

**Miami Dade College**  
**College-wide CASSC Meeting – APRIL 14, 2009**  
**CURRICULUM REPORT #62**

**1. School of Education**

**Paraprofessional Program –**

**Course Number Change**

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
FLE2316	Survey of Elements of Language Acquisition	3	6	2008-3
TSL1084	Introduction to ESOL Principles and Practices (New)			

**Course Description:** 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.

**APPROVE** \_\_\_\_\_ **OPPOSE** \_\_\_\_\_ **MORE INFORMATION** \_\_\_\_\_

**Proposed New Program**

**Title:** Gifted Endorsement  
**Degree Type:** Advanced Technical Certificate (ATC)  
**Campus:** 1,2,3,5,6,7,8  
**Effective Term:** 2008-3

**Add New Courses**

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
EGI4051	Nature and Needs of Gifted Students	3	1,2,3,5,6,7,8	2008-3

**Course Description:** This is one of five courses designed to provide students characteristics and educational needs of a diverse 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. (3 credits). Must hold FLDOE Teaching Certificate. (3 hr. lect.)

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
EGI4230	Curriculum and Educational Strategies for the Gifted	3	1,2,3,5,6,7,8	2008-3

**Course Description:** This course is the second of five designed to focus 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 will be presented to the student for use in the organization of the learning environment to promote student achievement. (3 credits). Must hold FLDOE Teaching Certificate. Prerequisite: EGI 4051. (3 hr. lect.)

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
EGI4246	Educating Special Populations of Gifted Students	3	1,2,3,5,6,7,8	2008-3

**Course Description:** This course is the third of five designed to educate special populations of gifted students. Students will learn about the socio-cultural and educational similarities and differences of gifted students, specifically the culturally and linguistically diverse, highly gifted, socio-economically challenged, cognitively disabled, and underachievers. Instructional strategies, resources, and materials necessary for the implementation of an

equitable system of instruction will be studied by the student. (3 credits). Must hold FLDOE Teaching Certificate. Prerequisite: EGI 4051. (3 hr. lect.)

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
EGI4305	Theory and Development of Creativity	3	1,2,3,5,6,7,8	2008-3

**Course Description:** This course is the fourth of five designed to focus on the theory and development of creativity. Students will learn the practical applications of the psychological, environmental, and socio-cultural aspects of creativity. Elements such as fluency, originality, flexibility, and elaboration are presented and explored. Effective teaching and assessment strategies to manifest and nurture creative thinking and expression are modeled and practiced for the student. (3 credits). Must hold FLDOE Teaching Certificate. Prerequisite: EGI 4051. (3 hr. lect.)

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
EGI4405	Guidance and Counseling	3	1,2,3,5,6,7,8	2008-3

**Course Description:** This course is designed to focus on the guidance and counseling of gifted students. Students will learn to concentrate on psychological, cultural, and environmental factors that influence the affective growth and development of gifted students. Effective teaching approaches to promote positive self-image and interpersonal skills are modeled and practiced for the student. Guidance, mentoring, and counseling interventions that attend to the unique needs of gifted students are examined by the student. (3 credits). Must hold FLDOE Teaching Certificate. Prerequisite: EGI 4051. (3 hr. lect.)

**APPROVE** \_\_\_\_\_ **OPPOSE** \_\_\_\_\_ **MORE INFORMATION** \_\_\_\_\_



**PROGRAM OF STUDY: GIFTED ENDORSEMENT**  
**EFFECTIVE TERM: Summer 2008 (2008-3) (15 CREDITS)**

The Gifted Endorsement is an add-on program to a Florida Department of Education teaching certificate for in-service educators for recertification only. The endorsement consists of 5 courses (15 credits).

<u>Course</u>	<u>Prerequisite</u>
<a href="#">EGI4051</a> – Nature and Needs of Gifted Students (3 credits)	FLDOE Teaching Certificate
<a href="#">EGI4230</a> – Curriculum and Educational Strategies for the Gifted (3 credits)	FLDOE Teaching Certificate; EGI 4051
<a href="#">EGI4246</a> – Educating Special Populations of Gifted Students (3 credits)	FLDOE Teaching Certificate; EGI 4051
<a href="#">EGI4305</a> – Theory and Development of Creativity (3 credits)	FLDOE Teaching Certificate; EGI 4051
<a href="#">EGI4405</a> – Guidance and Counseling of Gifted Students (3 credits)	FLDOE Teaching Certificate; EGI 4051

\* End of Program Sheet \*

**2. Mathematics Discipline**

<u>Course User Fee</u>		<u>Current/Proposed Fee</u>	<u>Eff. Term</u>
<u>Course No.</u>	<u>Title</u>		
MAD2104	Discreet Mathematics	\$5.00 to \$10.00	2008-2

APPROVE \_\_\_\_\_ OPPOSE \_\_\_\_\_ MORE INFORMATION \_\_\_\_\_

**3. School of Justice**

**Proposed New Program**

**Title:** Private Investigator Intern  
**Program Code:** P430208  
**Degree Type:** Vocational Credit Certificate (VCC)  
**Campus:** 1  
**Effective Term:** 2009-1

**Add New Courses**

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
SCY0051	Private Investigator Intern Course A	0.8	1	2009-1

**Course Description:** This course requires twenty four hours of training as required by Section 493.6203(6)(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 Hours)

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
SCY0052	Private Investigator Intern Course B	0.8	1	2009-1

**Course Description:** This course requires sixteen hours of training as required by Section 493.6203(6)(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 Hours)

**Delete Course**

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
CJD0620	Police Training Practicum	0.70	1	2008-3

APPROVE \_\_\_\_\_ OPPOSE \_\_\_\_\_ MORE INFORMATION \_\_\_\_\_



**Private Investigator Intern  
 Career Technical Certificate**

*(Program TBA)  
 C.I.P. 0743999904*

**THE TOTAL CONTACT HOURS REQUIRED FOR VOCATIONAL CREDIT CERTIFICATE IS 40.00**

The purpose of this program is to prepare students for employment as Private Investigator Interns as required by Section 493.6203(6)(b) Florida Statutes, offered in a 24 contact hour course and a 16 contact hour course.

