (of the language)—listening/understanding, speaking, reading, writing, and cross-cultural awareness. Emphasis on practical vocabulary and accurate pronunciation. Practice in class and laboratory in understanding and using the spoken language; reading and writing with progressive grammatical explanations. (4 hr. lecture)

RUS 1121
Elementary Russian 2
4.00 credits
A continuation of RUS 1120. A proficiency-oriented course emphasizing the mastery of the basic skills of the language. Prerequisite: RUS 1120. (4 hr. Lecture)

Social Science

ISS 1120
The Social Environment
3.00 credits
The Social Environment is an interdisciplinary course that emphasizes the cultural, political, economic and global dimensions of societies. Its main objective is to promote knowledge of contemporary and historical forces that shape our social environment and engage students in a life-long process of inquiry and decision-making. (3 hr. lecture)
The issues of social change and social institutions are examined, along with those of demography and urbanization, together with the great challenges these currently pose to the modern world. (3 hr. lecture)

**SYG2010**
Social Problems
3.00 credits
An analysis of the major contemporary and recurring social problems, emphasizing scientific search for variables involved and exploring alternative solutions. (3 hr. lecture)

**SYG2230**
Multi-Ethnic America
3.00 credits
An introduction to the theory and problems of minority groups in American society. The focus is on structural inequality, institutional discrimination, and the changing patterns of prejudice and discrimination. (3 hr. lecture)

**SYG2430**
Marriage and the Family
3.00 credits
The family as a social institution—its origin and development, its forms and functions, its interrelation with other social institutions, and its role in contemporary civilization. Areas of study include factors contributing to or acting against successful, stable marriage. (3 hr. lecture)

**Sonography**

**SON1001L**
Introduction to Sonography 1
1.00 credits
An introduction to the physical principles of diagnostic ultrasound. Bases of imaging with ultrasound are discussed as well as clinical units in the various areas of specialization. In conjunction with the lectures, supervised laboratory classes are conducted to familiarize students with operations of the equipment in each of the clinical areas. Corequisites: SON 1111C, 1121C. (2 hr. lab)

**SON1005L**
Basic Sonography
2.00 credits
This course is designed to cover the essential of the profession of Diagnostic Medical Sonography. Topics include: professionalism, medical ethics, hospital administration, sonographic terminology, quality assurance, photographic principles, related radiological specialties and scanning techniques. Laboratory experience will include equipment use and quality assurance techniques. Prerequisite: SON 1000L. Laboratory fee. (4 hr. lab)

**SON1006L**
Professional Aspects of Sonography
1.00 credits
An introduction to the professional aspects of sonography. Topics include: medical ethics and law, hospital administration, quality assurance/standards control and management. Laboratory experience includes actual phantom scanning conducting equipment protocols, and participation on a mock ethics board. (2 hr. lab)

**SON1100L**
Principles of Protocols of Imaging
2.00 credits
An introduction to radiographic film, its handling & processing and the various radiographic specialties. Laboratory experience includes: film composition and identification, rapid processing, photographic techniques, reading H&D curves, performing sensitometry and identifying film artifacts. During radiographic specialties, there will be an introduction to CT, MRI, and the areas of radiologic technology in order to
discover how these modalities compliment sonography. (4 hr. lab)

**SON1111C**
**Abdominal Sonography 1**
**2.00 credits**
An in-depth course designed to cover all aspects of clinical abdominal ultrasound studies. Subject matter includes: review of normal anatomy (ultrasonic appearance), indications for ultrasonic studies, clinical presentation and data, pathophysiological basis of disease, ultrasound manifestations of diseases, recognition of adequate images and scanning pitfalls. Corequisite: SON 1000L. (1 hr. lecture; 2 hr. lab)

**SON1112C**
**Abdominal Sonography 2**
**2.00 credits**
An in-depth course designed to cover all aspects of clinical abdominal ultrasound studies. Subject matter includes: review of normal anatomy (ultrasonic appearance), indications for ultrasonic studies, clinical presentation and data, pathophysiological basis of disease, ultrasound manifestations of diseases, recognition of adequate images and scanning pitfalls. Prerequisite: SON 1111C. Laboratory fee. (1 hr. lecture; 2 hr. lab)

**SON1113L**
**Sonography Cross Sectional Anatomy**
**2.00 credits**
A thorough course aimed at teaching the student to understand anatomical relationships and recognize structures on cross-sectional and sagittal diagrams, photographs of gross anatomy and sonography. The laboratory conducted in conjunction with the classroom lectures is designed to identify all normal anatomical landmarks in multiple planes in actual scanning situations. (4 hr. lab)

**SON1115L**
**Duplex Abdominal Sonography**
**1.00 credits**
This course is designed to cover aspects of duplex abdominal sonography applications. Topics include: the aorta and its branches, the IVC and its tributaries, and the portal system. Subject matter includes: etiology, pathophysiology, clinical presentations, sonographic appearance and differential diagnosis of diseases. Prerequisite: SON 1112C. (2 hr. lab)

**SON1121C**
**Obstetrics/Gynecology Sonography 1**
**2.00 credits**
An in-depth course designed to present all aspects of clinical OB/GYN ultrasound studies. Subject matter includes: review of normal anatomy (ultrasonic appearance), indications for ultrasonic studies, clinical presentation, clinical data, pathophysiological basis of disease, ultrasonic manifestations of diseases, recognition of adequate images and scanning pitfalls. Corequisite: SON 1000L. (1 hr. Lecture; 2 hr. lab)

**SON1122C**
**Obstetrics/Gynecology Sonography 2**
**2.00 credits**
An in-depth course designed to cover all aspects of clinical OB/GYN ultrasound studies. Subject matter includes: review of normal anatomy (ultrasonic appearance), indications for ultrasonic studies, clinical presentation, clinical data, pathophysiological basis of disease, ultrasonic manifestations of diseases, recognition of adequate images and scanning pitfalls. Prerequisite: SON 1121C. (1 hr. lecture; 2 hr. lab.)

**SON1141C**
**Small Parts Sonography**
**2.00 credits**
An in-depth course designed to cover all aspects of clinical abdominal ultrasound studies. Subject matter includes: review of normal anatomy (ultrasonic appearance), indications for ultrasonic studies, clinical presentation and data, pathophysiological basis of disease, ultrasound manifestations of diseases, recognition of adequate images and scanning pitfalls. Prerequisite: SON 1112C. (1 hr. lecture; 2 hr. lab)

**SON1145L**
**Pediatric Sonography**
**1.00 credits**
This course is designed to cover aspects of pediatric ultrasound examinations. Topics include: liver, biliary, spleen, renal, adrenal, gastrointestinal, scrotum, and musculoskeletal structures. Subject matter includes: etiology, pathophysiology, clinical presentations, sonographic appearance and differential diagnosis. Prerequisite: SON 1141C. (2 hr. lab)

**SON1804**
**Clinic 1**
**2.00 credits**
This is the first in a series of six (6) clinics in which the student is assigned to a medical facility. The student is afforded a hands-on experience in sonography under the supervision of a clinical instructor, sonographer or physician. Corequisite: SON 1000L. (16 hr. clinic)

**SON1814**
**Clinic 2**
**2.00 credits**
This is the second in a series of six (6) clinics in which the student is assigned to a medical facility. The student is afforded hands-on experience in sonography under the supervision of a clinical instructor, sonographer or physician. Prerequisite: SON 1804. (8 hr. clinic)

**SON1824**
**Clinic 3**
**3.00 credits**
This is the third in a series of six (6) clinics in which the student is assigned to a medical facility. The student is afforded hands-on experience in sonography under the supervision of a clinical instructor, sonographer or physician. Prerequisite: SON 1814. (24 hr. clinic)

**SON2139L**
**Cardiovascular Principles**
**1.00 credits**
An introductory course to techniques other than echocardiography utilized in the diagnosis of cardiovascular disease. Topics discussed include physical examination, electrocardiogram, Phonocardiogram, cardiac catheterization, and nuclear medicine cardiology. Prerequisite: SON 2400C. Corequisite: SON 2401C. (2 hr. lab)
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>SON2161C</td>
<td>Neurosonography</td>
<td>2.00</td>
<td>A comprehensive course designed to examine sonographic imaging of the neonatal and infant brain, with an introduction to ultra-operative brain and spinal cord imaging. Emphasis is placed on normal brain anatomy, congenital and malformations and acquired pathologic conditions. Prerequisites: SON 1113L, 1141C. Special fee. (1 hr. lecture; 2 hr. lab)</td>
</tr>
<tr>
<td>SON2171C</td>
<td>Vascular Sonography</td>
<td>2.00</td>
<td>This course is designed to cover aspects of Clinical Vascular Technology. Topics include the pathophysiological levels of disease, clinical presentation and data, hemodynamic of blood flow, anatomy and physiology of the vascular system and anatomical appearance. Prerequisite: SON 2161C. (1 hr. lecture; 2 hr. lab)</td>
</tr>
<tr>
<td>SON2400C</td>
<td>Echocardiography 1</td>
<td>2.00</td>
<td>An in-depth course designed to present all aspects of clinical cardiovascular ultrasound studies. Topics discussed are: pathophysiologial basis of diseases, clinical presentation and clinical data, Doppler and echocardiographic findings in disease, hemodynamic relationships, scanning pitfalls and differential diagnosis. Prerequisite: SON 1001L. (1 hr. lecture; 2 hr. lab)</td>
</tr>
<tr>
<td>SON2401C</td>
<td>Echocardiography 2</td>
<td>2.00</td>
<td>An in-depth course designed to cover all aspects of clinical cardiovascular ultrasound studies. Topics discussed are pathophysiologial basis of diseases, clinical presentation and clinical data, Doppler and echocardiographic findings in disease, hemodynamic relationships, scanning pitfalls and differential diagnosis. Prerequisite: SON 2400C. (1 hr. lecture; 2 hr. lab)</td>
</tr>
<tr>
<td>SON2614C</td>
<td>Acoustical Physics and Instrumentation 1</td>
<td>2.00</td>
<td>The course will present a review of fundamental physics and an in-depth study of the physical principles of diagnostic ultrasound. Topics discussed include: properties of sound waves, interaction of sound waves with matter, generation of ultrasound and principles of Doppler ultrasound. Prerequisite: SON 1005L. (1 hr. lecture; 2 hr. lab)</td>
</tr>
<tr>
<td>SON2618C</td>
<td>Acoustical Physics and Instrumentation 2</td>
<td>2.00</td>
<td>Physical principles of Ultrasound Instrumentation-A course designed to familiarize the student with the physical principles and modes of operation of diagnostic ultrasound equipment. Subject matter includes: transducers, display systems, component parts of a scanning system, real-time scanners, Doppler equipment, quality control, routine maintenance and recent developments. Prerequisites: SON 2614C, CGS 1060. (1 hr. lecture; 2 hr. lab)</td>
</tr>
<tr>
<td>SON2619C</td>
<td>Doppler Principles and Instrumentation</td>
<td>2.00</td>
<td>This course presents a review of fundamental physics and an in-depth study of Doppler Physical Principles of Diagnostic Ultrasound. Topics also include Doppler Instrumentation, equipment, display systems, quality control, and hemodynamics of blood flow. Prerequisite: SON 2618C. Laboratory fee. (1 hr. lecture; 2 hr. lab)</td>
</tr>
<tr>
<td>SON2844</td>
<td>Clinic 5</td>
<td>3.00</td>
<td>This is the fifth in a series of six (6) clinics in which the student is assigned to a medical facility. The student is afforded hands-on experience in sonography under the supervision of a clinical instructor, sonographer or physician. Prerequisite: SON 2834. (24 hr. clinic)</td>
</tr>
<tr>
<td>SON2854</td>
<td>Clinic 6</td>
<td>3.00</td>
<td>This is the last in a series of six (6) clinics in which the student is assigned to a medical facility. The student is afforded hands-on experience in sonography under the supervision of a clinical instructor, sonographer or physician. Prerequisite: SON 2844. (24 hr. clinic)</td>
</tr>
<tr>
<td>SON2910L</td>
<td>Directed Research</td>
<td>1.00</td>
<td>This course is designed to afford students an opportunity to develop their research skills, broaden their educational horizons, and further investigate a particular area of interest in the field of ultrasound. Students will select a topic for research, investigate and gather information, and compile the results for presentation, competition and publication. (2 hr. Lab)</td>
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<tr>
<td>SON2930L</td>
<td>Seminar in Sonography</td>
<td>1.00</td>
<td>Students will participate in the various types of continuing education. This may include: society meetings, seminars, conferences and in-services. (2 hr. Lab)</td>
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<tr>
<td>SON2931L</td>
<td>Film Critique 1</td>
<td>1.00</td>
<td>An extensive laboratory to prepare the student to recognize quality images, anatomy, patient positioning, pathology, and scanning technique errors as well as artifacts. For each class, the student will present a case from their current rotation of the teaching file. The class includes all technical and clinical information as well as</td>
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</table>
An extensive laboratory aimed at teaching the student to recognize quality images, anatomy, patient positioning, pathology, and scanning technique errors as well as artifacts. For each class, the student will present a case from their current rotation of the teaching file. The presentation will include all technical and clinical information as well as the final interpretation by the supervising physician. Prerequisite: SON 2934L. Laboratory fee. (2 hr. lab)

SON2933L
Film Critique 3
1.00 credits
An extensive laboratory to prepare the student to recognize quality images, anatomy, patient positioning, pathology, and scanning technique errors as well as artifacts. For each class, the student will present a case from their current rotation of the teaching file. The class includes all technical and clinical information as well as interpretation by the supervising physician. Prerequisite: SON 2933L. Laboratory fee. (2 hr. lab)

SON2934L
Film Critique 4
1.00 credits
An extensive laboratory aimed at teaching the student to recognize quality images, anatomy, patient positioning, pathology, and scanning technique errors as well as artifacts. For each class, the student will present a case from their current rotation of the teaching file. The presentation will include all technical and clinical information as well as the final interpretation by the supervising physician. Prerequisite: SON 2934L. Laboratory fee. (2 hr. lab)

SON2935L
Film Critique
1.00 credits
An extensive laboratory aimed at teaching the student to recognize quality images, anatomy, patient positioning, pathology, and scanning technique errors as well as artifacts. For each class, the student will present a case from their current rotation of the teaching file. The presentation will include all technical and clinical information as well as the final interpretation by the supervising physician. Prerequisite: SON 2935L. Laboratory fee. (2 hr. lab)

SON2950L
Journal Review
1.00 credits
Students select scientific articles from sonography journals for review and presentation in class. (2 hr. lab)

Spanish Language and Literature

SPN1030
Spanish for Health Professionals 1
4.00 credits
Conversational Spanish for students in the Allied Health programs only. Emphasis is on the practical application of Spanish to situations relative to patients and personnel. (3-4 hr. lecture)

SPN1120
Elementary Spanish 1
4.00 credits
An integrated (multi-media) approach to acquire proficiency in the basic skills (of the language)--listening/understanding, speaking, reading, writing, and cross-cultural awareness. Emphasis on practical vocabulary and accurate pronunciation. Practice in class and laboratory in understanding and using the spoken language; reading and writing with progressive grammatical explanations. (4 hr. lecture)

SPN1121
Elementary Spanish 2
4.00 credits
A continuation of SPN 1120. A proficiency-oriented course emphasizing the mastery of the basic skills of the language. Prerequisite: SPN 1120. (4 hr. lecture)

SPN1170
Spain Travel Study
3.00 - 6.00 credits
A course designed for students who wish to combine the study of Spanish with subsequent travel to a Spanish-speaking country. Prerequisites: SPN 1000, 1120 or permission of instructor. Offered through overseas study program. (3 hr. lecture)

SPN2220
Intermediate Spanish 1
4.00 credits
Students will understand, speak, read, write, and gain cultural awareness of Spanish through a systematic review (using an integrated, multimedia approach) of reading, grammar, and writing skills with emphasis on oral and written communication. Prerequisite: SPN 1121 or equivalent. (4 hr. lecture)

SPN2221
Intermediate Spanish 2 Conversation
4.00 credits
This is a continuation of Intermediate Spanish 1. Students will learn to understand, speak, read, and write Spanish. Students will also learn to develop cross-cultural awareness through a systematic review of reading and writing skills with emphasis on oral as well as written expression. Prerequisite: SPN 2220 or equivalent. (4 hr. lecture)

SPN2240
Intermediate Spanish 1 Conversation & Composition
3.00 credits
Promotes facility in understanding, speaking and writing the language. Emphasis on everyday conversation. Prerequisite: SPN 2221 or equivalent. (3 hr. lecture)

SPN2241
Intermediate Spanish 2 Conversation & Composition
3.00 credits
Oral practice with idiomatic expressions; oral reports on collateral readings; class discussions. Prerequisite: SPN 2240 or equivalent. (3 hr. lecture)
SPN2340
Spanish for Native Speakers 1
3.00 credits
Writing, spelling and punctuation, sentence structure and reading selections for vocabulary expansion as they are relevant to the training of individual students. Prerequisite: oral ability to communicate in Spanish or permission of department chairperson. (3 hr. lecture)

SPN2341
Spanish for Native Speakers 2
3.00 credits
A continuation of SPN 2340. Prerequisite: SPN 2340 or equivalent. (3 hr. lecture)

SPT2842
Contrastive Analysis Spanish/English
3.00 credits
Comparison/contrastive study of the phonology, morphology and syntax of Spanish and English. Recommended for students of translation and interpretation. (3 hr. lecture)

SPW2010
Selected Readings in Spanish Literature
3.00 credits
A study of outstanding works, authors, genres, or major literary currents in Spain. (3 hr. lecture)

SPW2020
Selected Readings in Latin American Literature
3.00 credits
A study of outstanding works, authors, genres, or major literary currents in Latin America. (3 hr. lecture)

Speech Communication

SPC1017
Fundamentals of Speech Communication
3.00 credits
This course provides students with the oral communications skills necessary for success in personal, professional and educational settings. Students will learn through the study and experiential practice of interpersonal communication, presentational speaking and group dynamics of communication and be able to use them effectively. Gordon Rule assigned. Special fee. (3 hr. lecture)

SPC2050
Voice and Diction
3.00 credits
Effective voice production and articulation, acceptable pronunciation, intonation, rhythm, and phasing, a consideration of elementary vocal anatomy and the fundamentals of the science of sound. Specific speech problems will be handled on an individual basis. (3 hr. lecture)

SPC2511
Argumentation and Debate
3.00 credits
The principles of argumentation, including analysis, evidence, inference and refutation, and their application to issues of current public interest. The course provides opportunities for debating practice. Prerequisite: SPC 2608 or equivalent. (3 hr. lecture)

SPC2594
Forensic Laboratory
1.00 - 3.00 credits
Advanced techniques of debate and other forensics, keyed primarily to those interested in intercollegiate forensic competition. Prerequisite: Permission of the instructor. May be repeated for credit. (2-6 hr. lab)

SPC2601
Advanced Public Speaking
3.00 credits
For students who have had a basic course in speech or previous experience in public speaking. The course provides participation in such areas as contest, community and on-campus speaking, and speech criticism. Students receive instruction in audience analysis and rhetorical principles and strategies. Prerequisite: SPC 2608. (3 hr. lecture)

SPC2608
Introduction to Public Speaking
3.00 credits
SPC 2608 is a course in which students will practice speaking to audiences as well as listening to and critically analyzing oral communication. Through oral and written communication, students will learn communication theory as applied to a variety of communication situations and social interactions. Prerequisite(s): Placement by Scholastic Assessment Test (SAT) verbal subtest score; American College Testing (ACT) English subtest score; Computerized Placement Test (CPT) English subtest score; or ENC 0025 with a grade of S. Gordon Rule assigned. (3 hr. lecture)

SPC2940
Peer Teaching in Speech Communication
3.00 credits
Provides the opportunity for outstanding speech students to advance their skills by functioning as student teachers in speech courses which they have completed successfully. Prerequisite: Permission of the department. (3 hr. lecture)

Statistics

STA2023
Statistical Methods
3.00 credits
This course will introduce students to statistical methods. Students will learn topics to include collecting data, grouping data, presenting data, measures of central tendency, dispersion, probability, hypothesis testing, confidence intervals, and correlation. Prerequisite: MAT 1033 or MGF 1106. Special fee. Fulfills Gordon Rule computational requirement. (3 hr. lecture)

STA3164
Statistical Methods 2
3.00 credits
This course is for students majoring in data analytics, systems engineering, and related disciplines who require advanced skills in statistical analysis. Students will learn how to perform tests of variance, analysis of variance, analysis of covariance, regression, correlation, and non-parametric statistics. Prerequisite: STA2023 (3 hr. lecture, 2 hr. lab)
COLLEGE CREDIT COURSES

**STA4210**  
**Regression Analysis**  
4.00 credits  
This course is for students majoring in data analytics, systems engineering, and related disciplines who require advanced in statistical analysis. Students will learn the principles and procedures of correlations and regression analysis and how to allocate information in data sets using statistical software. Prerequisite: STA3164. (3 hr. lecture; 2 hr. lab)

**Student Life Skills**

**SLS1106**  
**First Year Experience Seminar**  
1.00 credits  
This course is designed to provide students a forum for transitioning into college. Students will learn to develop the skills required for success in college and beyond. This course is intended for first time in college students, who are seeking an Associate in Arts degree program. (1 hr. lecture)

**SLS1125**  
**Student Support Seminar**  
3.00 credits  
This course provides a foundation for gaining knowledge, skills and attitudes necessary for college success. Students will learn specific social, cultural, psychological, and academic considerations that are known to impact student achievement. Students will also assess their competence in each of these areas, and learn strategies that will improve their overall student effectiveness. (3 hr. lecture)

**SLS1130**  
**College Survival Seminar**  
1.00 credits  
An introduction to the campus, college policies, student services and self-discovery for entering freshmen. (1 hr. lecture)

**SLS1401**  
**Psychology of Career Adjustment**  
1.00 - 6.00 credits  
For students who have not decided, are having difficulty deciding, or need clarification in making a career choice. A format for a systematic investigation for career and life planning is included. It is concerned with "who you are," "where are you going," "how to get there," and "what's out there that fits you." Special fee. (1-6 hr. lecture)

**SLS1502**  
**College Study Skills**  
1.00 - 3.00 credits  
Skills, techniques and procedures for mastering study strategies such as taking classroom and lecture notes, mastering tests, developing memory/recall, actively listening, and proper management of time. (1-3 hr. lecture)

**SLS1505**  
**College Survival Skills**  
1.00 credits  
This is an introductory self-discovery course designed to help students make the transition to college. Students will learn the knowledge and skills necessary for success, including knowledge of academic policies and procedures, effective study strategies, and making sound academic and career choices. (1 hr. lecture)

**SLS1510**  
**Preparing for Student Success**  
3.00 credits  
This course provides an orientation to college life and helps develop academic, career, and personal goals. Students will learn college success strategies, goal-setting, learning style assessments, as well as general and discipline-specific study skills in the context of various theoretical, practical, and experiential perspectives. (3 hr. lecture)

**Surveying**

**SUR1001C**  
**Construction Survey**  
3.00 credits  
Practice of surveying as related to the building and construction industry. Includes a combination of classroom instruction and practical field problems with the tape, level and transit. Prerequisite: MACT114 or MAC 1147. (2 hr. lecture; 2 hr. lab)

**SUR1101C**  
**Surveying 1**  
4.00 credits  
The theories and practices in surveying and the use of the principal types of surveying instruments in horizontal and vertical planes. Problems include the measurement of distance, the use of compass, sextant, transit traverse, stadia, and basic mapping. Field and laboratory practice are required. Laboratory fee. Prerequisites MACT114 or MAC 1147. (3 hr. lecture; 2 hr. lab)

**SUR1202C**  
**Surveying 2**  
4.00 credits  
Advanced study in route, land, and mapping surveying to include triangulation, astronomic observations, topographic and photogrammetric mapping. Field demonstrations and surveys performed with many modern types of survey instruments. Prerequisite: SUR 1101C. Laboratory fee. (2 hr. lecture; 4 hr. lab)

**Teaching English as a Second Language**

**TSL3080**  
**ESOL in ECE I**  
3.00 credits  
The student will learn to explore theories, research, and practices of English language learners, including legal issues that have influenced the field, first and second language acquisition, concepts of cultural competence and multiculturalism, and the implications of cultural and linguistic diversity in early childhood education. (Ten hours of clinical experience is required in an approved kindergarten-third grade inclusion classroom with ESOL students.). Pre/Co-requisites: EDF3115, EEC3301. Special Fee. (3 hr. lecture)

**TSL3240**  
**Applied Linguistics**  
3.00 credits  
The student will be introduced to the analysis and classroom application of linguistic theories for first and second language acquisition and literacy development as well as the study of language.
and its structure. The student will examine and apply this knowledge to enhance instruction for culturally and linguistically diverse learners. This course is restricted to in-service teacher certification candidates and is required for Florida Add-on ESOL Endorsement. (3 hr. lecture)

**TSL3243**  
**ESOL I: Second Language Acquisition, Communication, and Culture**  
**3.00 credits**  
The student will learn to analyze and apply theories of first and second language acquisition, literacy development, language and its structure, ways that diverse cultures and communication styles impact learning, and legal issues related to the education of culturally and linguistically diverse learners. Fifteen hours of clinical experience are required. Pre/Co-requisites: EDG3321, EEX3120. (3 hr. lecture)

**TSL3520C**  
**Cultural Dimensions of ESOL**  
**3.00 credits**  
This course provides an overview of topics related to cross-cultural communication by introducing students to the cultures of different US language groups with a focus on language groups found in Florida. The student will be introduced to an overview of topics related to cross-cultural communication and the cultures of different awareness and understanding of the complexities surrounding language, culture, and learning in order to meet the needs of linguistically and culturally diverse learners. This course restricted to in-service teacher certification candidates and is required for Florida Add-on ESOL Endorsement. (3 hr. lecture)

**TSL3521**  
**ESOL II: Communication and Culture**  
**3.00 credits**  
This course provides an overview of topics related to the field of cross cultural studies and implications for instruction. The students will learn to plan and implement curriculum, instruction, and assessment activities to meet the needs of culturally and linguistically diverse learners. Fifteen hours of field experience required. (3 hr. lecture)

**TSL4140C**  
**TESOL Curriculum and Materials**  
**3.00 credits**  
This course provides knowledge and application of TESOL theories, principles, and current research in the analysis, planning, design, and evaluation of curriculum and materials appropriate for TESOL students. This course is restricted to in-service teacher certification candidates and is required for Florida Add-on ESOL Endorsement. (3 hr. lecture)

**TSL4310**  
**ESOL in ECE II**  
**3.00 credits**  
This second TESOL course addresses the application of theories, principles, and current research on curriculum, methods, and assessment in early childhood, as well as how these are designed for children who use non-standard dialects of English and/or are learning English as an additional language. The student will learn modifications appropriate for content area teaching and learning. (Ten hours of clinical experience in an approved first through third grade setting with ESOL students.) Pre-requisites: EDF3115, EEC3301, EEX3226, TSL3080. Special Fee. (3 hr. lecture)

**TSL4311**  
**ESOL II: Teaching and Assessing ESOL Students**  
**3.00 credits**  
The student will learn to apply TESOL instructional methods and strategies, as well as analyze, plan, design, and evaluate curriculum and materials. The student will select, develop and adapt assessment instruments, and examine standardized ESOL measurement tools. Fifteen hours of clinical experience are required. (3 hr. lecture)

**TSL4324C**  
**ESOL Strategies for Content Area Teachers**  
**3.00 credits**  
The student will learn topics related to teaching content area subjects to English Language Learners. The student will plan and implement curriculum, instruction, and assessment activities to meet the needs of culturally and linguistically diverse learners. Fifteen hours of clinical experience are required. Pre/Co-requisites: EDG3321. (3 hr. lecture)

**TSL4340C**  
**TESOL Methods**  
**3.00 credits**  
The student will learn to apply TESOL theories, principles, and current research in the understanding and use instructional techniques and methodologies appropriate for teaching ESOL students. The course is required to in-service teacher certification candidates and is required for Florida Add-on ESOL Endorsement. (3 hr. lecture)

**TSL4441C**  
**ESOL Testing and Evaluation**  
**3.00 credits**  
The student will learn to apply TESOL theories, principles, and current research in the selection, development, and adaptation of assessment instruments/evaluation materials appropriate for ESOL students. This course is restricted to in-service teacher certification candidates and is required for Florida Add-on ESOL Endorsement. (3 hr. lecture)

**Theater Arts**

**THE1925**  
**Studio Theatre Production**  
**3.00 credits**  
Theoretical and practical experience with all aspects of studio theatre production including design, directing, lighting, technical and casting. The course will include faculty supervised public performances. May be repeated for credit. Prerequisite: Permission of department chairperson. (3 hr. lecture)

**THE2000**  
**Theatre Appreciation**  
**3.00 credits**  
The development of drama from its beginning to contemporary theatre. Included are the analyses and study of major plays exemplary of outstanding periods of theatre history. Required of drama and drama
education majors. Fulfills Gordon Rule writing requirement. (3 hr. lecture)

THE2051
Children’s Theatre Production
3.00 credits
The theory of children’s theatre, its development with the American theatrical scene, its function within the American community and applications of the theories in actual productions before audiences. (3 hr. lecture)

THE2083
Theatre Problems
1.00 - 3.00 credits
This is an advanced course for theatre majors who have already earned credit in a required subject or who have demonstrated that they are capable of advanced, highly specialized work in a particular area of requirements and objectives. Possible areas of study include advanced scenic work, intensive training in particular acting methods, playwriting, and directing. Students are assigned to a teacher, who will design, supervise, and evaluate their projects. May be repeated for credit. (1-3 hr. lecture)

TPA1200
Stagecraft
3.00 credits
A basic study of technical theatre practices with emphasis on scenery construction, rigging and prop construction. This course may be taken concurrently with TPP 1110. (2 hr. lecture; 2 hr. lab)

TPA1202
Introduction to Entertainment Technology
3.00 credits
An historical overview of the scope, current trends, methods and vocabulary connected with the variety of venues used for live entertainment (arenas, stadiums, discos, theater-auditorium, convention centers, casinos, recorded entertainment at film and video sound stages and music studios); the producing organizations of entertainment and their different styles of production management (sports, music film, video, dance, theater, theme parks); and the business aspects of equipment vendors and leasing companies. An overview of theatrical unions, engineering and professional groups and their influence on standard practices will also be addressed. (3 hr. lecture)

TPA1215
Audio-Visual, Multi-Media
4.00 credits
This course presents the principles and practice of unpacking, unloading, setting up and operating visual aids for conference and convention, and A/V for industrial shows, conventions, concerts and special events. Also covered is media using record-ed sound (A/V) and media accompanying live presenters (V/A) including 8, 16, 35 and 70 mm. movie, single and multi-media. Students will practice this technology in labs and in performance environment, under performance conditions. Prerequisite: Permission of department. (2 hr. lecture; 4 hr. Lab)

TPA1220
Lighting
3.00 credits
Technical theatre practices with emphasis on lighting, sound effects, and design concepts. (2 hr. lecture; 2 hr. lab)

TPA1225
Automation & Computers
3.00 credits
This course presents the principles and practices of automated robotics lighting (intelligent lighting), automated machinery, rigging, wagons, turntables, lifts, event sequencing between pyro, multi-media, sound and stage lights, automated show control of up to ninety-nine elements of production and computerize control of light and sound. Prerequisite: Permission of department. (2 hr. lecture; 2 hr. lab)

TPA1234
Makeup for the Stage
3.00 credits
An introduction to the art and techniques of makeup as used by the actor, theatrical designer, and technician. Special emphasis is given to straight makeup, age makeup, hair, character extension, and stylization. (3 hr. lecture)

TPA1253
Entertainment Technology: Technician 1
3.00 credits
This course presents the principles and practice of stage rigging, stage carpentry, road crew and gripping. Students will practice the use of hardware, knots, hemp, counter-weight and motorized flying system for scenery, curtains and ground rigging, temporary and permanent stages, sound stages or on location, expositions and/or special outdoor events. Also covered are the principles and practices of the installation and operation of wagons, winches, chain hoists and trusses, lighting equipment, sound for on-stage or studio performance, gripping for motion pictures or video production. Occupational health and safety issues are discussed and practiced. (2 hr. lecture; 2 hr. lab)

TPA1254
Entertainment Technology: Technician 2
3.00 credits
This course is an advanced course in entertainment technology and continuation of the principles and practices covered in Entertainment Technology Technician 1. (2 hr. lecture; 2 hr. lab)

TPA1255
Concert & Stage Lighting
4.00 credits
This course presents the principles and practices of installation and operation of lighting technology for a variety of entertainment venues: theater, dance, opera, rock and roll concert tours philharmonic orchestras, music festivals, industrial shows, theme parks. Special attention will be paid to venues for performances outdoors, indoors and on sound stages. Also
covered are the principles and practices involved with the installation and operation of film studio, location gaffing and equipment technology. AC and DC electrical current will be studied as it applies to lighting technology with special emphasis on power supplies, cabling, and basic maintenance of generic equipment currently used in the field. Occupational health and safety, fire safety and CPR are discussed and practiced. Prerequisite: Permission of department. (2 hr. lecture; 4 hr. lab)

**TPA1260**
**Concert & Stage Sound**
**4.00 credits**

This course presents the principles and practices of the installation and strike of sound technology for a variety of entertainment venues: theater, dance and opera, rock and roll concert tours, orchestras, choirs and music festivals, theme parks, themed entertainment and industrial shows, special events, casino and cruise line shows. Special attention is paid to venues for performances outdoors, indoors and on stage. Also covered are the principles and practices associated with the installation and operation of film studio, location sound and sound studio set-up technology. Emphasis is placed on equipment and its specific use in the field together with practice in cabling, patching, system layout rigging and basic maintenance of generic equipment. Occupational health safety, fire safety issues and CPR are discussed and practiced. Prerequisite: Permission of department. (2 hr. lecture; 4 hr. lab)

**TPA1274**
**Properties Practical's Non-Electrified Special Effects**
**3.00 credits**

This course provides the student: the principles and practices of unpacking, receiving, unpacking and distributing costumes, wigs and accessories for live performances and the load-out duties of collecting and packing the same, and the equivalent duties for on-location trailers and/or studio wardrobe. Perform costume changes as well as other reshow and post production set-ups and strikes. Perform maintenance duties including laundry, repair, dyeing, starching, spot cleaning, ironing, pressing, steaming, shoe repair and painting, gluing, hand and machine sewing, embroidery, millinery pattern making, tailoring/alterations, leather work, beading and other costume crafts.

The principles of make-up for the stage, studio and screen and preparation and maintenance of wigs, falls, and other hair pieces including beards and mustaches is also practiced. Taking instructions from management, designers, and supervisors, executing clues, collaborating with others part of a crew has equal emphasis along with.

**TPA1275**
**Special Effects-Electrified Laser & Pyrotechnics**
**3.00 credits**

This course presents the principles and practice of operating scenic, mechanical, sound, and lighting special effects including laser light and pyro-technics. Also covered are the standard practices, rules, regulations, procedures, guidelines and precautions for the safe operation of currently available devices used in industry today and those invented or special events. Prerequisite: Permission of department. (2 hr. lecture; 2 hr. lab)

**TPA2233**
**Main stage Production-Costumes & Makeup**
**1.00 credits**

Practical experience in theatrical costuming and makeup through participation in a major theatrical production. May be repeated for credit. Prerequisite: Permission of department chairperson. (2 hr. lab)

**TPA2256**
**Costumes & Makeup**
**3.00 credits**

This course presents the principles and practices of unloading, receiving, unpacking and distributing costumes, wigs and accessories for live performances and the load-out duties of collecting and packing the same, and the equivalent duties for on-location trailers and/or studio wardrobe. Perform costume changes as well as other reshow and post production set-ups and strikes. Perform maintenance duties including laundry, repair, dyeing, starching, spot cleaning, ironing, pressing, steaming, shoe repair and painting, glueing, hand and machine sewing, embroidery, millinery pattern making, tailoring/alterations, leather work, beading and other costume crafts.

The principles of make-up for the stage, studio and screen and preparation and maintenance of wigs, falls, and other hair pieces including beards and mustaches is also practiced. Taking instructions from management, designers, and supervisors, executing clues, collaborating with others part of a crew has equal emphasis along with.