Course	Course Title	Vocational Credits
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**Occupational Completion Point A - (1.33 Credits; 40Contact Hours)  
 Job Title: Private Investigator Intern**

SCY 0051	Private Investigator Intern Course A	0.8
SCY 0052	Private Investigator Intern Course B	0.533

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.

The final responsibility for meeting graduation requirements stated in your Degree Audit Report rests with you.

2008-2

## Executive Summary Crime Scene Technology

- I. **Introduction** – The proposed **Crime Scene Technology** program was created in response to the growing state and nation-wide need for a skilled workforce prepared for entry-level positions as crime scene technicians or forensic science technicians (SOC 194092).
- II. **Program Goals** - The primary goals of the program are to create (1) a 28 credit hour College Credit Certificate (CCC) for the Crime Scene Technician and (2) a 60 credit hour Crime Scene Technology Associate in Science (A.S.) degree with tracks in *Crime Scene Investigation* or *Forensic Science*. The program also provides students the opportunity to continue their formal education with Miami Dade College (MDC) and receive a Bachelor of Applied Science (BAS) degree in Public Safety Management, or they may choose to articulate to other colleges or universities offering advanced degrees in these fields.
- III. **Program Needs and Benefits** –
  - a. **Demonstrated National Needs** – The United States Department of Labor (USDOL) estimates that there will be an increase of 4000 annual openings for forensic science technicians between 2006 and 2016 (Source: Occupational Outlook Handbook 2008-09, USDOL). This 31% increase indicates that there will be stable growth in this field and a high demand for graduates prepared to enter the workforce as technicians.

**Table 1:** Occupational Outlook for technicians in science-related fields (USDOL, 2008-09)

Occupational title	SOC Code	Employment 2006	Projected Employment 2016	Change between 2006-16	
				Number	%
Agricultural and food science technicians	19-4011	26000	28000	1700	7
Biological technicians	19-4021	79000	91000	13000	16
Chemical technicians	19-4031	61000	65000	3600	6
Environmental science and protection technicians, including health	19-4091	37000	47000	10000	28
<b>Forensic science technicians</b>	<b>19-4092</b>	<b>13000</b>	<b>17000</b>	<b>4000</b>	<b>31</b>

In addition to the increases predicted by USDOL, the National Employment Matrix predicts that jobs for forensic science technicians are expected to increase much faster than the average based on the increasing application of forensic science to examine, solve, and prevent crime. This prediction is consistent with the relatively large increases in need for forensic science technicians compared to the need for technicians in other science-related fields.

b. **Demonstrated State Needs** – The State of Florida continues to see increased demands for qualified personnel at both local and state law enforcement agencies. According to the Florida Department of Law Enforcement, there are 282 police departments, 37 state agencies, 35 school and port police agencies, and 67 Sheriffs’ Offices that employ 45,844 sworn and thousands additional non-sworn personnel and technicians. In 2007, these agencies hired 5066 new police officers and are continually in need of an educated and workforce-ready technician pool that can assist law enforcement officers in the detection and apprehension of criminal suspects. According to the FLDOE Choice Planner, the salary information for Florida crime scene- or forensic science technicians is as follows:

- Average Annual Wage: \$57,782
- Entry Annual Wage: \$38,875
- Experienced Annual Wage: \$67,225
- Entry Hourly Wage: \$18.69
- Experienced Hourly Wage: \$32.32
- Average Hourly Wage: \$27.78

IV. **Student Data** - MDC’s Biotechnology Program and School of Justice conducted a survey of our students to assess interest in Crime Scene Technology and Forensic Science. In total, 316 students participated in the Crime Scene Technology and Forensic Science Student Interest Assessment Survey which took place in November and December of 2008.

- a. 183 of the 316 of the students (58%) stated interest in enrolling in Crime Scene or Forensics courses at MDC.
- b. 138 of the 316 of the students (44%) stated interest in obtaining a Crime Scene Technology Associate’s degree at MDC.
- c. 168 of the 316 of the students (53%) stated interest in obtaining a College Credit Certificate in Crime Scene Investigation at MDC.
- d. 187 of the 316 of the students (59%) stated interest in obtaining a College Credit Certificate in Forensic Science at MDC.

V. **Implementation Strategies** - The anticipated date of implementation for this program is fall of 2009. All of the general education courses associated with either the CCC or AS degree can be taken at any of MDC’s eight campuses. However, the major core and track requirements will first be offered at the North Campus through either the School of Justice (new CJT\* and CCJ\* courses) or the Departments of Natural Sciences (new CHS\* courses). This implementation strategy is due primarily to the specialized nature of the new courses which require equipment, supplies, and infrastructure that have been purchased via the financial support of two Perkins grant awards and the Biosciences Cooperative Title V grant. With these awards, the program has acquired all of the necessary resources to effectively implement and run these curricula.

All curricula was developed by an interdisciplinary, intercampus group of faculty, administrators and professional consultants, which addressed competencies, general learning outcomes, course titles, numbers and pre- or co-requisites.

- VI. Curriculum** – The Crime Scene Technology program will prepare students for employment in the field of criminalistics.
- a. Crime Scene Technician College Credit Certificate (28 credit hours). This certificate program is designed to prepare a crime scene technician who will be able to locate, identify, process and preserve the crime scene. These courses will apply toward the A.S. degree in Crime Scene Technology. Crime Scene Technicians are employed by local, state and federal law enforcement agencies, state attorney offices, public defender offices, medical examiner offices, law firms and private industry.
  - b. Associate in Science in Crime Scene Technology degree (60 credit hours). With this degree, graduates can serve as, but are not limited to, crime scene technicians, crime scene photographers, fingerprint classification specialists, crime lab assistants, juvenile assessment workers, latent print examiners, fire inspectors, forensic science specialists, property and evidence personnel, and crime scene unit supervisors. Students choosing to pursue an AS in Crime Scene Technology must specialize in one of the two tracks.
    - i. Track 1 – *Crime Scene Investigation*. The content of this track focuses on the tenets of crime scene technology. Students will be prepared for crime scene collection of evidence, fingerprint development and preservation, crime scene data gathering, safety, and reporting, as well as preparation and delivery of courtroom testimony, with an overall understanding of the criminal justice system.
    - ii. Track 2 – *Forensic Science*. The content of this track focuses on the tenets of forensic science and the analysis of crime scene evidence students will be prepared in the examination, testing and analysis of tissue samples, chemical substances, physical materials, and ballistics evidence. Emphasis will be placed on the interpretation of laboratory findings and test results that lead to the identification and classification of substances, materials, and other evidence collected at a crime scene.

**Proposed New Program**

**Title:** Crime Scene Technician  
**Degree Type:** College Credit Certificate (CCC)  
**Campus:** 1  
**Effective Term:** 2009-1  
**Add Existing Courses:**  
 BSC1084 CJE2600  
 CLP1006 CCJ1191  
 SPC1026 CCJ1020

**Add New Courses**

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
CHS1XXXX	Forensic Science I	4	1	2009-1

**Course Description:** 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. Lect)

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
CJT1110	Crime Scene Technology I	3	1	2009-1

**Course Description:** 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 a 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. lect.)

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
CJT2240	Basic Fingerprinting	3	1	2009-1

**Course Description:** 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. Lect)

**APPROVE** \_\_\_\_\_ **OPPOSE** \_\_\_\_\_ **MORE INFORMATION** \_\_\_\_\_

**College Credit Certificate  
Crime Scene Technician  
Total credits required for the degree is 28.  
(CIP = 0743.010601)**

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.

<b>GENERAL EDUCATION REQUIREMENTS (9 credits hours)</b>				
<b>Course</b>	<b>Course Title</b>	<b>Credits</b>	<b>Pre-requisites</b>	<b>Co-requisites</b>
SPC-1026	Fundamentals of Speech Comm.	3	None	None
CLP-1006	Psychology of Personal Effectiveness	3	None	None
BSC-1084	Functional Anatomy	3	None	None
<b>CORE COURSES (19 credits hours)</b>				
<b>Course</b>	<b>Course Title</b>	<b>Credits</b>	<b>Pre-requisites</b>	<b>Co-requisites</b>
CCJ-1191	Human Behavior	3	None	None
CCJ-1020	Introduction to Criminal Justice	3	None	None
CJE-2600	Criminal Investigation	3	None	None
CHS-1XXXC	Forensic Science I	4	None	None
CJT-1110	Crime Scene Technology I	3	None	None
CJT-2240	Basic Fingerprinting	3	None	None

**Please Note: CJE 2600 was formerly CJT 2100; Highlighted courses are new to MDC.**

**Proposed New Program**

**Title:** Crime Scene Technology  
**Degree Type:** Associate in Science (AS)  
**Campus:** 1  
**Effective Term:** 2009-1  
**Add Existing Courses:**  
 BSC1084 CCJ1191  
 CLP1006 CCJ1020  
 ENC1101 CJE2600  
 MAC1105  
 PHI2604  
 SPC1026

## Add New Courses

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
CHS1XXXC	Forensic Science I	4	1	2009-1

**Course Description:** 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. Lect)

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
CJT1110	Crime Scene Technology I	3	1	2009-1

**Course Description:** 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 a 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. lect.)

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
CJT2240	Basic Fingerprinting	3	1	2009-1

**Course Description:** 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. Lect)

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
CJT1111	Crime Scene Technology II	3	1	2009-1

**Course Description:** 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: CJT1110 (3 hr. Lect)

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
CJT1220	Crime Scene Photography I	3	1	2009-1

**Course Description:** This is an introductory study of the history of photography including basic photography skills. Students will learn camera operation, exposure control, relational photographs and flash control for crime scene and evidentiary documentation. (3 hr. lect.)

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
CJT1221	Crime Scene Photography II	3	1	2009-1

**Course Description:** 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: CJT 1220 (3 hr. lect).

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
CJT2112	Crime Scene Safety	3	1	2009-1

**Course Description:** 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. lect)

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
CJT2113	Courtroom Presentation	3	1	2009-1

**Course Description:** 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. Lect)

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
CJT2241	Fingerprint Development	3	1	2009-1

**Course Description:** This course provides a continuation of CJT 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: CJT 2240 (3 hr. lect)

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
CCJ2358	Criminal Justice Reporting	3	1	2009-1

**Course Description:** This course prepares student through instruction and practice to properly prepare written reports common to criminal justice community. Students will learn a variety of criminal justice scenarios presented and students instructed as to proper report format and presentation. Prerequisite: ENC 1101 (3 hr. lect.)