**TPA2276**
**Entertainment Technology: Crafts 1**
**3.00 credits**

This course presents the principles and practices of woodworking, welding, smithing, casting, weaving, paper hanging, painting, ceramics, plaster sewing and plastics technology for the entertainment industry. State of the art tool technology, shop and field practice, health and safety standards will be emphasized. These crafts are entertainment industry oriented with a perspective that states that objects created are to be used for production. Prerequisite: Permission of department. (2 hr. lecture; 2 hr. lab)

**TPA2277**
**Crafts 2**
**3.00 credits**

This course is a continuation of the study of the principles and practices covered in Crafts 1. Prerequisite: TPA 2276 or departmental permission. (2 hr. lab)

**TPA2291**
**Main stage Production-Technical & Lighting**
**1.00 credits**

Practical application of theatrical skills in technical support, and lighting through participation in a major theatrical production. May be repeated for credit. Prerequisite: Permission of department chairperson. (2 hr. lab)

**TPA2292**
**Production Lab**
**1.00 - 3.00 credits**

Students will be provided with hands-on experience in theatre technology and production, including lighting, the construction of scenery; stage make-up, costume construction; actual production
management; properties construction and organization; sound production; recording, editing, and operation; and house management during actual performances. Required of all first-year students. (2-6 hr. lab)

**TPA2600**  
*Introduction to Stage Management*  
3.00 credits  
Introduction to Stage Management is designed to familiarize the student with the role of the stage manager in the theatre. Concepts covered includes: blocking, note taking, cue calling and company relation skills. Prerequisites: TPA 1200, 1220. (3 hr. lecture)

**TPP1100**  
*Acting 1*  
3.00 credits  
The fundamentals of stage performance, stressing voice, movement, and the more formal and technical aspects of the actor’s art. May be repeated for credit. (3 hr. lecture)

**TPP1110**  
*Acting 1*  
3.00 credits  
Continuation of TPP 1100. Prerequisite: TPP 1100. (3 hr. lecture)

**TPP1120**  
*Improvisation Ensemble*  
3.00 credits  
The student will develop the skills of improvisation for use in role development and for performance. (3 hr. lecture)

**TPP1150**  
*Scene Study 1*  
3.00 credits  
This course teaches the aspiring young theatre professional how to analyze a play in terms of the author’s personal statement, the historical and social context within which it was written, the particular style used by the author, and the many options open to director and actor for bringing the work to stage life. A substantial portion of class time will be devoted to oral reading and interpretation of text. (1-3 hr. lecture)

**TPP1160**  
*Voice & Movement 1*  
3.00 credits  
An intense two-semester course designed to train the acting student in specific techniques of voice production, vocal range and control, to add flexibility and suppleness to body movement, so that the actor becomes free to concentrate on the task of building a character. Each participant is evaluated at the beginning in relation to voice and movement levels of professional acceptability and expected to demonstrate measurable growth in a personalized program. (3 hr. lecture)

**TPP1161**  
*Voice & Movement 1*  
3.00 credits  
Continuation of TPP 1160. Prerequisite: TPP 1160. (3 hr. lecture)

**TPP1170**  
*Beginning Characterization*  
3.00 credits  
A course which builds upon the centered foundation of creating a role developed in TPP 1100 and TPP 1110. The student uses a subjective approach to creating a character which differs from him/her physically, culturally and psychologically. He/she attempts even greater degrees of transformation. Prerequisite: TPP 1110. (3 hr. lecture)

**TPP1190**  
*Studio Theatre-Cast*  
1.00 credits  
Practical application of skills acquired in acting classes through public presentation of student-produced studio theatre as a member of the cast. May be repeated for credit. Prerequisite: Permission of department chairperson. (2 hr. lab)

**TPP1250**  
*Musical Theatre 1*  
3.00 credits  
The study and performance of musical comedy excerpts with special attention to stage movement, acting and characterization as related to musical production. May be repeated for credit. Prerequisite: Permission of department chairperson; corequisite: previous or current enrollment in Voice Techniques and Jazz Techniques classes. (1 hr. lecture; 2-4 hr. lab)

**TPP1260**  
*Acting for Camera 1*  
3.00 credits  
Acting students will learn to acquire the technical knowledge and training necessary for acting in the film and television industry. Students will also acquire knowledge of the working procedure used in this media.

**TPP1606**  
*Playwriting 1/2*  
3.00 credits  
The process of exploring playwriting styles and techniques is continued. A one-act play of significant length and complexity will be the semester project. (3 hr. lecture)

**TPP1700**  
*Voice for the Stage*  
3.00 credits  
The study and application of voice production, breathing, articulation, accents and movement in the actor’s delivery. Emphasis is on clarity, precision, properly phrased and meaningful communication from the performer to the audience. (3 hr. lecture)

**TPP2111**  
*Acting 2*  
3.00 credits  
In this course, actors who have learned to express themselves freely now learn to adjust this expression to the demand of the role. Students begin to apply their skills for observation, imagination, and concentration to the study of roles close to themselves. Vocal and physical flexibility and expressiveness are now put to work in the realization of expectations of the playwright, here the student develops a systematic approval to creating a three-dimensional character. (3 hr. lecture)

**TPP2112**  
*Acting 2*  
3.00 credits  
Emphasis on building a characterization. The art of improvisation, with reference to its function in the preparation of a role,
TPP2151
Advanced Scene Study
3.00 credits
In this course the theatre student learns to analyze plays with a heavy focus on particular characters and major scenes. Emphasis will be placed on works of prime importance in the history of the theatre, both past and present, so that the aspiring actor can begin to experience some of the problems involved in approaching a significant role. Each student is required to research the performance history of the roles and scenes studied as well as to uncover the subtexts and the inner line of character development. Attention will be given to both Stanislavsky and improvisation techniques as methods by which the actor comes closer to the full reality of a part. May be repeated for credit. (3 hr. lecture)

TPP2152
Scene Study 3
3.00 credits
This course is the culmination of a sequence. In it the advanced acting student learns how to analyze the longer one/act or shorter full-length play and to develop the through-line of one character as a preparation for an in-class performance. The student also learns how to work with the director and to relate acquired acting techniques to the stylistic requirements of a given script. (3 hr. lecture)

TPP2162
Voice & Movement 2
3.00 credits
An intense two-semester course in precision techniques of voice production and bodily flexibility integrating them with specific acting exercises with an emphasis on demonstrating the automatic, non-conscious application of acquired voice and movement skills. Prerequisite: TPP 1161. (3 hr. lecture)

TPP2163
Voice & Movement 2
3.00 credits
Continuation of TPP 2162. Prerequisite: TPP 2162. (3 hr. lecture)

TPP2191
Main stage Production - Cast
1.00 - 3.00 credits
Participation in a major theatrical production as a member of the cast. Main stage productions will be presented publicly to the student body and community. May be repeated for credit. Prerequisite: Permission of department chairperson. (2-6 hr. lab)

TPP2256
Musical Theatre 2
3.00 credits
A continuation of TPP 1250 in which the student is expected to develop further the performing skills of singing, dancing, and acting. (3 hr. lecture)

TPP2260
Acting for the Camera 1
3.00 credits
Acting students will attend lecture/lab to acquire the technical knowledge and training necessary for acting in the film and television industry. They will acquire a knowledge of the working procedure and terminology used in these media. Prerequisite: TPP 1100 or permission of the instructor. (2 hr. lecture; 2 hr. lab)

TPP2300
Introduction to Play Directing
3.00 credits
Introduction to the basics of play directing, composition, picturization, business and movement. The course will offer the student a method of analysis and rehearsal scheduling. Prerequisite: TPP 1110 and TPA 1200. (3 hr. lecture)

TPP2303L
Main stage Production-Assistant Designer/Director
1.00 credits
Practical experience in theatrical design and directing through participating in a major production. May be repeated for credit. Prerequisite: Permission of department chairperson. (2 hr. lab)

Transportation and Traffic Management

TRA1410
Introduction to Rail Freight Operations
3.00 credits
This is an introductory course in Rail Freight Operations. Students will learn the advantages and disadvantages of freight movement by rail, how rail lines are organized and operate, including the use of intermodal transfer facilities and on-dock rail. Topics include shipping documents, shipment tracking, management of human resources and equipment, and an overview of hazardous materials shipments and security issues. Co-requisites: TRA1420, 1430. (3 hr. lecture)

TRA1420
Introduction to Trucking Operations
3.00 credits
This is an introductory course in Trucking Operations and the movement of goods via highways and roadways. Students will learn U.S. Department of Transportation requirements, documents for shipping, vehicle and shipment tracking, scheduling, management of human resources and equipment, just-in-time implications and integration with other transportation modes. Hazardous materials shipments and security issues will be discussed. Co-requisites: TRA1410, 1430. (3 hr. lecture)

TRA1430
Introduction to Port Freight Operations
3.00 credits
This is an introductory course in Port Freight Operations. Students will learn how Seaports and Inland Ports are organized and operate, how freight is moved domestically and internationally, including the integration of port operations with other modes of transportation. Topics include break-bulk handling during loading, discharging, in-transit carriage, on-dock rail,
hazardous materials shipments and security. Co-requisites: TRA 1410, 1420. (3 hr. lecture)

TRA2010
Introduction to Transportation and Logistics
3.00 credits
This course surveys the organization and operations of the commercial transportation industry and its impact on the bottom line of today’s modern businesses. Students will learn to review regulations and processes affecting transportation and logistics functions as well as explore the industry job market and look at technologies and current issues shaping transportation and logistics. A.S. degree only. (3 hr. lecture)

TRA2156
Operations Management for Transportation
3.00 credits
This course includes the skills necessary for a supervisory role in logistics. Students will learn the roles and responsibilities in managing different types of transportation operations. Topics include human resources, design and management of production operations, productivity, capacity planning, resource management, just-in-time systems, hazardous materials management, planning and project management. Prerequisite: MAN2021. (3 hr. lecture)

TRA2321
Transportation Public Policy, Law, and Regulations
3.00 credits
Students will learn the transportation regulatory environment including the various levels of government regulations. Review of security, environmental requirements, regulatory research and labor laws are also covered. Prerequisite: TRA2010. (3 hr. lecture)

TRA2402
Intermodal Transportation Operations and Project Management
3.00 credits
Students will learn the fundamental elements necessary to plan, implement and control efficient and market-responsive integrated transportation systems. Topics include strategic, operational, and project management roles of transportation in supply chains. Emphasis is placed on services pricing, carrier selection, equipment and shipment planning, intermodal operations, financial/budgetary constraints, security and distribution services. Prerequisites: AVM2120, TRA2010. Co-requisites: TRA1410, 1420, 1430. (3 hr. lecture)

TRA2702
International Logistics and Transportation
3.00 credits
International logistics concerns the flow of materials into, through and out of an international corporation as it relates to materials management, storage, inventory locations, physical distribution and documentation. This course will emphasize international transportation infrastructure and modes such as ocean, airfreight, intermodal movement, truck and rail. Choices among these modes will be explored considering such factors as transit time, packaging, risks, predictability and cost. The roles of freight forwarders and customs brokers in moving international cargo and operation of foreign trade zones will be discussed. Prerequisites: TRA 2010, 2321. (3 hr. lecture)

TRA2945
Transportation & Logistics Capstone I
1.00 credits
In this Transportation & Logistics Capstone course, students will learn to incorporate the major concepts presented in the transportation courses through the application of special projects, internship and/or examination. The course will assess the students understanding of major concepts in transportation and logistics. Prerequisites: Departmental Approval & Completion of the Program Core Requirements. (1 hr. lecture)

TRA2946
Transportation & Logistics Capstone II
1.00 credits
This Transportation & Logistics course is a continuation of Capstone I. Students will learn to further the concepts acquired in Capstone I through a special project, internship or examination to assess the students understanding of major concepts presented in the courses in the degree program. Prerequisite: TRA2945. (1 hr. lecture)

TRA3034
Transportation and Traffic Management
3.00 credits
This course covers developments leading to national and federal regulations, division of territories, official descriptions, etc. Students will learn the scope of authority of territorial associations, factors controlling traffic flows, basic governing classification rules, principals of freight rates and tariffs, and elements of rate making. Prerequisites: MAN 2021 and TRA 1154. (3 hr. lecture)

TRA3132
Purchasing and Inventory Management
3.00 credits
This course provides a comprehensive introduction to the purchasing/procurement and supply chain management field. Students will learn purchasing and supply chain issues in a variety of settings, from process industries to high tech manufacturing and services as well as public institutions. Emphasis is on the purchasing process as it relates to such topics as inventory control procedures, price/cost analysis, laws and ethics, negotiations, vendor selection and the development of vendor relationships. Prerequisites: MAN 2021 and TRA 1154. (3 hr. lecture)

TRA4234
Warehouse Management
3.00 credits
Students will learn warehousing functions, facility operations, and operational productivity improvements and measurements with the inclusion of concepts from marketing,
finance, statistics, operations management, and human resources. The course presents an integrated business approach to the detailed operational aspects of logistics facilities such as warehouse and distribution centers. The course will use real-world warehouse data to design the layout and operations requirements for a local warehousing facility and to identify the operational equipment used in warehousing. Prerequisites: MAN 2021, 3065, QMB 2100, and 2100L. (3 hr. lecture)

**Vision Care Technology/Opticianry**

**OPT1110**  
Physical & Geometrical Optics  
4.00 credits  
Behavior of light energy as it passes through air, plastic, glass and water with emphasis on how light is modified by prism and curved lens surfaces. These principles relate to the effect these ophthalmic devices have in correcting the errors of human vision. Corequisite: OPT 1205, 1330. (4 hr. lecture)

**OPT1150**  
Ophthalmic Lenses  
2.00 credits  
Characteristic of unifocal and multifocal lens reference points for proper lens selection to meet visual needs of the patients. Emphasis is on accurate positioning of the optical centers and selected multi-focal addition design. ANSI and FDA standards; prescription ordering; verification procedures; absorptive lenses; and invisible and progressive multi-focals are presented. Prerequisites: OPT 1110, 1205; corequisites: OPT 1331, 1331L. (2 hr. lecture)

**OPT1205**  
Ocular anatomy, Physiology & Pathophysiology  
3.00 credits  
The structure and function of the systems of the human body, emphasizing the anatomy, physiology and pathophysiology of the human eye. Visual recognition of common eye disorders is also discussed. Corequisite: OPT 1330. (3 hr. lecture)

**OPT1330**  
Clinical Data Collection 1  
2.00 credits  
Techniques necessary in a clinical environment for the collection of patient case history; entrance visual acuity; basic visual skills of ocular mobility and accommodation, color discrimination, depth perception and binocular fusion. Emphasis is also placed on gaining familiarity with the medical terminology as it relates to the visual system. Corequisites: OPT 1110, 1205. (2 hr. lecture)

**OPT1331**  
Clinical Data Collection 2  
2.00 credits  
Techniques necessary in a clinical environment for the collection of subjective and objective patient diagnostic information including visual field plotting, tonometry, lensometry, keratometry, and sphagmomymometry. Prerequisites: OPT 1150, 1331L. (2 hr. lecture)

**OPT1331L**  
Clinical Data Collection 2 Laboratory  
1.00 credits  
Laboratory for OPT1331 in which students are under the supervision of a licensed practitioner. Corequisite: OPT 1331. Laboratory fee. (2 hr. lab)

**OPT1450**  
Ophthalmic Dispensing Procedures 1  
1.00 credits  
Basic procedures of ophthalmic dispensing such as frame selection, measurement and laboratory ordering. Emphasis will be placed on common ophthalmic frame materials; crown glass and CR-39 lenses; absorptive lenses; and frame alignment, adjustment and repair. The student will demonstrate skills necessary for entry level ophthalmic dispensing in Vision Care Clinic. Prerequisite: OPT 1330, corequisites: OPT 1331, 1331L, 1450L. (1 hr. lecture)

**OPT1450L**  
Ophthalmic Dispensing Procedures 1 Laboratory  
1.00 credits  
Laboratory for OPT 1450. Corequisite: OPT 1450. Laboratory fee. (2 hr. lab)

**OPT2060**  
Ophthalmic Management Policy & Procedures  
2.00 credits  
Procedures and terminology used in the handling of patients, correspondence, legal and ethical principles, inter- and
intra-professional relationships, and office management. Develop feasibility report of opening a retail ophthalmic dispensary. The history of opticianry, optometry and ophthalmology is traced. Special emphasis is on a comprehensive review of the curriculum. Prerequisite: OPT 1330, 2800L. (2 hr. lecture)

OPT2070L Computers for Vision Care 1.00 credits
This course introduces students to the use of computers in ophthalmic practice. Students will learn computer basics and the use of application software for maintaining patient records and billing. Elements of ophthalmic coding are included. (2 hr. lab)

OPT2375 Refractometry 1.00 credits
Students will learn the basic principles of refractometry, theoretical aspects of retinoscopy, and the use of cross cylinders. Students will be able to describe various refractive problems and their solutions. Prerequisites: OPT 1150, 1205, 1331, 1331L; corequisite: OPT 2375L. (1 hr. lecture)

OPT2375L Refractometry Laboratory 1 1.00 credits
Students will practice theoretical concepts of refractometry using a retinoscope, autorefractor, and cross cylinders in a laboratory setting. Prerequisites: OPT 1205, 1331, 1331L; corequisites: OPT 2375. (2 hr. lab)

OPT2376L Refractometry Lab 2 1.00 credits
This course is designed to provide the student with the hands on experience of hand neutralizing a pair of glasses, retinoscopy, and the use of the phoropter and the Snellen chart. (2 hr. lab)

OPT2377L Refractometry 3 Laboratory 1.00 credits
This laboratory course will continue to advance the skills already introduced in the previous laboratories 1 & 2. The improved skills will enhance the student’s ability to determine the refractive status of the eye and be able to practice these skills on patients in the clinic. (2 hr. lab)

OPT2420 Eyewear Fabrication 1 2.00 credits
Theory of ophthalmic surfacing procedures. Students acquire knowledge to arrange single vision lenses; use lensometers and lens clock; operate project-o-makers for single vision lens layout; select or fabricate frame patterns; and utilize several systems for edging lenses for ophthalmic frames. Prerequisite: OPT 1150; corequisites: OPT 1450, 1450L, 2420L, 2505. (2 hr. lecture)

OPT2420L Eyewear Fabrication 1 Laboratory 1.00 credits
Laboratory for OPT 2420. Corequisite: OPT 2420. Laboratory fee. (2 hr. lab)

OPT2421C Eyewear Fabrication 2 3.00 credits
Advanced techniques in measurement, fabrication, and verification of unifocal and multifocal lenses. Students fabricate finished eyewear from written specifications ensuring that current ANSI and FDA standards are exceeded. Prerequisites: OPT 2420, 2420L. (1 hr. lecture; 4 hr. lab)

OPT2422C Eyewear Fabrication 3 3.00 credits
A continuation of OPT 2421. Theory of evaluation and analysis of eyewear for accuracy and quality. Advanced techniques in operation of automated lens analyzer and lens edger’s, and maintenance of equipment. Prerequisites: OPT 2420, 2421C. (1 hr. lecture; 4 hr. lab)

OPT2451 Ophthalmic Dispensing Procedures 2 1.00 credits
Theory and terminology of advanced ophthalmic dispensing. Emphasis will be placed on new technology in ophthalmic frame materials; multifocal lenses including progressive power and blended bifocals; and high index lenses. The process of analyzing the patient’s specific needs for the proper frame and lens selection is highlighted. Prerequisites: OPT 1450, 1450L; corequisite: OPT 2451L. (1 hr. lecture)

OPT2451L Ophthalmic Dispensing Procedures Laboratory 1.00 credits
Laboratory for OPT 2451. Corequisite: OPT 2451. Laboratory fee. (2 hr. lab)

OPT2505 Contact Lenses 1 3.00 credits
Basic principles of contact lens fitting, emphasizing soft lenses. Topics include lens-relate terminology, anatomy and physiology, patient examination, soft lens materials, design, parameters, handling, fitting and care. Includes introduction to rigid lenses. OPT 1110, 1205. (3 hr. lecture)