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
CHS2XXX	Forensic Science II	3	1	2009-1

**Course Description:** 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 1XXXC (3 hr. lect)

APPROVE \_\_\_\_\_ OPPOSE \_\_\_\_\_ MORE INFORMATION \_\_\_\_\_

Associate in Science Degree  
 Crime Scene Technology  
 Total credits required for the degree is 60.  
 (CIP = 0743.010601)  
 Crime Scene Investigation Track (23 credits)  
 Forensic Science Track (23 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.

<b>GENERAL EDUCATION REQUIREMENTS (18 credits hours)</b>				
<b>Course</b>	<b>Course Title</b>	<b>Credits</b>	<b>Pre-requisites</b>	<b>Co-requisites</b>
ENC-1101	English Composition 1	3	None	None
SPC-1026	Fundamentals of Speech Comm.	3	None	None
PHI-2604	Critical Thinking & Ethics	3	ENC-1101	None
CLP-1006	Psychology of Personal Effectiveness	3	None	None
MAC-1105	College Algebra	3	None	None
BSC-1084	Functional Anatomy	3	None	None

<b>CORE COURSES (19 credits hours)</b>				
Course	Course Title	Credits	Pre-requisites	Co-requisites
CCJ-1191	Human Behavior	3	None	None
CCJ-1020	Introduction to Criminal Justice	3	None	None
CJE-2600	Criminal Investigation	3	None	None
CHS-1XXXC	Forensic Science I	4	None	None
CJT-1110	Crime Scene Technology I	3	None	None
CJT-2240	Basic Fingerprinting	3	None	None
<b>*For completion of the AS-Crime Scene Technology, students must choose coursework from <u>only one</u> of the following tracks:</b>				
<b>TRACK 1 Crime Scene Investigation (23 credit hours)</b>				
Course	Course Title	Credits	Pre-requisites	Co-requisites
CCJ-2482	Criminal Justice Ethics	3	PHI-2604	None
CJT-1111	Crime Scene Technology II	3	CJT-1110	None
CJT-1220	Crime Scene Photography I	3	None	None
CJT-1221	Crime Scene Photography II	3	CJT-1220	None
CJT-2112	Crime Scene Safety	2	None	None
CJT-2113	Courtroom Presentation	3	None	None
CJT-2241	Fingerprint Development	3	CJT-2240	None
CCJ-2358	Criminal Justice Reporting	3	ENC-1101	None
<b>OR</b>				
<b>TRACK 2 Forensic Science (23 credit hours)</b>				
Course	Course Title	Credits	Pre-requisites	Co-requisites
CHS-2XXX	Forensic Science II	3	CHS-1XXXC	None
CHM-1045	General Chemistry	3	None	MAC-1105
CHM-1045L	General Chemistry Lab	2	None	CHM-1045 MAC-1105
CHM-1046	General Chemistry	3	CHM-1045	CHM-1046L
CHM-1046L	General Chemistry Lab	2	CHM-1045L	CHM-1046
BSC-2426	Biotechnology: Methods and Applications I	3	None	BSC-2426L
BSC-2426L	Biotechnology: Methods and Applications I Lab	2	None	BSC-2426
BSC-2427	Biotechnology: Methods and Applications II	3	BSC-2426 BSC-2426L	BSC-2427L
BSC-2427L	Biotechnology: Methods and Applications II Lab	2	BSC-2426 BSC-2426L	BSC-2427

**Please Note: CJE 2600 was formerly CJT 2100; Highlighted courses are new to MDC.**

Proposed CIP: 43.9999

**Miami Dade College  
Bachelor of Applied Science degree  
Public Safety Management**

**Total credits required for the degree is 120.**

Upon completion of the BAS degree in Public Safety Management program, the student will be eligible for positions within the public safety arena to include local, state, federal law enforcement. Such positions may include FBI, DEA, TSA, U.S. Secret Service, CIA, and U.S. Marshals Agent. Others include police officer and juvenile justice specialist.

**LOWER DIVISION/FOUNDATION REQUIREMENTS\***  
(30 Credits Required)

Course	Course Title	Credits	Pre-/Co-Requisites
CCJ 1010	Introduction to Criminology	3	3
CCJ 1020	Introduction to Criminal Justice	3	
CCJ 1191	Human Behavior Criminal Justice	3	
CCJ 1210	Criminal Law	3	
CCJ 2500	Juvenile Delinquency	3	
CCJ 2650	Drugs and Society	3	3

CJC 1000	Introduction to Corrections		3
CJC 1162	Parole and Probation	3	
CJL 2062	Const Law & Legal Proc & Evidence		3
CJE 2600	Criminal Investigations	3	

\*Students entering with an AS or AAS degree may have more than 24 elective credits and may need additional General Education credits to meet the 36 General Education credits required for the baccalaureate degree. Students entering with an AA degree may need additional electives to provide appropriate background for the baccalaureate program

(↑ Note # 6; In Area 9)

#### UPPER DIVISION REQUIREMENTS\*\*

(30 Credits Required. Select from the following)

Course	Course Title	Credits	Pre-/Co-Requisites
CCJ 3032	Crime and the Media	3	SYG 2000
CCJ 3290	Judicial Policy Making	3	CCJ 1010
CCJ 3461	Interpersonal Communications for LE	3	CCJ 1191 & SPC 1026
CCJ 3663	Female Crime and Delinquency	3	CCJ 2500 & CCJ 1191
CCJ 3666	Victimology	3	CCJ 1191
CCJ 3700	Methods of Research in Criminal Justice	3	STA 2023
CCJ 4450	Criminal Justice Administration	3	CCJ 1020
CCJ 4487	Ethics in the Criminal Justice System	3	PHI 2604 and CCJ 2482
CCJ 4641	Organized Crime	3	
CCJ 4651	Drugs and Crime	3	CCJ 2650
CCJ 4660	Crime, Violence, and Schools	3	CCJ 2500 & CCJ 1191
CJE 3110	Law Enforcement Systems	3	CCJ 1020
CJE 3115	Police and Society	3	
CJE 3444	Crime Prevention	3	SPC 1026
CJE 4668	Computer Crime	3	CGS 1060
CJL 3044	Civil Law	3	CCJ 1210
DSC 4012	Terrorism	3	CCJ 1020

#### ELECTIVES (15 Credits Required)

Select one of the following Options:

##### OPTION 1--LAW ENFORCEMENT (Group A)

CCJ 4239	Advanced Criminal Investigations	3	CJE 2600
CCJ 4450	Criminal Justice Administration	3	CCJ 1020
CCJ 4651	Drugs and Crime	3	CCJ 2650
CJE 3115	Police and Society	3	
CJE 4310	Police Administration	3	CCJ 1020

OR

##### OPTION 2--CORRECTIONS (Group B)

CCJ 4678	Race, Gender, Ethnicity, and Crime	3	CCJ 1191
CJC 4310	Correctional Theory	3	CJC 1000
CJC 4311	Contemporary Issues and Trends in Corrections	3	CJC 1000
CJC 4351	Correctional Operations	3	CJC 1000
CJL 4064	Corrections Administration and Law	3	CJC 1000

OR

##### OPTION 3--PROBATION AND PAROLE (Group C)

CJC 4015	Corrections Legal System	3	CCJ 1210
CJC 4163	Advanced Probation and Parole	3	CJC 1162
CJC 4310	Correctional Theory	3	CJC 1000
CJC 4311	Contemporary Issues and Trends in Corrections	3	CJC 1000
CJL 4514	Criminal Sentencing	3	CJC 1162

OR

##### OPTION 4--SECURITY AND LOSS PREVENTION (Group D)

SCC 4111	Special Security Problems	3	
SCC 4210	Private Investigations	3	CCJ 4239
SCC 4311	Security Administration	3	CCJ 1020
SCC 4410	Risk Management	3	Co-Requisite SCC 4311
SCC 4612	Hospital Security Management	3	

OR

##### OPTION 5--EMERGENCY MANAGEMENT (Group E)

DSC 4011	Domestic and International Terrorism	3	DSC 4012
DSC 4214	Catastrophic Event Response Management	3	
DSC 4215	Emergency Planning and Security Measures	3	Co-Requisite DSC 4214
FES 4003	Public Policy in Emergency Management	3	
FES 4823	Integrated Emergency Mgmt. Planning Systems	3	CGS 1060

OR

##### OPTION 6--CRIME SCENE (Group F)

CJE 4641	Advanced Crime Scene Investigations	3	Co-Req. CJE 4675
CJE 4647	Advanced Crime Scene Technology	3	CJE 2600 or CJT 1111
CJE 4648	Advanced Crime Scene Safety	3	CJT 2112
CJE 4675	Modern Fingerprint Technology	3	CJE 2600 or CJT 2241
CJL 4133	Criminal Evidence	3	CCJ 1210

OR

##### OPTION 7--INTERNSHIP PROGRAM (Group G)

CCJ 4941	Internship/Field Placement		15
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OR

##### OPTION 8--INTERNSHIP PROGRAM (Group H)

CCJ 4942	Basic Police Academy		15
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OR  
**OPTION 9--INTERNSHIP PROGRAM (Group I)**  
 CCJ 4943 Basic Corrections Academy 15

OR  
**OPTION 10--Criminal Justice Concentration (Group J)**  
 CCJ 4239 Advanced Criminal Investigations 3 CJE 2600  
 CCJ 4641 Organized Crime 3  
 CJC 4163 Advanced Probation and Parole 3 CJC 1162  
 CJE 3115 Police and Society 3  
 DSC 4012 Terrorism 3 CCJ 1020

*\*\*Depending upon the student's associate degree, some lower division credits may be substituted for upper division electives; all students must, however, complete a minimum of 33 upper division credits to meet baccalaureate degree requirements. Note: A course may only be used to fulfill one program requirement.*  
 (↑ **Note # 7; In Area 11**)

**ELECTIVES (9 Credits Required)**

**Computer Competency:** Upon completion of the 16<sup>th</sup> earned college level credit (excluding EAP and college preparatory courses), a student must take the computer competency test and pass; OR By the 31<sup>st</sup> earned college level credit (excluding EAP and college preparatory courses), a student must pass CGS 1060, an equivalent continuing education or vocational credit course or retest with a passing score on the computer competency test (↑ **Note # 5; In Area 8**).

**Foreign Language:** Students admitted to the baccalaureate degree program without meeting the foreign language admission requirement of at least 2 credits of sequential foreign language at the secondary level or the equivalent of such instruction at the postsecondary level must earn such credits prior to graduation (↑ **Note # 8; In Area 12**).