OPT2506 Contact Lenses 2 2.00 credits
Principles of contact lens fitting, emphasizing rigid lenses. Topics include materials, design parameters, verification, handling, fitting and care. Considered advanced and specialty design and ocular complications. Prerequisite: OPT 2505. (2 hr. lecture)

OPT2506L Contact Lenses 2 Lab 1.00 credits
Practical procedures designed to apply technical skills of contact lens application and removal, verification of the contact lens prescription, modification of hard and hard gas permeable contact lenses, and other skills discussed in previous lecture coursework. Prerequisite: OPT 2505; corequisite: OPT 2506. (2 hr. lab)

OPT2800L Vision Care Clinic 1 2.00 credits
Introductory clinic designed to apply technical skills acquired in previous course work.
Recording of clinical data, administrative procedures and techniques in patient handling under close staff supervision. Prerequisites: OPT 1331, 1331L, 1450, 1450L. Laboratory fee. (6 hr. lab)

OPT2801L
Vision Care Clinic 2
4.00 credits
Development of skills in patient reception, clinical data collection, assisting clinician, and ophthalmic dispensing. This is an opportunity to follow the patient through the entire cycle of vision care under close supervision of the clinical staff. Prerequisite: OPT 2801L. Laboratory fee. (192 hr. Clinical)

OPT2802L
Vision Care Clinic 3
4.00 credits
Development of additional skills in visual fields, tonography, ocular photo documentation, vision therapy/orthoptics, low vision, aseptic techniques, eye emergencies, and assisting in triage and laboratory diagnosis of external eye disease. On and off-campus clinics will be utilized under the close supervision of optometrists and ophthalmologists. Prerequisite: OPT 2801L; corequisite: OPT 2060 Laboratory fee. (12 hr. clinic)

OPT2830C
Contact Lenses Clinic 1
2.00 credits
Observe and assist an optometrist in the initial fitting and follow-up care of rigid and soft contact lenses for patients referred from the Vision Care Clinic when conventional eyewear will not suffice. Familiarization with the instructions for lens handling, cleaning, care and storage of contact lenses. Prerequisites: OPT 2506, 2506L. Laboratory fee. (4 hr. clinic)

OPT2831L
Contact Lenses Clinic 2
1.00 credits
Use of the soft contact lens instruments to confirm all the parameters for replacement lens. Particular attention is devoted to the patient that is having problems with contact lenses after long-term wear due to corneal changes and sensitivity to solutions under direct supervision of an optometrist. Prerequisite: OPT 2830C. Laboratory fee. (3 hr. clinic)

OPT2875L
Ophthalmic Dispensing Practicum 1
2.00 credits
Externsip in an approved finishing laboratory of a retail ophthalmic dispensing establishment. The student will gain a working knowledge of ophthalmic frame and lens stock, inventory system, layout and blocking, chemical and heat treating, edging, tinting assembly and alignment of eyewear according to the written prescription. Prerequisites: OPT 2420, 2420L, 2451, 2451L; corequisite: OPT 2801L. (6 hr. lab)

OPT2876L
Ophthalmic Dispensing Practicum 2
2.00 credits
Externsip in an approved retail ophthalmic dispensing establishment in the area of frame styling, ordering of appropriately designed lenses, adjustment, repair and dispensing of eyewear. The student will gain a working knowledge of administrative management procedures of the practice. Prerequisite: OPT 2875L. (6 hr. lab)

Educator Preparation Institute

EPI0001
Classroom Management
3.00 credits
The student will learn how to plan, intervene, and evaluate behavior management strategies that create a positive P-12 learning environment that is requisite to increase student learning. The student will learn to apply the student code of conduct, as well as match disciplinary action to undesirable behaviors which impede the teaching and learning process. Ten hours of clinical experience are required. (3 hour lecture)

EPI0002
Instructional Strategies
3.00 credits
The student will learn to connect human developmental theories and current educational neuroscience research to the planning of instructional activities for students in P-12 settings. The student will learn to apply varied teaching strategies, develop questions that address all levels of the cognitive domain, create lesson plans to include objectives, anticipatory set, practice, and assessment, as well as to research professional literature to hone the craft of effective teaching. Pre-requisites: EPI0001, or an equivalent course. (3 hour lecture)

EPI0003
Technology
3.00 credits
The student will learn about the historical, legal, and developmental implications of utilizing instructional technology to teach P-12 students. Students acquire knowledge regarding Assistive Technology and will integrate Assistive Technology to meet the needs of students with special educational needs. Students will select the best technology applications for the classroom. The student will apply current research to teaching and learning with technology when planning learning activities. Pre-requisites: EPI0001, or an equivalent course. (3 hour lecture)
EPI0010
Foundations of Research-Based Practices in Reading
3.00 credits
The student will learn about the reading process and reading instruction from P-12. In addition, the student will examine educational neuroscience research related to the reading process, as well as research-based approaches and theories related to all components of the reading process: phonemic awareness, phonics, vocabulary, fluency, oral language, and comprehension. An assessment of the students teaching performance will be conducted. Content covers Competency 2 and 4 of the 2010 Reading Competencies. Fifteen hours in the clinical setting are required. Pre-requisites: EPI0001, and EPI0002, and EPI0004 (3 hr. lecture)

EPI0020
Professional Foundations
1.00 credits
The student will learn to evaluate his/her role as a productive member of the teaching profession. The student will learn to reflect on his/her development and mastery of the Pre-Professional Florida Educator Accomplished Practices during the completion of the Clinical Education experience in a P-12 classroom setting. Pre-requisites: EPI0002 (1 hour lecture)

EPI0030
Diversity
2.00 credits
The student will learn the complexities surrounding the cultural, linguistic, and exceptional needs of P-12 learners. The student will learn about legal mandates, ethical issues, implications for classroom implementation, and best practices for instructional strategies and maintenance of safe, inclusive, and diverse learning environments. The student will learn to make research-based decisions through designing and adapting the curriculum, as well as the learning environment to meet the needs diverse student population. Pre-requisites: EPI0002 (2 hr. lecture)

EPI0940
Field Experience II
2.00 credits
The student will observe effective teaching/learning techniques in P-12 settings with diverse learners to collect and analyze observational data, and also plan/implement teaching strategies that meet the individual needs of all learners. A formal observation/assessment of the students teaching performance will be conducted. Thirty hours in a clinical setting is required. Pre-requisites: EPI0001, and EPI0002, and EPI0003, and EPI0010, and EPI0030 (2 hr. lecture)

EPI0945
Field Experience I
1.00 credits
The student will observe effective teaching/learning techniques in P-12 settings with diverse learners to collect and analyze observational data, and also plan/implement teaching strategies that meet the individual needs of all learners. A formal observation/assessment of the students teaching performance will be conducted. Fifteen hours in a clinical setting are required for successful completion of this course. Pre-requisites: EPI0001, and EPI0002, and EPI0004, and EPI0010, and EPI0030 (1 hr. lecture)

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CAREER TECHNICAL COURSES

Miami Dade College Career Technical Certificate programs are designed for immediate job entry. The career technical courses are listed in alphabetical order according to prefix and number (or suffix).

Accounting

ACO0101
Accounting 1
2.50 credits
This course emphasizes double-entry bookkeeping; methods and principles of recording business transactions; the preparation of various documents used in recording income, expenses, acquisition of assets, incurrence of liabilities, and changes in equity and the preparation and basic interpretation of financial statements. Special fee. (75 contact hrs.)

ACO0102
Accounting 2
2.50 credits
This course is designed to continue the study of accounting principles. Topics include depreciation, inventory, accruals, deferrals, notes, payroll, and tax-related forms. Computer application will be provided. Special fee. (75 contact hrs.)

ACO0111
Accounting (Lab) Applications
1.00 credits
This course is intended to provide additional time on task for students who are attempting to fulfill the requirements of the Accounting Operations Certificate Program. The course is individualized according to each student’s need. Special fee. (30 contact hrs.)

ACO0202
Accounting (Lab) Applications 2
1.00 credits
This course is intended to provide additional time on task for students who are attempting to fulfill the requirements of the Accounting Operations Certificate Program. The course is individualized according to each student’s need. Special fee. (30 contact hrs.)
ACO0511  
**Microcomputers in Bookkeeping and Business**  
*2.50 credits*  
This course is concerned with the use of microcomputers for accounting applications. It includes the preparation, interpretation, and use of microcomputer information in financial decision making. Other business applications will be explored. Special fee. (75 contact hrs.)

ACO0751  
**Income Tax Accounting**  
*2.50 credits*  
This course provides the student with an overview of the federal income tax system, presents the accounting procedures and rules that need to be understood to minimize the tax amount due to the government, within the tax laws. Special fee. (75 contact hrs.)

ACO0752  
**Business Forms**  
*2.50 credits*  
An introduction to federal, state and local forms that must be filed by most businesses, including payroll returns and sales taxes. Special fee. (75 contact hrs.)

ACO0948  
**Co-op Work Experience: ACO**  
*1.00 - 3.00 credits*  
This is a course designed to continue training in a student's field of study through work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-Op Departmental approval and completion of ACO 0948 Co-Op Work Experience. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the Co-Operative Educational Office to obtain registration approval. Special fee. (30-90 contact hrs.)

**Apprenticeship - Electricity**

BCA0350  
**Electricity 1**  
*3.00 credits*  
This course provides students with a foundation in electrical theory, electrical safety, OSHA standards, and mathematical principles and formulas for the electrical industry. (90 contact hrs.)

BCA0351  
**Electricity 2**  
*3.00 credits*  
This course presents the National Electrical Code (NEC) and its application to electrical wiring. Students are also introduced to various types of test equipment, fittings, conductors, blueprints, and residential and commercial wiring. (90 contact hrs.)

BCA0352  
**Electricity 3**  
*3.00 credits*  
Circuits, current, and motor theory and application are presented. The student also learns about grounding, conduit systems, and conductor installations. (90 contact hrs.)

BCA0353  
**Electricity 4**  
*3.00 credits*  
This course presents techniques for cable tray assembly and installation, crimping and splicing cable, and installation of various types of electrical services. Students also learn about circuit breakers and fuses, contactors and relays, as well as lighting and lighting fixtures. (90 contact hrs.)

BCA0354  
**Electricity 5**  
*3.00 credits*  
This course focuses on calculating loads and conductors. It also presents information on requirements for overcurrent protection, outlet and junction boxes, and wiring devices. (90 contact hrs.)

BCA0355  
**Electricity 6**  
*3.00 credits*  
Students are provided with information on transformer operations and principles of light. Motor calculations, maintenance, and controls are also presented. (90 contact hrs.)

BCA0356  
**Electricity 7**  
*3.00 credits*  
This course provides skills in calculating loads and circuits for various types of electrical systems. It offers the first part in a two-part series on motor maintenance. It also presents information on basic electronic theory, standby and emergency systems, fire alarm systems, and specialty transformers. (90 contact hrs.)

BCA0357  
**Electricity 8**  
*3.00 credits*  
This is the second part of a two-part series on motor maintenance. It also presents the topics of advanced controls, and heating, ventilation, and air conditioning controls. (90 contact hrs.)

BCA0358  
**Electricity Co-op 1**  
*18.13 credits*  
This a Year One, Semester One, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the electricity Apprenticeship Program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

BCA0359  
**Electricity Co-op 2**  
*18.13 credits*  
This a Year One, Semester Two, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the electricity Apprenticeship Program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)
BGA0360
Electricity Co-op Summer 1
30.40 credits
This a Year One, Summer One, coordinat-ed work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Electricity Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (912 contact hrs.)

BGA0361
Electricity Co-op 3
18.13 credits
This a Year Two, Semester One, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Electricity Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

BGA0362
Electricity Co-op 4
18.13 credits
This a Year Two, Semester Two, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Electricity Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

BGA0363
Electricity Co-op Summer 2
30.40 credits
This a Year Two, Summer Two, coordinat-ed work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Electricity Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (912 contact hrs.)

BGA0364
Electricity Co-op 5
18.13 credits
This a Year Three, Semester One, coordi-nated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Electricity Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

BGA0365
Electricity Co-op 6
18.13 credits
This a Year Three, Semester Two, coordi-nated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Electricity Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

BGA0366
Electricity Co-op Summer 3
30.40 credits
This a Year Three, Summer Three, coordi-nated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Electricity Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (912 contact hrs.)

BGA0367
Electricity Co-op 7
18.13 credits
This a Year Four, Semester One, coordi-nated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Electricity Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

BGA0368
Electricity Co-op Summer 4
30.40 credits
This a Year Four, Summer Four, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Electricity Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

BGA0470
Fire Sprinkler 1
2.67 credits
This course provides an introduction to the Fire Sprinkler Fitter Trade and introduces workplace safety, materials, common tools, and other topics necessary for the first semester apprentice. (80 contact hrs.)
BCA0471  
Fire Sprinkler 2  
2.67 credits  
This course continues the topics introduced in Fire Sprinkler 1, and identifies and describes various types of tubing and pipe systems. (80 contact hrs.)

BCA0472  
Fire Sprinkler 3  
2.67 credits  
This course provides information on various types of sprinkler systems for the second year apprentice. (80 contact hrs.)

BCA0473  
Fire Sprinkler 4  
2.67 credits  
This course identifies and describes the purpose and operation of wet fire sprinkler systems and dry pipe fire sprinkler systems. (80 contact hrs.)

BCA0474  
Fire Sprinkler 5  
2.67 credits  
This course provides an understanding of the planning and design of the fire sprinkler systems and the mathematics used to perform sprinkler system design and installation for the third year apprentice. (80 contact hrs.)

BCA0475  
Fire Sprinkler 6  
2.67 credits  
This course continues the planning and design of the fire sprinkler systems, with emphasis on supply systems. (80 contact hrs.)

BCA0476  
Fire Sprinkler 7  
2.67 credits  
Information on special extinguishing systems and fire pumps is presented in this course for fourth year apprentices. (80 contact hrs.)

BCA0477  
Fire Sprinkler 8  
2.67 credits  
This course continues special extinguishing systems with basic hydraulic concepts, system design, and hydraulic calculations. An introduction to foremanship, documentation and tracking is included. (80 contact hrs.)

BCA0480  
Fire Sprinkler Co-op 1  
18.13 credits  
This is a Year One, Semester One, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Fire Sprinkler Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

BCA0481  
Fire Sprinkler Co-op 2  
18.13 credits  
This is a Year One, Semester Two, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Fire Sprinkler Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

BCA0482  
Fire Sprinkler Co-op Summer 1  
30.40 credits  
This a Year Two, Summer Two, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Electricity Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (912 contact hrs.)

BCA0483  
Fire Sprinkler Co-op 3  
18.13 credits  
This is a Year Two, Semester One, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Fire Sprinkler Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

BCA0484  
Fire Sprinkler Co-op 4  
18.13 credits  
This is a Year Two, Semester Two, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Fire Sprinkler Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

BCA0485  
Fire Sprinkler Co-op Summer 2  
30.40 credits  
This a Year Three, Semester One, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Fire Sprinkler Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (912 contact hrs.)

BCA0486  
Fire Sprinkler Co-op 5  
18.13 credits  
This is a Year Three, Semester One, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Fire Sprinkler Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)
BCA0487
Fire Sprinkler Co-op 6
18.13 credits
This is a Year Three, Semester Two, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Fire Sprinkler Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

BCA0489
Fire Sprinkler Co-op 7
18.13 credits
This is a Year Four, Semester One, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Fire Sprinkler Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

BCA0490
Fire Sprinkler Co-op 8
18.13 credits
This is a Year Four, Semester Two, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Fire Sprinkler Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

BCA0492
Fire Sprinkler Co-op Summer 3
30.40 credits
This a Year Three, Summer Three, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Fire Sprinkler Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (912 contact hrs.)

BCA0493
Fire Sprinkler Co-op Summer 4
30.40 credits
This a Year Four, Summer Four, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Fire Sprinkler Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (912 contact hrs.)

Apprenticeship - HVAC

ACR0911
HVAC Co-op Summer 1
30.40 credits
This a Year One, Summer One, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Heating, Ventilation, and Air Conditioning Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (912 contact hrs.)

ACR0912
HVAC Co-op Summer 2
30.40 credits
This a Year Two, Summer Two, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Heating, Ventilation, and Air Conditioning Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (912 contact hrs.)

ACR0913
HVAC Co-op Summer 3
30.40 credits
This a Year Three, Summer Three, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Heating, Ventilation, and Air Conditioning Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (912 contact hrs.)

ACR0914
HVAC Co-op Summer 4
30.40 credits
This a Year Four, Summer Four, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Heating, Ventilation, and Air Conditioning Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (912 contact hrs.)

ACR0930
HVAC Co-op 1
18.13 credits
This is a Year One, Semester One, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Heating, Ventilation, and Air Conditioning Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

ACR0931
HVAC Co-op 2
18.13 credits
This is a Year One, Semester Two, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Heating, Ventilation, and Air Conditioning Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)
ACR0936  
HVAC Co-op 7  
18.13 credits  
This is a Year Two, Semester One, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Heating, Ventilation, and Air Conditioning Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

ACR0932  
HVAC Co-op 3  
18.13 credits  
This is a Year Two, Semester One, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Heating, Ventilation, and Air Conditioning Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

ACR0933  
HVAC Co-op 4  
18.13 credits  
This is a Year Two, Semester Two, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Heating, Ventilation, and Air Conditioning Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

ACR0934  
HVAC Co-op 5  
18.13 credits  
This is a Year Three, Semester One, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Heating, Ventilation, and Air Conditioning Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

ACR0935  
HVAC Co-op 6  
18.13 credits  
This is a Year Three, Semester Two, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Heating, Ventilation, and Air Conditioning Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

ACR0940  
HVAC 1  
2.67 credits  
This course provides instruction for second year apprentices in gas laws and the properties of air, as well as the use and installation of various types of duct systems. The principles of combustion, mechanical maintenance, and basic electronics are also presented. (80 contact hrs.)

ACR0942  
HVAC 3  
2.67 credits  
This course provides instruction for second year apprentices in gas laws and the properties of air, as well as the use and installation of various types of duct systems. The principles of combustion, mechanical maintenance, and basic electronics are also presented. (80 contact hrs.)

ACR0943  
HVAC 4  
2.67 credits  
The focus of this course is in understanding the function and operation of control systems, metering devices, compressors, and heat pumps. Students will be able to complete the installation and servicing of this equipment. (80 contact hrs.)

ACR0944  
HVAC 5  
2.67 credits  
The course provides skills in maintenance and troubleshooting of various types of HVAC systems and equipment for the third year apprentice. (80 contact hrs.)

ACR0945  
HVAC 6  
2.67 credits  
The course provides skills in maintenance and troubleshooting of various types of HVAC systems and equipment for the third year apprentice. (80 contact hrs.)