**Students may need additional General Education or Upper Division Electives. Contact advisor for information.**

**AL EDUCATION REQUIREMENTS (36 Credits Required)**

**For additional advising information, students should refer to the MDC General Education advising information or their advisor.**

1. Communications (Gordon Rule) ENC 1101 ENC 1102	6	5. Natural Science 3 credits Approved Physical Science PSC 1515 Energy in Nat Environment (recommended) (↑ <b>Note # 3; In Area 5</b> ) and 3 credits Approved Life Science Selection	6
2. Oral Communications (Gordon Rule) (Select the appropriate course): ENC 2300 LIT 2480 SPC 1026	3	6. Mathematics MAC 1105 and STA 2023 (recommended) or (↑ <b>Note # 4; In Area 6</b> ) Approved selection—see advisor	6
3. Humanities (Gordon Rule) (Refer to General Education requirements for specific information) PHI 2604 Critical Think/Ethics (recommended) (↑ <b>Note # 1; In Area 3</b> ) and Approved selection—see advisor	6	7. General Education Elective	3
4. Behavioral/Social Sciences (Gordon Rule) Recommended Courses: 3 credits from Group A CLP 1006 Psychology of Personal Effectiveness or SYG 2000 Intro to Sociology (↑ <b>Note #2; In Area 4</b> ) and 3 credits of Group B Approved Selections	6		

**4. School of Computer and Engineering Technologies**

**Changes in AS Degree**

**Computer Programming Business Applications (25065)**

**Change Course Number/Title/Competencies/Credit Type**

**Add New/Existing/Delete Course (s)**

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
CIS2322	System Analysis & Design	4	1,2,3,5,6,7,8	2009-1
CIS1321	System Analysis & Design (New)			
	Credit Type from 01 to 02			

**Course Description:** 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. Prerequisite(s): CGS1060. Knowledge of business accounting is recommended. Laboratory fee. (3 hr. lecture; 2 hr. lab)

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
COP1220	Introduction to Programming C	4	1,2,3,5,6,7,8	2009-1

COP1334 Introduction to Object Oriented Programming in C++ (New)

**Course Description:** This is an introductory course in C++ programming recommended for Computer Science and Computer Information Systems majors. Students learn the syntax and rules of the C++ language, including how to code, compile, and execute programs. Students study program design, structured modular programming arrays, report generation, and file processing. No previous computer courses are required although CGS 1060 is recommended. Laboratory fee. (3 hr. lecture; 2 hr. lab)

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
COP1770	Introduction to Visual Basic	4	1,2,3,5,6,7,8	2009-1
COP1332	Introduction to Visual Basic Programming (New)			

**Course Description:** This course introduces computer science and non-major students to fundamental programming skills using the Visual Basic Integrated Development environment. Students 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. This course may be taken by those not majoring in Computer Information Systems. Knowledge of high school algebra is recommended. Laboratory fee. (3 hr. lecture; 2 hr. lab).

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
COP2171	Advanced Visual Basic	4	1,2,3,5,6,7,8	2009-1
COP2333	Advanced Programming Concepts Using Visual Basic (New)			

**Course Description:** 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)

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
CGS2405	Advanced C++ Programming	4	1,2,3,5,6,7,8	2009-1
COP2335	Advanced Object Oriented Programming in C++ (New)			

**Course Description:** This course presents advanced topics and applications of programming logic, C++ syntax, and the object-oriented approach to problem solving. Students will learn how to design, code, compile, debug, and execute Windows-based applications programs using the Windows API and Microsoft Foundation Classes (MFC). Students will learn how to apply overloading operators, inheritance, advanced sorting techniques, advanced data manipulation, and data structures. Students explore the design and use of the Open Database Connectivity (ODBC) specification. Prerequisites: CGS1060, COP1334. Knowledge of high school algebra is recommended. Laboratory fee. (4 credits)

### **Revised Competencies**

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
COP2800	Java Programming	4	1,2,3,5,6,7,8	2009-1

**Course Description:** 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: COP1334. Laboratory fee. (3 hr. lecture, 2hr. lab)

### **Add New/Existing Courses to Program (25065)**

### **Required Program Course**

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
CIS2322	System Analysis & Design Implementation	4	1,2,3,5,6,7,8	2009-1

**Course Description:** 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: CGS1060 and CIS 1321. Knowledge of business accounting is recommended. Laboratory fee. AS degree credit only. (3 hr. lecture; 2 hr. lab)

**Recommended Program Elected**

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
COP2823	ASP/Script Language Programming	4	1,2,3,5,6,7,8	2009-1

**Recommended Program Elected**

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
*CTS2463	C# Web Application Development	4	1,2,3,5,6,7,8	2009-1

**Course Description:** 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: COP1332 or COP1334. Laboratory fee. AS degree credit only. (3 hr. lecture; 2 hr. lab)

\*CTS2463 - C# Web Application Development

**Justification**

C# is a simple, modern, general-purpose, object-oriented programming language specifically designed for building today's web-based, enterprise-wide applications. It was designed for building a wide range of applications that run on the .NET Framework and it is supported by Visual Studio, which is a widely used development tool in today's business environment. The C# language is intended for use in developing software components that can take advantage of distributed environments. C# is an important tool for students who are seeking employment as web and database programmers in today's business environment.

**Delete from Program Only**

<u>Course No.</u>	<u>Course Title</u>	<u>Credits</u>	<u>Campus</u>	<u>Eff. Term</u>
COP2334	Object Oriented Programming in C++	4	1,2,3,5,6,7,8	2009-1

<b>The following programs will be impacted by the course number changes:</b>	
<b>25057</b>	Database Technology - Microsoft Database Administrator
<b>25058</b>	Database Technology - Oracle Database Administrator
<b>25059</b>	Database Technology - Microsoft Solutions Developer
<b>25060</b>	Database Technology - Oracle Solutions Developer
<b>25061</b>	Networking Services Technology - Microsoft
<b>25062</b>	Networking Services Technology - CISCO
<b>25063</b>	Internet Services Technology
<b>25064</b>	Computer Programming & Analysis - Game Development
<b>25066</b>	Networking Services Technology - Network Security
<b>26039</b>	Electronics Engineering Technology
<b>66045</b>	Computer Programming CCC
<b>66047</b>	Microsoft Solutions Developer CCC
<b>66051</b>	Web Development Specialist CCC
<b>22028</b>	Biotechnology - Bioinformatics

**APPROVE**\_\_\_\_\_ **OPPOSE**\_\_\_\_\_ **MORE INFORMATION**\_\_\_\_\_

**ASSOCIATE IN SCIENCE DEGREE  
PROGRAM OF STUDY: DATABASE TECHNOLOGY - MICROSOFT DATABASE  
ADMINISTRATOR (25057)**

**I. GENERAL EDUCATION REQUIREMENTS**

**1. COMMUNICATIONS (3.00 credits)**

[ENC 1101](#) - English Composition 1 (3 credits)

---

**2. ORAL COMMUNICATIONS (3.00 credits)**

[SPC 1026](#) - Fundamentals of Speech Communications (3 credits)

---

**3. HUMANITIES (3.00 credits)**

[PHI 2604](#) - Critical Thinking/Ethics (3 credits)

---

**4. BEHAVIORAL/SOCIAL SCIENCE (3.00 credits)**

[CLP 1006](#) - Psychology of Personal Effectiveness (3 credits)

---

**5. MATH/SCIENCE (3.00 credits)**

[MAC 1105](#) - College Algebra (3 credits)

---

**6. COMPUTER COMPETENCY**

Test type(s) needed:

[CGS 1060](#) - Introduction to Microcomputer Usage (4 credits)

---

**7. MAJOR COURSE REQUIREMENTS (12.00 credits)**

[CGS 1060](#) - Introduction to Microcomputer Usage (4

COP1332 - Introduction to Visual Basic Programming (4

**ASSOCIATE IN SCIENCE DEGREE**  
**PROGRAM OF STUDY: DATABASE TECHNOLOGY - ORACLE DATABASE**  
**ADMINISTRATOR (25058)**

**I. GENERAL EDUCATION REQUIREMENTS**

**1. COMMUNICATIONS (3.00 credits)**

[ENC 1101](#) - English Composition 1 (3 credits)

---

**2. ORAL COMMUNICATIONS (3.00 credits)**

[SPC 1026](#) - Fundamentals of Speech Communications (3 credits)

---

**3. HUMANITIES (3.00 credits)**

[PHI 2604](#) - Critical Thinking/Ethics (3 credits)

---

**4. BEHAVIORAL/SOCIAL SCIENCE (3.00 credits)**

[CLP 1006](#) - Psychology of Personal Effectiveness (3 credits)

---

**5. MATH/SCIENCE (3.00 credits)**

[MAC 1105](#) - College Algebra (3 credits)

---

**6. COMPUTER COMPETENCY**

Test type(s) needed:

[CGS 1060](#) - Introduction to Microcomputer Usage (4 credits)

---

**7. MAJOR COURSE REQUIREMENTS (16.00 credits)**

[CGS 1060](#) - Introduction to Microcomputer Usage (4 credits)

[CGS 1541](#) - Microcomputer Database Management (4 credits)

COP1332 - Introduction to Visual Basic Programming (4 credits)

COP2333 - Advanced Programming Concepts Using Visual BASIC (4 credits)

**ASSOCIATE IN SCIENCE DEGREE**  
**PROGRAM OF STUDY: DATABASE TECHNOLOGY - MICROSOFT SOLUTIONS**  
**DEVELOPER (25059)**

**I. GENERAL EDUCATION REQUIREMENTS**

**1. COMMUNICATIONS** (3.00 credits)

[ENC 1101](#) - English Composition 1 (3 credits)

---

**2. ORAL COMMUNICATIONS** (3.00 credits)

[SPC 1026](#) - Fundamentals of Speech Communications (3 credits)

---

**3. HUMANITIES** (3.00 credits)

[PHI 2604](#) - Critical Thinking/Ethics (3 credits)

---

**4. BEHAVIORAL/SOCIAL SCIENCE** (3.00 credits)

[CLP 1006](#) - Psychology of Personal Effectiveness (3 credits)

---

**5. MATH/SCIENCE** (3.00 credits)

[MAC 1105](#) - College Algebra (3 credits)

---

**6. COMPUTER COMPETENCY**

Test type(s) needed:

[CGS 1060](#) - Introduction to Microcomputer Usage (4 credits)

---

**7. MAJOR COURSE REQUIREMENTS** (16.00 credits) (**Short 4 Credits, must select another course to replace COP2171**)

[CGS 1060](#) - Introduction to Microcomputer Usage (4 credits)

[CGS 1541](#) - Microcomputer Database Management (4 credits)

[COP 4170](#) - Introduction to Visual Basic (4 credits)  
(**Number/Title Change: COP1332 - Introduction to Visual Basic Programming**)

[COP 2171](#) - Advanced Programming Concepts Using BASIC (4 credits) (**DELETE**)

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**ASSOCIATE IN SCIENCE DEGREE**  
**PROGRAM OF STUDY: DATABASE TECHNOLOGY - ORACLE DATABASE**  
**DEVELOPER (25060)**  
**EFFECTIVE TERM: Spring 2008 (2008-2)**