ACR0946  
HVAC 7  
2.67 credits  
The course provides advanced blueprint reading, and presents the fourth year apprentice with information on energy conservation and management equipment and systems. (80 contact hrs.)

ACR0947  
HVAC 8  
2.67 credits  
Students learn about water quality and treatment, and how to design heating and cooling systems. This course also covers...
commercial and industrial refrigeration. (80 contact hrs.)

**Apprenticeship - Plumbing**

**BCA0444**  
*Plumbing Summer Co-op 1*  
**16.70 credits**

This is a Year One, Summer One coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Plumbing Apprenticeship Program. Field activities. This summer cooperative experience is the continuation and completion of Plumbing Co-op 1 and 2. (500 contact hrs.)

**BCA0445**  
*Plumbing Summer Co-op 2*  
**16.70 credits**

This is a Year Two, Summer Two coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Plumbing Apprenticeship Program. Field activities. This summer cooperative experience is the continuation and completion of Plumbing Co-op 3 and 4. (500 contact hrs.)

**BCA0446**  
*Plumbing Summer Co-op 3*  
**16.70 credits**

This is a Year Three, Summer Three coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Plumbing Apprenticeship Program. Field activities. This summer cooperative experience is the continuation and completion of Plumbing Co-op 5 and 6. (500 contact hrs.)

**BCA0447**  
*Plumbing Summer Co-op 4*  
**16.70 credits**

This is a Year Four, Summer Four coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Plumbing Apprenticeship Program. Field activities. This summer cooperative experience is the continuation and completion of Plumbing Co-op 5 and 6. (500 contact hrs.)

**BCA0450**  
*Plumbing 1*  
**2.70 credits**

This course covers the essentials of code law and careers related to plumbing, tools, pipes and fittings used in plumbing installation, safety and hazardous materials training, and review of basic mathematics and sciences applied to the plumber’s craft. (80 contact hours.)

**BCA0451**  
*Plumbing 2*  
**2.70 credits**

This course provides an overview of installation practices of plumbing fixtures, faucets and valves, first aid, occupational safety and health, and blueprint reading and sketching. (80 contact hrs.)

**BCA0452**  
*Plumbing 3*  
**2.70 credits**

Instruction includes plumbing installation techniques, including water pipes, distribution systems, water heaters, sewage and drainage fixtures and continued development of applied mathematics skills. (80 contact hrs.)

**BCA0453**  
*Plumbing 4*  
**2.80 credits**

This course teaches welding techniques and safety, including soldering, brazing and cutting, metal-arc and oxy-acetylene welding and pipe tacking. Other topics include plumbing installation techniques involving sewage pumps and ejectors, venting, and hangers; scientific concepts of water and water pressure related to plumbing; rigging and hoisting techniques and safety are reviewed. (83 contact hrs.)

**BCA0454**  
*Plumbing 5*  
**2.50 credits**

This course introduces residential and commercial installation of plumbing fixtures and appliances, develops more mathematical concepts used by plumbers, and covers gas codes for installation, inspection and testing. (76 contact hrs.)

**BCA0455**  
*Plumbing 6*  
**2.50 credits**

This course covers more topics in applied mathematics used by plumbers including calculations of tank capacities, volume and weight of water, sizing storm drains and piping expansion. Advanced applied scientific topics include heat transfer, basic electricity, electric current, electrical safety and electrical troubleshooting and advanced structural blueprint reading, including floor plans, site plans, plumbing, electrical, HVAC, and detail plans. (76 contact hrs.)

**BCA0456**  
*Plumbing 7*  
**2.50 credits**

This course introduces repairs and servicing of residential, commercial, institutional and industrial fixtures and piping systems. Mathematical concepts are advanced using formulas and tables to calculate pipe and system sizing. Heating systems are covered, including hot water boilers, steam boilers, hydronic, warm air, solar and humidification systems. (76 contact hrs.)

**BCA0457**  
*Plumbing 8*  
**2.60 credits**

This course continues the science applications related to pumps and pump repair and maintenance. Advanced blueprint reading, sketching and materials take-off and estimates are covered. Plumbing codes are emphasized including regulations regarding sanitary drainage systems, medical facility plumbing, private sewage disposal, portable water supply pumps for mobile homes and trailer parks. (77 contact hrs.)
BCA0460  
**Plumbing Co-op 1**  
25.00 credits  
This is a Year One, Semester One, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom studies and field experience for the Plumbing Apprenticeship Program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (750 contact hrs.)

BCA0461  
**Plumbing Co-op 2**  
25.00 credits  
This is a Year One, Semester Two, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom studies and field experience for the Plumbing Apprenticeship Program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (750 contact hrs.)

BCA0462  
**Plumbing Co-op 3**  
25.00 credits  
This is a Year Two, Semester One, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom studies and field experience for the Plumbing Apprenticeship Program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (750 contact hrs.)

BCA0463  
**Plumbing Co-op 4**  
25.00 credits  
This is a Year Two, Semester Two, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom studies and field experience for the Plumbing Apprenticeship Program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (750 contact hrs.)

BCA0464  
**Plumbing Co-op 5**  
25.00 credits  
This is a Year Three, Semester One, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom studies and field experience for the Plumbing Apprenticeship Program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (750 contact hrs.)

BCA0465  
**Plumbing Co-op 6**  
25.00 credits  
This is a Year Three, Semester Two, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom studies and field experience for the Plumbing Apprenticeship Program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (750 contact hrs.)

BCA0466  
**Plumbing Co-op 7**  
25.00 credits  
This is a Year Four, Semester One, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom studies and field experience for the Plumbing Apprenticeship Program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (750 contact hrs.)

BCA0467  
**Plumbing Co-op 8**  
25.00 credits  
This is a Year Four, Semester Two, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom studies and field experience for the Plumbing Apprenticeship Program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (750 contact hrs.)

Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (750 contact hrs.)

**Apprenticeship - Sheet Metal**

PTA0300  
**Sheet Metal Co-op 1**  
18.13 credits  
This is a Year One, Semester One, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Sheet Metal Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

PTA0301  
**Sheet Metal Co-op 2**  
18.13 credits  
This is a Year One, Semester Two, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Sheet Metal Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

PTA0302  
**Sheet Metal Co-op 3**  
18.13 credits  
This is a Year Two, Semester One, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Sheet Metal Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)
PTA0303
Sheet Metal Co-op 4
18.13 credits
This a Year Two, Semester Two, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Sheet Metal Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

PTA0304
Sheet Metal Co-op 5
18.13 credits
This a Year Three, Semester One, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Sheet Metal Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

PTA0305
Sheet Metal Co-op 6
18.13 credits
This a Year Three, Semester Two, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Sheet Metal Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

PTA0306
Sheet Metal Co-op 7
18.13 credits
This a Year Four, Semester One, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Sheet Metal Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

PTA0307
Sheet Metal Co-op 8
18.13 credits
This a Year Four, Semester Two, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Sheet Metal Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (544 contact hrs.)

PTA0390
Sheet Metal 1
2.70 credits
This course provides first year apprentices with an introduction to the sheet metal trade, as well as mathematics of the trade, tools of the trade, and steel and other metals, including fasteners, hangers, and supports. (81 contact hrs.)

PTA0391
Sheet Metal 2
2.70 credits
This course provides instruction in principles of layout, sheet metal processes, and parallel line development. (81 contact hrs.)

PTA0392
Sheet Metal 3
2.70 credits
This course provides second year apprentices with a continuation of mathematics for the trade, and an introduction to piping practices, radial line development, bend allowances, and soldering. Students will also learn to interpret and use blueprints and specifications. (81 contact hrs.)

PTA0393
Sheet Metal 4
2.70 credits
Students will learn about standards and codes for the industry, including sheet metal duct fabrication standards. Information on insulation, gutters and downspouts, and roof flashing is also presented. (81 contact hrs.)

PTA0394
Sheet Metal 5
2.70 credits
Third year apprentices will learn about principles of airflow and of refrigeration, as well as about the equipment used in heating, ventilation, and air conditioning. (81 contact hrs.)

PTA0395
Sheet Metal 6
2.70 credits
This course provides knowledge of the fabrication and layout of fiberglass duct, the principles of triangulation, and skills associated with field measurement. Students will also acquire knowledge and skills in welding, brazing, and cutting, including safety requirements and practices. (81 contact hrs.)

PTA0396
Sheet Metal 7
2.70 credits
Fourth year apprentices learn about shop production and organization, including efficient operations and utilization of manpower. They also learn about the principles of air balance and air distribution systems. (81 contact hrs.)

PTA0397
Sheet Metal 8
2.70 credits
This course provides students with knowledge of louvers, dampers, access doors, hoods, and ventilators. Students will also learn about fume and exhaust systems design. (81 contact hrs.)

PTA0941
Sheet Metal Co-op Summer 1
30.40 credits
This a Year One, Summer One, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Sheet Metal Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (912 contact hrs.)
PTA0942
Sheet Metal Co-op Summer 2
30.40 credits
This a Year One, Summer Two, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Sheet Metal Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (912 contact hrs.)

PTA0943
Sheet Metal Co-op Summer 3
30.40 credits
This a Year Three, Summer Three, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Sheet Metal Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (912 contact hrs.)

PTA0944
Sheet Metal Co-op Summer 4
30.40 credits
This a Year Four, Summer Four, coordinated work-study program that reinforces the educational and professional growth of students through parallel involvement in classroom instruction and field experience for the Sheet Metal Apprenticeship program. Field activities are coordinated with classroom activities to provide students the opportunity to apply their knowledge and gain hands-on skills. (912 contact hrs.)

Automotive Mechanics

AER 0605
Tesla Electronic System Technician
13.25 Credits
This course prepares the student to apply technical knowledge and skills to repair, service, and maintain Tesla vehicles. At the end of the course, the student will be able to diagnose malfunctions in and repair electrical, charging, penthouse, driver assist and infotainment systems and components. Co-Req: AER 0606. (400 Contact Hours)

AER 0606
Tesla Maintenance Technician
13.25 Credits
This course prepares the student to apply technical knowledge and skills to repair, service, and maintain Tesla vehicles. The student will learn Tesla’s products and diagnostic tools, as well as safety equipment and procedures. At the end of the course, the student will be able to diagnose malfunctions in and repair HVAC, brake, and chassis systems and components. Co-Req: AER 0605. (400 Contact Hours)

Aviation Maintenance Technology

AMT 0044
Tools, Materials, and Processes 1
1.33 credits
This course provides an introduction to the tools, hardware and material used in aircraft maintenance, repair, and safety. The student will be able to understand the information found in aircraft drawings, blueprints, charts and graphs including principles of basic electricity as it relates to aviation electrical systems; work with wiring & fiber optics; advanced blueprint reading with respect to performing actual tasks; and key elements of quality control. (40 Clock Hours)

AMT 0045
Tools, Materials, and Processes 2
1.33 credits
In this course, the student will learn the principles of corrosion and how to control it are studied and applied. This course provides experience in detecting, identifying, removal, and treatment of the various types of corrosion found on ferrous and non-ferrous metals. In addition, the student will learn about various forms of truss-types and how beams, struts, and bars resist deformation by applied loads. (40 clock hours)

AMT 0046
Aircraft Materials, Hardware & Processes
2.26 credits
In this course, the student will learn about chemical processes, hazards of aviation solvents, lubricants, effects of corrosion on metals and aluminum, and measuring and sheet metal layout. Prerequisites: AMT 0044 and AMT 0045. (68 Clock Hours)

AMT 0047
Applying the Design Process
1.76 credits
In this course, the student will learn to create aircraft drawings, blueprints, charts and graphs; test equipment, including non-destructive inspection and testing; and determine best practices with respect to sealants and epoxies. Prerequisites: AMT 0044 and AMT 0045. (53 Clock Hours)

AMT 0219
Aircraft Hydraulics & Aviation Mathematics
0.63 credits
In this course, the student will learn about aircraft hydraulic and pneumatic systems and advanced aviation mathematics. Prerequisites: AMT 0044 and AMT 0045. (19 Clock Hours)

AMT 0269
Aircraft Electrical Systems & Quality Control
2.13 credits
In this course, the student will learn the principles of basic electricity as it relates to aviation electrical systems; work with data, including computer-generated flow diagrams and spreadsheets; working with wiring & fiber optics; advanced blueprint reading with respect to performing actual tasks; and key elements of quality control. Prerequisites: AMT 0044 and AMT 0045. (64 Clock Hours)

AMT 0509
Composites and Capstone Project
0.40 credits
In this course, the student will learn about composite materials. In addition, the student will demonstrate their competence to analyze, design, develop, and test Aircraft
Structural Assembly and Fabrication techniques. Prerequisites: AMT 0044, 0045, 0046, 0047, 0219, 0269. (12 Clock Hours)

**AMT 0949**
**On the Job Training (OJT)**
**133.33 credits**
In this training course, the student will learn to perform the required tasks at the workplace. This course adds a diversified experience and abilities while enriching the self-acquired proficiency of the student. Training is designed to minimize the margin of errors at the workplace. (4,000 clock hours)

**Banking**

**BAN0930**
**Banking for Tellers**
**1.50 credits**
This course provides the necessary background information and hands-on training for an individual who wishes to obtain employment in today’s banking industry. It includes orientation to different types of financial institutions and the regulations that affect them. Special fee. (45 contact hrs)

**BRC0109**
**Teller Training**
**3.50 credits**
This course emphasizes the hands-on skills that a bank teller needs to master to perform effectively. Topics include cash handling and balancing at the end of the work shift, processing transactions and deposits, and compliance with banking laws and regulations. Customer service techniques and attitudes are also included. Special fee. (105 contact hrs)

**Business**

**MKA0250**
**Economic Principles of Import/Export**
**1.00 credits**
This course will help the student understand the economic forces which affect import and export activity. The course will demonstrate the effect of the economic decisions of both U.S. and foreign governments on international commerce. Emphasis will be placed on real-world solutions. Special fee. (30 contact hrs.)

**MKA0251**
**Import/Export Financing**
**2.00 credits**
This course will show the student how public and private financing programs operate. A variety of financing vehicles, including letters of credit, will be discussed in a hands-on environment. Special fee. (60 contact hrs.)

**MKA0300**
**Customer Service/Business**
**2.50 credits**
This course follows a curriculum originally developed in cooperation with American Express. Topics include understanding of the customer, effective techniques in dealing with difficult customers, and supervision of customer service. Special fee. (75 contact hrs.)

**SBM0002**
**Small Business Management; Introduction**
**2.50 credits**
This course focuses on the problems that must be faced and overcome for the small business entrepreneur to be successful. Among topics covered are financial banking, employee relations, marketing plan, and legal considerations. Special fee. (75 contact hrs.)

**Computer Science & Related Technologies**

**CGS0281**
**Wireless Networking I**
**2.50 credits**
This course provides the student with a complete foundation of knowledge for entering into or advancing in the wireless networking industry. Topics include: an introduction to wireless LANs; RF antennas and accessories; wireless LAN standards; and wireless LAN organizations to link budget math, troubleshooting, performing a site survey. This course delivers hands-on training that benefits the novice as well as the experienced network professional. Prerequisites: CGV 0010 & CGS 0890. Laboratory fee. (75 contact hrs.)

**CGS0282**
**Wireless Networking II**
**2.50 credits**
This course provides the student with a complete foundation of knowledge for entering into or advancing in the wireless networking industry. Topics include: 802.11 architecture, MAC and physical layer discussions, troubleshooting wireless LAN installations, wireless LAN security and site survey fundamentals. This course is a second level course that delivers hands-on training that benefits the novice as well as the experienced network professional. Prerequisites: CGS 0286. Laboratory fee. (75 contact hrs.)

**CGS0306**
**Information Systems Development**
**2.50 credits**
Students will learn the design of management information systems (MIS) by using concepts of charting, investigating, documenting, and reporting. This is developed by using computerized case study software. Special fee. (75 contact hrs.)
DOS concept, features, commands and their applications are presented. Commercial utility programs, hard disk utilization, Edlin and DOS batch programming will be covered in detail. Special fee. (75 contact hrs.)

**CTS0035**
**Introduction to the "C" Program**
2.50 credits
An introductory course covering the syntax and rules of the "C" language. Students will learn the topics of program design, variables, output, flow control, and functions. Students are required to code and execute business applications. Special fee. (75 contact hrs.)

**CTS0036**
**Advanced "C" Programming**
2.50 credits
An advanced study in the techniques of programming using the "C" language. Structured modular programming and data structure are emphasized throughout the course. Students are required to code and execute business applications. Prerequisite: CTS 0035. Special fee. (75 contact hrs.)

**CTS0050**
**Introduction to Microcomputers**
2.50 credits
This course introduces the student to modern microcomputer hardware and software. The topics covered include operation of microcomputer hardware and peripherals, operating system commands, word processing software and database management software. The 75 contact hours encompass both lecture and laboratory components. Special fee. (75 contact hrs.)

**CTS0053**
**Word Processing**
1.50 credits
This is an introductory course using commercial microcomputer word processing software. The concepts, features, and commands of a word processing system are supplied to a variety of practical business applications. Classes are conducted in a hands-on lecture/laboratory environment. Each student is assigned a microcomputer to use during class. No previous computer training or experience is required. Special fee. (45 contact hrs.)

**CTS0055**
**Electronic Spreadsheets with Applications**
2.50 credits
A comprehensive course in the use of a spreadsheet for microcomputers. The concepts, features, and commands of a spreadsheet are applied to a variety of applications. Programming concepts will be introduced. Classes are conducted in hands-on lecture/laboratory environment. The content of this course will continually change to keep pace with current technolgy. Prerequisite: CGV 0010 or equivalent. Special fee. (75 contact hrs.)

**CTS0065**
**Database and Applications & Programming**
2.50 credits
This course is designed as an entry level programming language course for those who have a basic knowledge of microcomputer software. The student will create a database and then write user friendly programs to add, delete, and modify and create various reports. The 75 contact hours are comprised of both lecture and laboratory sessions and equivalent knowledge. Prerequisites: CGV 0010 or equivalent. Special fee. (75 contact hrs.)

**CTS0080**
**Supporting Windows Server**
2.50 credits
This course includes a study of selection criteria for network hardware, management strategies, network performance optimization, advanced printing concepts, remote console management, multiple protocol support, and prevention and maintenance techniques. Special fee. (75 contact hrs.)

**CTS0081**
**Supporting Windows Professional**
2.50 credits
A study of the terminology, components, design, installation and management of local area networks and a consideration of other data communication equipment. Featured topics: elements of LAN system, LAN standards, design considerations, installation, LAN administration, and user operation. Special fee. (75 contact hrs.)

**CTS0091**
**Implementing a Network Infrastructure**
2.50 credits
The student will be provided the opportunity to develop the skills necessary to install, configure, manage, and support a network infrastructure. Additionally, the student will configure the DHCP Server service, configure the DNS Server service, configure WINS, configure network security protocols, configure network security by using Public Key Infrastructure (PKI), configure network security by using Internet Protocol Security (IPSec), configure remote access to a network, support remote access to a network. Prerequisite: CTS 0080. Special fee. (75 contact hrs.)

**CTS0092**
**Designing a Network Infrastructure**
2.50 credits
This course provides the knowledge and skills necessary to develop a Windows networking services solution for enterprise networks. The course focuses on developing strategies for TCP/IP, DHCP, DNS, WINS, RAS, Remote Authentication Dial-in User Service (RADIUS), connection manager, routing, multicasting, demand-dial routing, VPN, IP Sec, connection sharing, and proxy server. This course also introduces the process of translating business goals into strategies for implementing and managing the Windows networking services. Prerequisite: CTS 0093. Special fee. (75 contact hrs.)

**CTS0093**
**Implementing Directory Services**
2.50 credits
The student will be provided the opportunity to gain the knowledge and skills necessary to install, configure, and administer Windows directory services. The course also focuses on implementing group policy and performing the group policy-related tasks required to centrally manage users and computers. Prerequisite: CTS 0080. Special fee. (75 contact hrs.)
CTS0095
Information Security
2.50 credits

This course provides the student with a complete foundation of knowledge for entering into or advancing in the information technology security field. Topics include: an introduction to general security concepts; communication security; infrastructure security; basic cryptography; operational and organizational security. Including topics from troubleshooting to performing a site survey, this course delivers hands-on training that benefits the novice as well as the experienced network professional. Prerequisite: CTS 0091. Laboratory fee. (75 contact hrs.)

CTS0098
Infrastructure Security
2.50 credits

This course will explore concepts of network defense and countermeasures as well as hardware and software required to design, configure, and implement secure networks. Security topics covered include in-depth TCP/IP packet and signature analysis, securing routers, securing network resources through Access Control List (ACL), and implementation of IPSEC using Linux and Windows Operating Systems (OS). The student will obtain hands-on instruction installing and using various security tools. Techniques for collecting, monitoring and auditing various activities will be afforded to the student. Students will analyze threats and intrusions for various business scenarios, and then determine which security policy provides the most protection at given acceptable levels of risk in order to conduct normal business activities. The course will provide a detailed presentation on the Internet and WWW structure, and the security issues associated with begin online. A combination of lectures, demo

EEV0554
Networking Essentials
2.50 credits

This course is designed to provide students who are preparing to become network support technician's fundamental preparation in network concepts. Students will learn the skills necessary to identify the type, components, and design of a Local Area Network most appropriate for a given site. Prerequisite: CTS0050. Special Fee. (75 contact hrs.)

Criminal Justice & Related Technologies

CJK0001
Introduction to Law Enforcement
0.33 Credits

This is an introduction to law enforcement in Florida and the values and ethics required for criminal justice officers. The student will learn to understand the consequences of sexual harassment, describe the Criminal Justice System and the structure of criminal justice agencies in Florida. For School of Justice students only. (10 contact hrs.)

CJK0012
Legal
2.06 Credits

This is an introduction to legal rules and concepts, amendments and law. The student will learn the basics of law, civil and criminal liability and legal considerations when dealing with juveniles. For School of Justice students only. (62 contact hrs.)

CJK0013
Interactions in a Diverse Community
1.33 Credits

The student will learn the common communication traits of individuals based upon their cultures, experiences, physical and psychological conditions, and how specific situations can challenge an officer's effort to perform his or her duties. The student will learn different communication styles and to adapt to meet the needs of the people they are interacting with, eliminating potential miscommunications that may jeopardize an officer's effectiveness or safety. For School of Justice students only. (40 contact hrs.)

CJK0014
Interviewing and Report Writing
1.86 Credits

The student will learn note taking, interviewing, and report writing principles and mechanics. The student will also learn to take statements from victims, witnesses, and suspects; write clear concise and accurate incident and arrest reports. For School of Justice students only. (56 contact hrs.)

CJK0020
CMS Law Enforcement Vehicle Operations
1.60 credits

Students will learn the physiological and psychological factors affecting vehicle operations. This course stresses the importance of vehicle maintenance, environmental conditions affecting driving, and elements of basic driving skills including skids and other causes of accidents. Students will demonstrate hands-on basic driving skills. For School of Justice students only. (48 contact hrs.)

CJK0031
CMS First Aid For Criminal Justice Officers
1.33 credits

Students will learn to initiate treatment for a variety of medical emergencies, understand and perform CPR, and know when to activate EMS and perform basic life support until help arrives. CPR and First Responder certification cards are issued upon successful completion. This course prepares criminal justice recruits for a variety of medical emergencies with minimal medical supplies. Basic training for School of Justice students only. (40 contact hrs.)

CJK0040
CMS Criminal Justice Firearms
2.66 credits

Students will learn how to use both handguns and shotguns. Students must qualify with both weapons under both daylight and night conditions. Students must also demonstrate ability for both accuracy and decision making. Students are also introduced to chemical weapons and their effects. (80 contact hrs.)

CJK0051
CMS Criminal Justice Defensive Tactics
2.66 credits

Students will learn how to physically defend themselves, physically control per-
sions under arrest, and know what level of force is appropriate under differing circumstances. Additionally, a physical conditioning program is part of this course. For School of Justice students only. (80 contact hrs.)

**CJK0064**
**Fundamentals of Patrol**
1.16 Credits
The student will focus on the use of communications equipment, Community-Oriented Policing, officer safety and survival skills, and basic instruction on responding to calls and making an arrest, as well as helpful resources. Law enforcement officers will spend the majority of their time patrolling an assigned area, and this chapter provides an overview of the law enforcement techniques and tactics that officers use while on patrol. For School of Justice. (35 contact hrs.)

**CJK0065**
**Calls for Service**
1.20 Credits
The student will learn to respond to a variety of calls for service, which will vary between noncriminal and criminal incidents. This chapter provides an overview of the more common calls for service that an officer may encounter. For School of Justice students only. (36 contact hrs.)

**CJK0077**
**Criminal Investigations**
1.66 Credits
The student will learn how to respond to an initial call for service, always preserve life first and then work to preserve the scene for investigation. This chapter will identify the key elements of crimes most frequently encountered during a shift to help you avoid some common mistakes made in the field. For School of Justice students only. (80 contact hrs.)

**CJK0078**
**Crime Scene to Courtroom**
1.16 Credits
The student will learn to take a sequence of steps to protect all parties: gather information, identify, separate, and interview subjects; and complete the initial investigation successfully. For School of Justice students only. (35 contact hrs.)

**CJK0087**
**Traffic Stops**
1.00 Credits
The student will learn that the primary responsibility in making traffic stops is to encourage voluntary compliance with traffic laws and improve driver judgment and future behavior. This course and results should be driver education and safer roads. For School of Justice students only. (30 contact hrs.)

**CJK0084**
**DUI Traffic Stops**
0.80 Credits
The student will be trained to detect impaired driving, administer field sobriety tests, make arrests when appropriate, and record the evidence of a DUI offense. For School of Justice students only. (24 contact hrs.)

**CJK0088**
**Traffic Crash Investigations**
1.06 Credits
The student will learn to conduct traffic crash investigations by following a step-by-step approach that encompasses the initial response to the scene, scene assessment and protection, the identification and analysis of information gathered from witnesses, the thorough investigation of the crash, the evaluation of physical evidence collected, returning the crash scene to normal, taking appropriate enforcement action, and documenting the crash. For School of Justice. (32 contact hrs.)

**CJK 0092**
**Critical Incidents**
1.46 Credits
The student will learn to be prepared to address many situations in the course of patrolling their assigned areas. This course provides an overview of law enforcement techniques and tactics employed in confronting large scale or critical incidents such as active shooters, natural disasters, hazardous materials exposure, explosive devices, and weapons of mass destruction.

For School of Justice students only. (44 contact hrs.)

**CJK0096**
**Criminal Justice Officer Physical Fitness Training**
2.00 credits
The student will learn the benefits of maintaining physical fitness to include nutrition ad diet. The student will also learn the effects of and how to deal with stress, how to build up muscular and cardiovascular endurance and perform the exercises as required. For School of Justice students only. (60 contact hrs.).

**CJK0300**
**Introduction to Corrections**
1.06 credits
The student will learn the responsibilities of a correctional officer to provide safety for him/herself, public, staff, and inmates. The student will learn an overview on safety and security concerns, identification, manipulation and deception, contraband, and searches in a correctional setting. This course is for School of Justice students only. (32 Contact Hours)

**CJK0305**
**CJSTC Communications**
1.33 credits
Students will learn practical communication skills that will assist new correctional officer in managing and supervising inmates, giving directions, answering questions, and interacting with others in a professional and safe manner. For School of Justice students only. (40 contact hours)

**CJK0310**
**Officer Safety**
0.53 credits
The student will learn the responsibilities of a correctional officer to provide safety for him/herself, public, staff, and inmates. The student will earn an overview on safety and security concerns, identification, manipulation and deception, contraband, and searches in a correctional setting. This course is for School of Justice students only. (16 contact hours)
CJK0315 Facility and Equipment
0.26 credits
Correctional officers are responsible for equipment and materials used to keep correctional facilities clean, safe, and secure. The student will learn basic knowledge of standard equipment used to support the safe and efficient operation of equipment, and to provide a safe environment for inmates, staff, and visitors. This course is for School of Justice students only. (8 contact hours)

CJK0320 Intake and Release
0.60 credits
Students will gain the knowledge of facility policies and procedures, state laws, and legal guidelines. The student will learn intake, classification, and release processes that include verification of identity, required documentation, person and property searches, property inventory, fingerprinting, photographing, assessing custody levels, assigning housing, and releasing of inmates. For School of Justice students only. (18 contact hours)

CJK0325 Supervising in a Correctional Facility
1.33 credits
The student will develop supervisory and observational skills. The student will learn to ensure the safe operation of a correctional facility while fulfilling his or her responsibilities. For School of Justice students only. (40 contact hours)

CJK0330 Supervising Special Populations
0.66 credits
Students, as correctional officers, will learn to interact with a variety of individuals who have been grouped together such as gang members, substance abusers, mentally ill, elderly and disabled inmates. Students will learn to be aware of special populations and respond appropriately when interacting with and supervising them. For School of Justice students only. (20 contact hours)

CJK0335 Responding to Incidents and Emergencies
0.53 credits
Correctional officers are expected to apply knowledge, training, and reasonable judgment to ensure the safety and security of all persons at the facility during an emergency. The student will learn to be effective in the use of equipment, crime scene control, chain of custody procedures, and documentation in any incident/emergency. For School of Justice students only. (16 contact hours)

CJK0340 Officer Wellness and Physical Abilities
1.00 credits
Students will learn the benefits of maintaining physical fitness to include nutrition and diet. Students will learn of the effects of stress and how to deal with it; how to build up muscular and cardiovascular endurance and perform the exercises as required. For School of Justice students only. Special fee. (30 contact hours)

CJK0422 Dart-Firing Stun Gun
0.26 credits
Students will learn how a dart-firing stun gun works, what effects a dart-firing stun gun has on the human body, and the necessary medical considerations for individuals exposed to a dart-firing stun gun. This course satisfies the statutory requirements of F.S. 943.1717(2) for an officer to use a dart-firing stun gun in Florida. Special fee. (8 contact hrs.)

SCY0051 Private Investigator Intern Course A
0.80 credits
This course requires twenty four hours of training as required by Section 493.6203(b) F.S. for Private Investigator Interns. Students will learn topics which include Florida Statutes and Florida Administrative Code, the Intern/Sponsor Relationship, Ethics, Liability, Surveillance, Report Writing, Equipment, Interviewing, Sources of Information, the Computer and Investigations, and Restrictions on Records. (24 contact hrs.)

SCY0052 Private Investigator Intern Course B
0.53 credits
This course requires sixteen hours of training as required by Section 493.6203(b) F.S. for Private Investigator Interns. Students will learn topics which include locating people and performing background investigations, evidence, executive protection, anti-terrorism, courtroom and formal hearing demeanor, pretrial responsibilities, and the investigator as a witness. Prerequisite: SCY 0051 (16 contact hrs.)

Emergency Medical Services

EMS0110 Emergency Medical Technician
10 credits
The Emergency Medical Technician (EMT) course prepares students to provide pre-hospital assessment and care for patients of all ages with a variety of medical conditions and traumatic injuries. Areas of study include an introduction to emergency medical services systems, roles and responsibilities of EMTS, anatomy and physiology, medical emergencies, trauma, special considerations for working in the pre-hospital setting, and providing patient transportation.

Engineering Technology-General

EEV0561 Microcomputer Maintenance & Repair 1
2.50 credits
This course is designed to provide a technicin with the theoretical and practical requirements for maintenance and repair of microcomputer equipment. Topics include data communication codes and standards, transmission impairment, modems with lab applications. Special fee. (75 contact hrs.)
Microcomputer Maintenance & Repair 2  
2.50 credits  
This course teaches troubleshooting skills to repair microcomputers and printers, with emphasis on a hard disk maintenance and repair. Special fee. (75 contact hours)

D.C. Analysis  
3.20 credits  
This course will introduce the field of electronics, clarify the basic laws of electricity, and provide hands-on training with various types of D.C. circuits and power supplies. Special fee. (95 contact hrs.)

Solid State Components and Circuits  
4.20 credits  
This course will introduce the solid state devices that are found in electronic equipment and provide hands-on training with circuits that contain these devices. Special fee. (126 contact hrs.)

Electronic Fundamentals  
2.50 credits  
The course will introduce paper lab and safety procedures, provide hands-on soldering training, and introduce proper recording and reporting procedures. Special fee. (75 contact hours)

Broadcast News  
1.50 credits  
This course will familiarize students with the procedures followed in producing and writing broadcast news. The student will become familiar with news writing formats and stylebook applications. The students will write several news stories and a newscast. Special fee. (45 contact hrs.)

Television Graphics Procedures  
3.00 credits  
This course requires the students to participate in the practical use of and production of visual graphics material for television, covering the standards and procedures established in the field, and the most common techniques and materials. Special fee. (90 contact hrs.)

TV Production Procedures 2  
5.00 credits  
Students will refine skills as a member of a TV Studio Production Crew. Students will perform crew operations during various studio productions. Special fee. (150 contact hrs.)

Field Production Procedures 1  
5.00 credits  
Students will participate in several single camera field productions. Students will shoot, edit and post produce single camera field productions. Special fee. (150 contact hrs.)

Field Production Procedures 2  
5.00 credits  
Students will learn and participate in advanced single-camera production. Students will edit single-camera production using Beta cam SP A/B Roll Equipment. Students will learn and participate in a multi-camera format production outside the studio environment. Each student will perform various job functions, resulting in a class project. Special fee. (150 contact hrs.)

Field Production Procedures 2  
5.00 credits  
Students will learn and participate in advanced single-camera production. Students will edit single-camera production using Beta cam SP A/B Roll Equipment. Students will learn and participate in a multi-camera format production outside the studio environment. Each student will perform various job functions, resulting in a class project. Special fee. (150 contact hrs.)

Advanced Editing Procedures  
5.00 credits  
This course is designed to familiarize the student with the procedures followed in producing and writing broadcast news. The student will become familiar with news writing formats and stylebook applications. The students will write several news stories and a newscast. Special fee. (45 contact hrs.)

Television Directing Procedures  
5.00 credits  
Students will learn the disciplines, techniques and procedures used by the Television Director during the studio production process. The student will assume the responsibilities of the Television Director and coordinate the various production elements from the Control Room. Students will learn key terms used by the Director and master the Control Room equipment. Prerequisite: RTT 0176. Special fee. (150 contact hours)

TV Editing Procedures  
5.00 credits  
This course is designed to familiarize the student with an editing suite and to give the student the opportunity to perform the functions of an editor. In order to do this, we will use Beta Cam editing equipment and the Sony BVE 910 edit control. Students will also operate Character Generators, switches and DVE generators to enhance assignments. Non-Linear editing has been added to this course. Students will work with and get an appreciation on the AVID non-linear editing system. Prerequisite: RTT 0177. Special fee. (150 contact hours)

TV Film Computer Applications Procedures  
3.00 credits  
Applications of software and computer languages in the television industry. Includes introduction to integrated software for scriptwriting, storyboarding, production scheduling, cost controls, project inventory, and computer generated graphics. Special fee. (90 contact hours)

Advanced Editing Procedures  
5.00 credits  
This course is designed to familiarize students with non-linear editing. The course also gives the student the opportunity to perform the activities of a non-linear editor. In order to accomplish this, the course will use three non-linear editing systems;
the AVID and Media 100 non-linear computer editing system for video and audio editing and DeGi Design with Pro Tools for audio only non-linear editing. Prerequisite: RTT 0184. Special fee. (150 contact hours)

**RTT0201**  
Radio Productions  
3.00 credits  
The purpose of this course is to prepare students for initial employment as a radio programming announcer broadcast technician, or to provide supplemental training for persons previously or currently employed in these occupations. Special fee. (90 contact hours)

**RTT0210**  
Radio Programming Operations  
2.50 credits  
This course provides instruction and practice in the preparation and delivery of various types of radio programming. Knowledge station organization and procedure is combined with announcing in a manner required of announcer-operators in smaller radio stations. Special fee. (75 contact hours)

**RTT0222**  
Announcing on Radio  
2.50 credits  
This course emphasized the fundamentals of good speech, effective oral delivery, interview materials that are included in the third class license exam, and introduces employability skills needed in the industry. Special fee. (75 contact hours)

**RTT0400**  
TV Master Control Operations  
3.00 credits  
This course is designed to familiarize the student with master control operations typical of a commercial broadcast station, cable company or independent provider. The course includes station operation, programming, reading of logs, SMPTE time code reading, switching operations, audio design and operation, satellite and microwave operation. Also includes: back-timing calculations, emergency procedures, documentation of engineering errors, and other techniques typical of a master control room operator. Reinforcement of operational functions learned in Television Production 1 including, video tape, audio mixer, switcher, character generator, and routing switcher operations. Special fee. (90 contact hours)

**RTT0940**  
Television Studio Internship 1  
5.00 credits  
This is a 150-hour activity that provides hands-on experience in a commercial or in-house television house production studio. A contractual agreement listing the learning objectives of the course must be drawn up and signed by the student, faculty member, and site supervisor. Special fee. (150 contact hours)

**RTT0944**  
Radio Internship 1  
5.00 credits  
This course provides practice in the skills needed for employment in a smaller type radio station. The course is established by determination of six learning objectives which are approved and evaluated in writing by student, supervisor and faculty coordinator. Special fee. (150 contact hours)

**RTT0945**  
Radio Internship 2  
5.00 credits  
This course provides more advanced practice in the skills needed for employment in a smaller type radio station. The course is established by determination of learning objectives which are approved and evaluated in writing by student, supervisor and faculty coordinator. Special fee. (150 contact hours)

**FFP0021**  
Fire Fighter Minimum Standards  
15.00 credits  
This course teaches the initial and intermediate knowledge and skills for prospective fighters. Via lectures, drills, and evolutions, students will learn to operate as a team under supervision. Successful completion of all examinations, performance objectives and adherence to the Student Manual are required. Fire Academy Students Only. (450 contact hours)

**FFP0077**  
First Responder  
1.50 credits  
A training course for students who will provide basic life support to victims of emergencies, to minimize patient discomfort and prevent further injury. This course is a required part of fire fighter training. Special fee. (45 contact hours)

**HMV0991**  
Selected Studies  
1.00 credits  
Designed to offer an in-depth treatment of special areas under the various occupational categories; it may be varied each term according to faculty and student planning. This offering is numbered 0991, with prefix of the subject area, in the department or discipline of study. Credits only apply to a Vocational Credit certificate. Prerequisite: Permission of the instructor and department chairperson. (30-150 contact hours)

**GEB0251**  
Cultural Issues in Conducting Business Abroad  
1.00 credits  
This course will examine the development of culture and foster its understanding, and will identify various behavioral patterns and communications styles within different cultures. In addition, this course will focus on the enhancement of interpersonal sensitivities during the interactions with individuals of different ethnicity, gender, age, background, etc., and the impact of these differences when conducting international activities. Special fee. (30 contact hours)

**GRA0420**  
Computer Graphic Design  
4.00 credits  
This course is intended to train the desktop publishing student in programs that enable
one to create and manipulate graphic illustrations. The two standard programs that are used in the industry are utilized, with lab activities that highlight important program features. Special fee. (120 contact hours)

**GRA0430 Desktop Publishing**
**4.00 credits**
Desktop publishing is the production of high quality printed publications using relatively inexpensive equipment: personal computers, desktop scanners, and laser printers. This class explores the qualities and abilities of Aldus PageMaker, and industry-standard page layout program. Class lectures are supported with audiovisual presentation and extensive handouts. Lab classes consist of a series of typical page layout jobs. Special fee. (120 contact hours)

**GRA0446 Principles of Typography**
**4.00 credits**
Typography is the art of designing printed matter using type as a medium. The history and development of typography, the use of printer’s measurements and the aesthetic uses of type will be covered in the lecture form. The production of learned through hands-on project assignments. Instruction also will include industry standard typesetting equipment and desktop publishing personal computers and software. Special fee. (120 contact hours)

**GRA0451 Graphic Photography Processes**
**4.00 credits**
Graphic photo processes-line is a basic course in the use of a graphic arts process camera, films, and chemistry. Numerous hands-on projects will include determining exposure and development times, enlargements and reductions, copying, scaling, print making, and proofing. Special fee. (120 contact hours)

**GRA0452 Halftone Processes for Graphic Arts**
**4.00 credits**
A halftone is a reproduction of a continuous tone photograph that has been converted into dots of various sizes so it can be reproduced by any of the major printing processes. The various size dots are so small and numerous that they fool the eye into seeing shades of gray similar to a continuous tone photo. Numerous hands-on projects will cover the use of halftone screens and the manipulation of tones by controlled exposures and development procedures. Prerequisite: GRA 0451. Special fee. (120 contact hours)

**GRA0457 Color Electronic Scanning**
**3.00 credits**
This course requires Color Reproduction Technology 1 as a prerequisite. The course is an advanced approach to electronic methods to color reproduction. The student will learn state-of-the-art methodology for color printing. Prerequisite: GRA 0455. Special fee. (90 contact hours)

**GRA0460 Graphic Design 1**
**4.00 credits**
This is an introduction to the basic skill technique of visual communication problems such as those involving perspective, proportion, and representative drawing. Special fee. (120 contact hours)

**GRA0461 Graphic Design 2**
**4.00 credits**
This course trains on the process of quality layout and graphic design. It covers studio projects such as ads, brochures, and logo designs. The basics of formal graphic design are covered in a creatively professional standard. Special fee. (120 contact hours)

**GRA0463 Graphic Design 4**
**4.00 credits**
This is a problem-solving course in graphic communications. Studio projects such as self-identity campaigns, book covers, label design and similar are covered. Electronic publishing skills in packages as Illustrator, Freehand, and Photoshop are utilized. Special fee. (120 contact hours)

**GRA0465 Digital Graphic Painter**
**4.00 credits**
Students, working from photographs, represent the natural world on the newest artistic media: the personal computer. Fractal Design’s Painter software enables student to use a wide variety of digital tools and surfaces to create electronic illustrations. Special fee. (120 contact hours)

**GRA0472 Offset Stripping 2**
**4.00 credits**
This is a vocational credit course that is an advanced course in film assembly for multi-color and 4 color process film assembly using the emulsion-up method. Hands-on projects will range from simple mechanically separate (fake color) projects to 4-color process separations for an 8 page brochure. This course is highly recommended because of the increased demand for color within the advertising field. Special fee. (120 contact hours)

**GRA0481 Paper in Graphics**
**1.50 credits**
This course is a review of the various types and specifications of paper that are used for various types of graphic production tasks. The course is appropriate also for upgrading for persons involved in purchasing departments. Special fee. (45 contact hours)

**GRA0840 Web Page Design One**
**4.00 credits**
An introduction to the technologies and techniques of designing for the World Wide Web. This course covers all the key elements of Web design from concept to completion. The course also covers a basic introduction to WYSIWYG HTML editors. Special fee. (120 contact hours)

**GRA0948 Co-Op Work Experience: GRA**
**1.00 - 3.00 credits**
This is a course designed to continue training in a student’s field of study through
work experience. Students are graded on the basis of documentation of learning acquired as reported by student and employer. Prerequisite: Co-op departmental approval and completion of GRA 0948 co-op work experience. Students will be assigned specific course prefixes related to their academic major prior to registration. All students must contact the co-operative education office to obtain registration approval. Special fee. (30-90 contact hours)

GRV0540
Advanced Electronic Publishing
4.00 credits
This is a high-end electronic publishing program whose features include extremely tight typographic and photographic controls. A series of job layouts will be executed in the lab. Special fee. (120 contact hours)

Health Information Management

HIM0001
Introduction to Health Information Management
4.00 credits
This is an introductory course in the principles of health information management. Students will learn ethical aspects and components of the health record, proper documentation, purposes and uses; legal principles that govern the health information field including access to patients’ records, confidentiality, and informed consent. (30-60 contact hours)

HIM0013
Medical Law and Ethics
1.00 credits
This course focuses on the ethics of medicine and medical practice. Legal requirements and implications to the medical profession are stressed. Special fee. (30 contact hrs.)

HIM0061
Medical Record Transcription 1
1.50 credits
This course covers the basic foundations of medical transcription to include role, ethics and legal responsibilities of the transcriptionist. Equipment, types of medical reports, quality control and reference materials are also discussed. Special fee. (45 contact hours)

HIM0061L
Medical Record Transcription Applications 1
6.00 credits
This course is an applications for HIM 0061. Perfection of typing skills and correct use of basic transcription equipment. Prerequisite: HIM 0061. Special fee. (180 contact hours)

HIM0062
Medical Record Transcription 2
1.50 credits
This course is an in-depth study of types of medical reports and their components, qualitative and quantitative control standards and phraseology and language of various medical specialties. Special fee. (30-60 contact hours)

HIM0062L
Medical Record Transcription Applications 2
6.00 credits
This course is the applications for HIM 0062. Transcription from selected medical specialties. Prerequisite: HIM 0062. Special fee. (180 contact hours)

HIM0063
Medical Record Transcription 3
1.00 - 2.00 credits
This course focuses on the reports and terminology used primarily in pathology and autopsy procedures. Employability skills will also be discussed. Special fee. (30-60 contact hours)

HIM0063L
Medical Record Transcription Applications 3
2.00 - 7.00 credits
This course is the laboratory for HIM 0063. Transcriptions of reports and paraphrasing according to the content of dictation and terminology used in pathology and autopsies. Basic principles of word processing are practiced. A level of speed and accuracy consistent with employment standards is required. Prerequisite: HIM 0063. Special fee. (60-210 contact hours)

HIMO220
ICD-9-CM Coding 1
1.00 credits
This course focuses on the analysis and coding of diagnosis, procedures and symptoms with ICD-9-CM. Definitions and principles of the Uniform Hospital Discharge Data Set (UHDDS) with emphasis on assignments of the principal diagnosis and sequencing. Special fee. (30 contact hours)

HIMO220L
ICD-9-CM Coding Applications Laboratory 1
1.00 credits
This course deals with the application of the basic principles, characteristics and conventions of ICD-9-CM. Special fee. (30 contact hours)

HIMO228
ICD-9-CM Coding 2
1.50 credits
This course focuses on the analysis and coding of diagnosis, procedures and symptoms with ICD-9-CM. Definitions and principles of the Uniform Hospital Discharge Data Set (UHDDS) with emphasis on assignments of the principal diagnosis and sequencing. Special fee. (45 contact hours)

HIMO228C
ICD Coding Systems
5.00 credits
This is a core International Classification Disease (ICD) coding course. Students will learn ICD coding systems using sample exercises and medical records to develop skill and accuracy in coding in various health care settings, including use of official coding guidelines and reporting requirements appropriate to the coding situation. Corequisite: HIM 0472. (150 contact hours)

HIMO228L
ICD-9-CM Coding Applications Laboratory 2
2.00 credits
This course focuses on analyzing and coding of diagnosis, procedures, and symp-
HIM0230
ICD-9-CM Coding 3
1.50 credits
The relationship of diagnosis related groups (DRGs) and the Prospective Payment System (PPS) to coding. The components of the DRG system and the Prospective Payment regulations. Procedures for ensuring data quality. Special fee. (60 contact hours)

HIM0230L
ICD-9-CM Coding Applications 3 Laboratory
2.00 credits
This course focuses on the application of the Prospective Payment Regulations for DRG validation assignment of the DRGs and procedures for ensuring data quality. Prerequisite: HIM 0228L; corequisite: HIM 0230. Special fee. (60 contact hours)

HIM0250
1.50 credits
Current procedural terminology (CPT-4) coding principles are emphasized. The course will involve activities in which medical record professionals code and classify procedures in CPT for purposes in standardization, retrieval, and statistical analysis. Special fees. (45 contact hours)

HIM0250C
Ambulatory Care Coding Systems
2.00 credits
This is an introductory course on coding using HCPCS/CPT systems in the ambulatory care environment. Students will learn ambulatory care coding of all body systems, coding guidelines and reporting requirements, using sample exercises to develop skill and accuracy. Prerequisites: HIM 0472, 0228C. corequisite: HIM 0285C. (60 contact hrs.)

HIM0271
Computerized Medical Insurance Billing
1.50 credits
Computers in the medical office and their use in billing insurance are the focus of this course. Electronic claims transmission and how it affects cash flow in the medical office is explored. The advantages of a computer system versus a manual system are discussed. Special fee. (30 contact hours)

HIM0271L
Computerized Medical Insurance Billing Applications
1.50 credits
This course addresses applications for automated medical insurance billing. The student will learn how to file medical insurance claims using one or more medical insurance billing software programs. Electronic claims transmission is explored. Emphasis is placed on understanding the insurance claim process from beginning to end. Corequisite: HIM 0271. Special fee. (45 contact hours)

HIM0274
Health Insurance Claims/Delinquent Claims and Problem Solving
1.50 credits
This course reveals how insurance claims are developed and processed from the health care provider's office to the insurance company. Delinquent claims and solving common billing problems are explored. Various health plans are discussed. Prerequisites: HIM 0228, 0228L; corequisites: HIM 0230, 0230L. Special fee. (45 contact hrs.)

HIM0274C
Health Care Billing and Reimbursement
4.00 credits
This is a foundation course in healthcare reimbursement. Students will learn the reimbursement methods and concepts related to healthcare and prospective payment system including DRGs, APCs and ASC groups, patient billing and accounting software in claims processing, compliance, the role HIM plays in the Charge master maintenance and revenue cycle. Prerequisite: HIM 0650. (120 contact hours)

HIM0280C
Physician Coding
2.00 credits
This course will examine coding, data quality, and physician services billing. Students learn to read and interpret physician office documentation. Special emphasis is placed on assigning Evaluation and Management (E/M) codes, outpatient diagnostic coding guidelines, Current Procedural Terminology (CPT), Health Care Financing Administration Common Procedure Coding Systems (HCPCS) codes, and local codes, Prerequisite: HIM 0250: corequisites: HIM 0271, 0271L. Special fee. (60 contact hrs.)

HIM0290C
Advanced Coding Systems
3.00 credits
This is an advanced course in ICD, CPT and HCPCS coding systems. Students will learn guidelines and applications to more complex case studies and health records according to current ethical standards of practice. Inpatient and Outpatient Prospective Payment Systems, encoding software and grouper practice applications. Prerequisite: HIM 0228C. Corequisite: HIM 0250C. (90 contact hours)

HIM0434
Basic Principles of Disease
2.00 credits
This is a basic course in human disease. The student will learn all body systems diseases and conditions, including etiology, clinical features, therapy and prognosis; basic pharmacology by body systems including antivirals, antibiotics, vaccines, immunizations, and chemotherapy agents. Prerequisite: HIM 0450. (60 contact hours)

HIM0450
Human Anatomy & Physiology for Health Information Management
2.00 credits
This course focuses on the application of Current Procedural Terminology (CPT), Health Care Financing Administration Common Procedure Coding Systems (HCPCS) codes, and local codes, Prerequisite: HIM 0250: corequisites: HIM 0271, 0271L. Special fee. (60 contact hrs.)

Miami Dade College
Includes the dynamics of physiology, terminology and physiological relationships of the systems. Special fee. (60 contact hours)

**HIM0473**  
**Medical Terminology**  
2.50 **credits**  
This is a foundation course in the structure of medical terms with emphasis on spelling, pronunciation and definition. Students will learn medical terms related to major disease processes diagnostic procedures, laboratory tests, abbreviations, drugs and treatment modalities. Corequisite: HIM 0228C. (75 contact hours)

**HIM0615**  
**Computer Operations for Medical Applications**  
1.00 **credits**  
This course provides instruction in basic word-processing skills that are required to perform computer operations in health care facilities. Special fee. (30 contact hours)

**HIM0650**  
**eHealth Care Delivery Systems**  
3.70 **credits**  
This is an introductory course in basic computer software skills. Students will learn about commonly available software tools used in healthcare, including introduction to encoding tools and computer assisted coding software, electronic health record processes and the unique computerized systems environment found in U.S. healthcare delivery systems. (60 contact hours)

**HIM0801**  
**Medical Record Transcription Clinical Practice**  
5.00 **credits**  
This course focuses on the clinical practice in various health care settings in the community. The student will utilize all types of medical transcription procedures in preparation for transition into the work place. Special fee. Prerequisites: HIM 0061, 0061L, 0062, 0062L. (150 contact hours)

**HIM0817**  
**Professional Practice Experience**  
3.80 **credits**  
This course is an advanced coding/billing professional practice. Students will learn advanced coding and abstracting of actual inpatient and outpatient health records, with an emphasis on compliance and improving accuracy and productivity. Prerequisite: HIM 0228C, 0250C, 0285C. (120 contact hours)

**Health Science**

**HIM0009**  
**Introduction to Health Information Technology**  
3.00 **credits**  
This course introduces students to health informatics and information management. Students will learn about the health care delivery system, communication skills, legal and ethical responsibilities, HIPAA and health records, and terminology related to health informatics. Other topics include developing leadership and teamwork skills and the application of critical thinking skills in a variety of presented scenarios. (90 contact hours)

**HSC0003**  
**Introduction to Health Care**  
2.50 **credits**  
An introduction to the health care environment, this course focuses on the health care team and delivery systems. Students will learn about legal responsibilities, ethical issues, safety, infection control, communication, interpersonal behaviors, wellness, and disease. Corequisite: HSC003L (75 contact hours)

**HSC0003L**  
**Introduction to Health Care Laboratory**  
0.50 **credits**  
This course focuses on the performance of basic health care skills. Students will apply body mechanics and ergonomics, standard precautions used in infection control procedures and perform and record vital signs. Corequisite: HSC003 (15 contact hours)

**Management**

**MAN0001**  
**Introduction to Management**  
2.50 **credits**  
This course is designed to provide an introduction to Management and its basic functions. Tapes include human relations, entrepreneurship, goal setting and planning, decision making and motivation, and counseling in problem situations. Special fee. (75 contact hours)

**MNA0789**  
**Presentation Skills Business**  
1.00 **credits**  
This course intends to make the participant aware of the specific steps necessary for making an oral or written communication. Special fee. (30 contact hours)

**MNA0991**  
**Selected Studies**  
1.00 - 5.00 **credits**  
This course is designed to offer an in-depth treatment of special areas under the various occupational categories. It may be varied each term according to faculty and student planning. This offering is numbered 0991, with prefix of the subject area, in the department or discipline of study. Credits only apply to PSAV certificate. Prerequisite: Permission of the instructor and department chairperson. (30-150 contact hours)

**Marketing**

**MKA0011**  
**Survey of Marketing**  
2.50 **credits**  
This course represents the key role of marketing in today’s business-oriented society. The participant is required to apply the basic concepts of marketing to a local business enterprise, and hands-on application is the focus of the course. Special fee. (75 contact hours)

**MKA0023**  
**Effectiveness in Sales**  
1.00 **credits**  
This course helps participants identify strengths and weaknesses in sales effec-
Sources of information for successful international marketing will be identified and discussed. Special fee. (30 contact hours)

**MKA0245**
Import/Export 1
1.00 credits
This is a nuts and bolts class for the novice and the experienced importer or exporter. The student will learn how to start and maintain an import/export company, how to identify the market, find the supplies and customers, and buy and sell overseas. Special fee. (30 contact hours)

**MKA0246**
Import/Export 2
1.00 credits
This is a continuation of Import/Export 1. Previous topics will be reviewed and will continue with these topics, buying and selling overseas, how to ship and document correctly, maintaining business records, what taxes are to be paid, and to make a profit. Special fee. (30 contact hours)

**MKA0516**
Public Relations
2.50 credits
The goal of Public Relations, is for students to gain valuable skills and insights related to the Public Relations professional, which will enable them to become more productive employees and entrepreneurs. Students will gain insight into business problem analysis, and will receive practical experience in both written and oral communication skills. Special fee. (75 contact hours)

**MKA0623**
Food Store Sanitation
1.50 credits
This course provides food store personnel with a comprehensive understanding of the basic principles underlying food merchandising practices in the United States. Special fee. (45 contact hours)

**MKA0624**
Food Store Security
1.00 credits
This course provides food store personnel with a comprehensive procedures and policies to follow to prevent employee theft, vendor theft, front end losses, shoplifting, robberies, and burglaries, thereby reducing figures and increasing store profits. Special fee. (30 contact hours)

**MKA0625**
Food Merchandising: Principles and Practices
1.50 credits
This course provides food store personnel with a comprehensive understanding of the basic principles underlying food merchandising practices in the United States. Special fee. (45 contact hours)

**MKA0626**
Grocery Management Operations
1.00 credits
This course provides practical instruction in essential management areas such as inventory management, merchandising, operating for profit, as well presenting a product breakdown of the grocery department such as dairy, frozen foods, general merchandise, health and beauty aids. Special fee. (30 contact hours)

**Massage Therapy**

**MSS0156**
Anatomy and Physiology for Massage Therapy
2.50 credits
This course will focus on the relationship between the anatomical and physiological effects of massage therapy on the body. Students will focus on the structure of organs, muscles, bones and tissues. Primary focus will center on the musculo-skeletal system and innervations. Special fee. (75 contact hrs.)

**MSS0156L**
Anatomy and Physiology for Massage Therapy Laboratory
2.50 credits
This course will examine the practical application and physiological effects of
massage therapy on the body. Students will focus on the structure of organs, muscles, bones and tissues. Primary focus will center on the musculo-skeletal systems and innervations as well as clinical pathologies related to those systems. Special fee. (75 contact hrs.)

**MSS0215**  
**History and Standards for Massage Therapy**  
1.00 credits  
This course examines the history and development of massage therapy, basic legal concepts related to health care employment, and legal requirements for practice as a Massage Therapist in the State of Florida. Special fee. (30 contact hrs.)

**MSS0250**  
**Introduction to Massage Therapy**  
1.00 credits  
This course focuses on the theories and principles of therapeutic massage. The Massage Therapist/Client Relationship, the effects on massage on the systems of the body, massage facilities, equipment/supplies, and furniture requirements will be discussed. Special fee. (30 contact hrs.)

**MSS0250L**  
**Introduction to Massage Therapy Laboratory**  
6.00 credits  
Laboratory for MSS 0250. This course provides opportunities for the practical application of the theories and principles of therapeutic massage. Special fee. (180 contact hrs.)

**MSS0281**  
**Allied Modalities**  
3.50 credits  
A study of the advanced theories and techniques for massage therapy. Content includes: oriental bodywork, reflexology, trager approach, rolfing, cranio sacral therapy, infant massage, pregnancy massage and aromatherapy. Special fee. (105 contact hrs.)

**MSS0300**  
**Hydrotherapy Modalities**  
1.00 credits  
This course focuses on the history and development of hydrotherapy, application in equipment used, and the associated standards. Special fee. (30 contact hrs.)

**MSS0300L**  
**Hydrotherapy Modalities Laboratory**  
1.50 credits  
This course provides opportunity for the students to safely and effectively apply various types of hydrotherapy and evaluate their effectiveness. Special fee. (45 contact hrs.)

**MSS0803C**  
**Massage Therapy Clinical Practicum**  
3.00 credits  
This course provides the student with the opportunity to practice and further develop an understanding of various massage techniques in a clinical placement setting under supervision of a licensed Massage Therapist. Special fee. (90 contact hrs.)

**MSS0995**  
**Massage Therapy - Accelerated**  
13.50 credits  
This course is designed to provide PSAV credit for students with training and State of Florida licensure as a Physical Therapist or Physical Therapist Assistant. Students must provide documentation of a current state license and be a graduate of an accredited program. This course requires special permission and students must contact the program coordinator for registration approval. (240 contact hrs.)

**Mathematics - Vocational Level**

**MTB0102**  
**Business Mathematics**  
2.50 credits  
This course is a review of basic mathematics: in business. Topics include but are not limited to the following: cash and trade discounts, commissions, mark-up, depreciation, interest and bank discounts, payroll records, taxes, analysis of financial statements, stocks and bonds, inventory calculations, notes and installment credit, bank records, annuities, and sinking funds. Special fee. (75 contact hours)

**Medical Assisting**

**HIM0540**  
**Electrocardiography/Emergency Procedures**  
2.00 credits  
The nature and purpose of the electrocardiograph (EKG); maintenance of equipment and materials needed; preparation of the patient and the procedure for taking and mounting the EKG record and monitoring the record for abnormal or erratic tracings. The maintenance of emergency equipment and implementing emergency procedures in the medical office. Special fee. (60 contact hours)

**MEA0204**  
**Theoretical Aspects of Clinical Skills**  
1.00 credits  
This course is designed to develop and further support students’ knowledge and ability to organize and work efficiently and effectively in both performing and assisting with clinical procedures performed in medical offices. Emphasis will be on the role and responsibility of the Medical Assistant. (30 contact hours)
MEAO204L
Application of Clinical Skills
2.00 credits
This course is designed to develop and support students’ ability to perform and assist in basic clinical skills. Emphasis will be on the role and responsibility of the medical assistant in performing sterile techniques and the use of organization and efficiency in performing and assisting with patient examination, sterile procedures, and diagnostic procedures and treatment performed in medical offices. Special fee. (60 contact hours)

MEAO231
Anatomy and Physiology and Medical Terminology
2.30 credits
This course is designed to introduce the student to basic anatomy and physiology and to develop the ability to communicate verbally and in writing within the medical field. Special fee. (69 contact hours)

MEAO234
Pathophysiology & Disease for Medical Assistants
4.00 credits
This course is designed to introduce students to common diseases and medical conditions which affect patients who present themselves to medical offices for diagnosis and treatment. Emphasis will be on the role and responsibility of the Medical Assistant in prevention, diagnosis, and treatment. (120 contact hours)

MEAO242
Pharmacology for the Medical Assistant
3.00 credits
This course is designed to introduce students to principles of pharmacology and provide a basis to comprehend the role and responsibility of Medical Assistants in administering medication. Emphasis will be placed on calculation of dosages, frequently used drugs, and classification of drugs as they relate to the body systems. Special fee. (90 contact hours)

MEAO254
Physician Office Laboratory Procedures
2.00 credits
Theoretical concepts of specimen collection and processing. This course focuses on the fundamentals of diagnostic tests, including urinalysis, basic office bacteriology, hematology, and blood chemistry. The principles of aseptic techniques, infection control, and safety procedures are discussed. Compliance with quality assurance practices are emphasized. (60 contact hours)

MEAO254L
Physician Office Laboratory Procedure Applications
2.00 credits
A clinical laboratory course designed for the Medical Assistant student to practice specimen collection, microscopy and urinalysis. Includes basic office bacteriology, hematology, and blood chemistry. The student will apply principles of aseptic techniques and infection control. Special fee. (60 contact hours)

MEAO258
Radiology for the Medical Assistant
3.00 credits
This course focuses on the basic principles of x-ray, film handling and processing, radiographic technique, and radiation biology. The course prepares the student to take the examination given by the Florida Department of Professional Regulations (DPR) for the Basic Radiographer License. Special fee. (90 contact hours)

MEAO322
Office Management and Professional Issues for the Medical Assistant
3.00 credits
Office management procedures, including planning and organization; financial and medical record keeping procedures; billing and collection; processing insurance claims using procedural and diagnostic coding. Legal and ethical responsibilities, credentialing and other professional issues of Medical Assisting. Special fee. (90 contact hours)

MEAO334C
Medical Coding/Insurance Billing with Collections
4.00 credits
Processing health insurance claims using procedural and diagnostic coding. The student will learn and apply current government regulations affecting third-party reimbursement. Billing, electronic claims transmission, and collection systems are emphasized. Special fee. (120 contact hours)

MEAO343
Computers in the Medical Office
3.00 credits
The application of computer concepts to medical office practices. The student will keyboard documents using word processing software. Emphasis will be on operating transcription equipment and transcribing medical records. The student will also be introduced to electronic spreadsheet and database applications. Special fee. (90 contact hours)

MEAO540
Electrocardiography/Emergency Procedures
2.00 credits
The nature and purpose of the electrocardiograph (EKG), maintenance of equipment and materials needed; preparation of the patient and the procedure for taking and mounting the EKG record and monitoring the record for abnormal or erratic tracings. The maintenance of emergency equipment and implementing emergency procedures in the medical office. Special fee. (60 contact hours)

MEAO802
Clinical Externship for the Medical Assistant
3.00 credits
This course is designed to provide students with experiences in the practice of the clinical aspect of medical assisting. Students will be assigned to physician’s office or clinics where they will provide direct patient care under the guidance of an experienced Medical Assistant. Special fee (90 contact hours)
MEA0810
Administrative Externship for the Medical Assistant
3.00 credits
The student is assigned to a physician’s office, clinic, laboratory, or other community health care facility. Emphasis is on integrating basic administrative skills demonstrated in previous courses. (90 contact hours)

MEA0832
Diagnostic Externship in Medical Assistant
3.00 credits
This course is designed to provide students with experiences in the diagnostic aspect of Medical Assisting. Students will be assigned to physician’s office or clinics where they will perform diagnostic clinical laboratory procedures, electrocardiographic and basic x-ray procedures under the guidance of an experienced Medical Assistant. Special fee. (90 contact hours)

Medical Laboratory Technology

MLT0041
Phlebotomy Theory
0.50 credits
This course covers the theory of phlebotomy techniques by venipuncture and skin puncture. This includes basic anatomy and physiology of the circulatory system, types of tubes to select for various blood tests, possible interfering substances, hospital hierarchy, professionalism, risk factors for Hepatitis, AIDS, and all sexually transmitted diseases, infection control guidelines, and employability skills. Special fee. (15 contact hours)

MLT0048
Phlebotomy Practicum
1.50 credits
This course is designed to prepare students to draw blood by venipuncture and capillary puncture and to prepare them for employment in a hospital laboratory, blood center, or other health care facility. Students are taught safe and efficient work practices in obtaining adequate and correct blood specimens, labeling specimens, and transporting specimens correctly to the appropriate laboratory sections. The Center for Disease Control (CDC) guidelines for HIV/AIDS, Hepatitis B and other diseases are stressed. (45 contact hours)

MLT0061
Practical Aspects of Phlebotomy
0.50 credits
This course covers the collection of blood by venipuncture, skin puncture and donor room techniques. This includes the handling, labeling, transporting, and logging-in of specimens as well as the demonstration of correct infection control techniques. Special fee. (15 contact hours)

Pharmacy Technician

PTN0003
Introduction to Pharmacy Practice & Medical Terminology
3.00 credits
This course is an orientation to the overall functions and services of a hospital pharmacy. Students will learn medical abbreviations, terminology, chemical symbols, formulas, and incompatibilities. Prerequisite: HSC 0003; corequisite: PTN 0006. (90 contact hours)

PTN0004
Pharmacy Practitioner Applications
3.00 credits
This course focuses on pharmacy practitioner applications. Students will learn to develop skills relating to the specific, technical, manipulative and clerical tasks involved with the preparation and distribution of medications under the supervision of Licensed Pharmacists. Prerequisite: HSC 0003; corequisite: PTN 0021. Special fee. (90 contact hours)

PTN0021
Drug Classifications
3.00 credits
This course covers the major classifications of pharmaceuticals, standards for quality and purity of drugs, and authoritative information on dosage and administration. Students will learn about poisons, placebos, and the sources from which medications are produced. Prerequisites: HSC 0003; PTN 0003, 0006, corequisite: PTN 0004. (90 contact hours)

PTN0041
Pharmacy Technician Hospital Field Experience
10.00 credits
This course covers clinical hospital training to develop the student’s knowledge and skills on the job. Students will learn how to properly prepare doses of medications and intravenous admixtures. Prerequisites: HSC 0003, PTN 0003, 0004, 0006, 0021; corequisite: PTN 0049. (300 contact hours)

PTN0049
Pharmacy Technician Retail Store Field Experience
10.00 credits
This course covers the clinical field experiences in a retail establishment. Students will learn about pharmaceutical chemistry, proper medication, and how to deliver medications correctly. Prerequisites: HSC 0003, PTN 0003, 0004, 0006, 0021; corequisite: PTN 0041. (300 contact hours)

Student Life Skills

SLS0270
Practical Leadership Skills
1.00 credits
This course employs a small-group approach to improve leadership skills of individuals training for supervisory positions. Students will improve in problem identification and resolution, planning, and effective methods of communication with subordinates and co-workers. Special fee. (30 contact hours)
SLS0341
Employability Skills
1.00 credits
This course teaches the student the skills necessary to conduct a successful job search and to be successful in a job requiring positive human relation skills. Clothing, behavior, personal presentation and interpersonal relations are covered. Special fee. (30 contact hours)

Surveying
SUR0001
Construction Survey
4.00 credits
This course focuses on the practice of surveying as related to the Building and Construction industry. This course includes a combination of classroom and practical field problems with the tape, level and transit. Lab time is required. Special fee. (120 contact hours)

Transportation and Traffic Management
TRA0701
Transportation/Geographical Considerations
1.00 credits
This course will address the logistics for import and export. Types of pallets, air and sea containers, railroad shipping and inland freight will be discussed. Cargo consolidation for air and sea transport will be addressed as well as types of insurance required. Evaluating service from brokers, forwarders, and steam lines will also be addressed. In addition, geographical concepts will be addressed with the relative location of regions and nations evaluated in terms of specific physical environments, political and economic trends, demography and utilization. Ports of entry and other geographical considerations related to trade will also be examined. Special fee. (30 contact hours)

Vocational Preparatory

VPI0111
Vocational Preparatory Reading
1.00 - 6.00 credits
This course is intended for the student who has tested in at a level on the Test for Adult Basic Education (TABE) that requires some work to improve basic reading skills. Individualized work on a computer is prescribed to enable the student to test out at an appropriate level to be successful in a Vocational program. (30-180 contact hours)

VPI0211
Vocational Preparatory Mathematics
1.00 - 6.00 credits
This course is intended for the student who has tested in at a level on the (TABE) test that requires some work to improve basic math skills. Individualized work in a computer is prescribed to enable the student to test out at an appropriate level to be successful in a Vocational program. (30-180 contact hours)

VPI0311
Vocational Preparatory English
1.00 - 6.00 credits
This course is intended for the student who has tested in at a level on the (TABE) test that requires some work to improve basic language skills. Individualized work on a computer is prescribed to enable the student to test out at an appropriate level to be successful in a Vocational program. (30-180 contact hours)
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ACADEMIC DEFINITIONS AND MAPS

Academic Definitions

The following are definitions of terms with which the reader may not be familiar:

Academic Year: Beginning of the fall term to the end of the summer term; approximately from the end of August to the end of the following July.

Advanced Technical Certificate: These are state-approved advanced specialized programs designed for students who already have an Associate in Science degree and wish to supplement their degree.

Basic Skills Assessment: A test that enables the College to identify the student’s academic strengths and weaknesses in reading, writing, and math skills to be used to provide advisement and placement in courses. See Computerized Placement Test (CPT).

College Credit: A unit of work in a subject, generally equivalent to one hour of class or two hours of laboratory a week for a regular sixteen (16) week term. Thus, a three credit class meets for three class hours a week or two class and two laboratory hours. There is some variance in this rule for laboratory, clinical and studio courses.

College Credit Certificate Programs: These are state-approved programs that are an integral part of an Associate in Science/Associate in Applied Science degree program.

College-Level Academic Skills (CLAS): Eliminated on July 1, 2011, the College Level Academic Skills (CLAS) exam was administered from October 1982 to June 2009 to students seeking an Associate in Arts (A.A.), Bachelor of Arts (B.A.), Bachelor of Science (B.S.), or Bachelor of Applied Science degree from a Florida public college or university as a means of educational accountability that satisfied the mandates of Section 1008.29, F.S. Effective July 1, 2011, public postsecondary students are no longer required to successfully complete CLAS requirements in order to be eligible for graduation.

Computerized Placement Test (CPT): An untimed computerized test in four sections (Reading Comprehension, Sentence Skills, Arithmetic and Elementary Algebra) administered to assess the basic skills level of students entering a degree program.

Community Education Courses: Courses that do not award academic credit (noncredit), but are offered for persons who wish to improve their personal efficiency, professional or business related skills and competencies, or enrich their personal lives.

Continuing Education Unit (CEU): Miami Dade awards CEUs for successful completion of Continuing Education noncredit CEU activities. One CEU is awarded for 10 contact hours, and is recorded on the student’s permanent record.

Corequisite: A course, which must be taken simultaneously with another course.

Curriculum: A specific program of study comprised of courses leading to a degree or certificate.

Developmental Education: Developmental Education courses address basic skills deficiencies and are designed to prepare students for college level work. Students are advised into these courses through self-referral, test scores and faculty referral. These courses do not satisfy degree requirements.

Elective: A subject or course, which a student may choose to take as distinguished from a “required course” in a program of study.

Full-Time Student*: A student who is enrolled for 12 credits or more in the 16-week terms and six credits or more in the six-week terms. Credits taken in a 12-week term (summer A and summer B) count as half value in each six-week term. Credits enrolled for audit or by departmental examination do not count in computation of full-time status.

Grade Point Average: The ratio of grade points earned to credits attempted. (See grade point average in Academic Regulations section.)

Major: The designation given to the complete group of courses necessary to fulfill the requirements for graduation in a specific field of baccalaureate programs (i.e., Public Safety Management, Electronics Engineering, etc.).

Occupational Programs: College credit programs leading to an Associate of Science degree.

Pathways: A set of curriculum pathways developed

*In specialized circumstances, the College may define full-time student status as less than the above. This special College-defined status would occur only in unusual circumstances related to the College’s Standards of Academic Progress program.
with focused career choices and course sequences to increase transfer success and completion of career-oriented degrees and certificates.

**Prerequisite**: An academic requirement, which must be met before a certain course can be taken classes, selection of courses by day and hour and the payment of fees.

**Semester**: See Term.

**Standards of Academic Progress**: Standards of satisfactory academic performance.

**Supplemental Vocational Education Courses**: These courses are for students currently or previously employed in a job category where skill upgrading is required to maintain current employment or to advance within their career field.

**TABE**: Test of Adult Basic Education administered to students enrolled in Career Technical Education Programs.

**Term**: A subdivision of the academic year, i.e., fall, spring, summer A and summer B terms.

**Major term**: fall and spring, approximately sixteen (16) weeks each.

**Short Term (summer A and summer B)**: six (6) weeks each. Courses meet additional contact hours per week during the summer A/summer B terms.

**Transcript**: A certified copy of the student’s academic record.

**Vocational Credit**: A unit of work in a subject based on 30 contact hours of classroom participation (or equivalent for work experience).

**Career Technical Education Programs (CTE)**: These programs are defined by the state of Florida and consist of courses valued in vocational credits. Career Technical Education programs are designed to lead to immediate job entry upon completion. Those who complete a Career Technical Education program receive a Career Certificate and are entitled to attend graduation exercises.

**MAPS**

http://www.mdc.edu/about/campuses.aspx

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**Some courses are scheduled for the combined summer A/summer B term of 12 weeks.**