**I. GENERAL EDUCATION REQUIREMENTS**

**1. COMMUNICATIONS (3.00 credits)**

- [ENC 1101](#) - English Composition 1 (3 credits)
- 

**2. ORAL COMMUNICATIONS (3.00 credits)**

- [SPC 1026](#) - Fundamentals of Speech Communications (3 credits)
- 

**3. HUMANITIES (3.00 credits)**

- [PHI 2604](#) - Critical Thinking/Ethics (3 credits)
- 

**4. BEHAVIORAL/SOCIAL SCIENCE (3.00 credits)**

- [CLP 1006](#) - Psychology of Personal Effectiveness (3 credits)
- 

**5. MATH/SCIENCE (3.00 credits)**

- [MAC 1105](#) - College Algebra (3 credits)
- 

**6. COMPUTER COMPETENCY**

Test type(s) needed:

- [CGS 1060](#) - Introduction to Microcomputer Usage (4 credits)
- 

**7. MAJOR COURSE REQUIREMENTS (16.00 credits)**

- [CGS 1060](#) - Introduction to Microcomputer Usage (4 credits)

- [CGS 1541](#) - Microcomputer Database Management (4 credits)

- COP1332- Introduction to Visual Basic Programming (4 credits)

- COP2333- Advanced Programming Concepts Using Visual BASIC (4 credits)
- 

**8. PROGRAM CORE REQUIRED (20.00 credits)**

- [COP 2740](#) - Introduction to Oracle: SQL and PL/SQL (4 credits)

- [COP 2745](#) - Programming PL/SQL in Oracle (4 credits)

- [COP 2746](#) - Introduction to Oracle Database Applications (4 credits)

- [COP 2747](#) - Intermediate Oracle Database Applications (4 credits)

- [COP 2748](#) - Oracle Report Building (4 credits)
- 

**9. MAJOR COURSE ELECTIVE (12.00 credits)**

Must take 4.0 credits from the following group.

- CAP\*

- CEN\*

- CGS\*

- CIS\*

- COP\*

- CTS\*

**ASSOCIATE IN SCIENCE DEGREE**  
**PROGRAM OF STUDY: NETWORKING SERVICES TECHNOLOGY-MICROSOFT**  
**(25061)**

**I. GENERAL EDUCATION REQUIREMENTS**

**1. COMMUNICATIONS** (3.00 credits)

[ENC 1101](#) - English Composition 1 (3 credits)

---

**2. ORAL COMMUNICATIONS** (3.00 credits)

[SPC 1026](#) - Fundamentals of Speech Communications (3 credits)

---

**3. HUMANITIES** (3.00 credits)

[PHI 2604](#) - Critical Thinking/Ethics (3 credits)

---

**4. BEHAVIORAL/SOCIAL SCIENCE** (3.00 credits)

[CLP 1006](#) - Psychology of Personal Effectiveness (3 credits)

---

**5. MATH/SCIENCE** (3.00 credits)

[MAC 1105](#) - College Algebra (3 credits)

---

**6. COMPUTER COMPETENCY**

Test type(s) needed:

[CGS 1060](#) - Introduction to Microcomputer Usage (4 credits)

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**7. MAJOR COURSE REQUIREMENTS** (8.00 credits)

[CGS 1060](#) - Introduction to Microcomputer Usage (4 credits)

[COP1332](#) - Introduction to Visual Basic Programming (4 credits)

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**ASSOCIATE IN SCIENCE DEGREE**  
**PROGRAM OF STUDY: NETWORKING SERVICES TECHNOLOGY-CISCO (25062)**

**I. GENERAL EDUCATION REQUIREMENTS**

**1. COMMUNICATIONS** (3.00 credits)

[ENC 1101](#) - English Composition 1 (3 credits)

---

**2. ORAL COMMUNICATIONS** (3.00 credits)

[SPC 1026](#) - Fundamentals of Speech Communications (3 credits)

---

**3. HUMANITIES** (3.00 credits)

[PHI 2604](#) - Critical Thinking/Ethics (3 credits)

---

**4. BEHAVIORAL/SOCIAL SCIENCE** (3.00 credits)

[CLP 1006](#) - Psychology of Personal Effectiveness (3 credits)

---

**5. MATH/SCIENCE** (3.00 credits)

[MAC 1105](#) - College Algebra (3 credits)

---

**6. COMPUTER COMPETENCY**

Test type(s) needed:

[CGS 1060](#) - Introduction to Microcomputer Usage (4 credits)

---

**7. MAJOR COURSE REQUIREMENTS** (8.00 credits)

[CGS 1060](#) - Introduction to Microcomputer Usage (4 credits)

COP1332 - Introduction to Visual Basic Programming (4 credits)

---

**ASSOCIATE IN SCIENCE DEGREE**  
**PROGRAM OF STUDY: INTERNET SERVICES TECHNOLOGY (25063)**

**I. GENERAL EDUCATION REQUIREMENTS**

**1. COMMUNICATIONS (3.00 credits)**

[ENC 1101](#) - English Composition 1 (3 credits)

---

**2. ORAL COMMUNICATIONS (3.00 credits)**

[SPC 1026](#) - Fundamentals of Speech Communications (3 credits)

---

**3. HUMANITIES (3.00 credits)**

[PHI 2604](#) - Critical Thinking/Ethics (3 credits)

---

**4. BEHAVIORAL/SOCIAL SCIENCE (3.00 credits)**

[CLP 1006](#) - Psychology of Personal Effectiveness (3 credits)

---

**5. MATH/SCIENCE (3.00 credits)**

[MAC 1105](#) - College Algebra (3 credits)

---

**6. COMPUTER COMPETENCY**

Test type(s) needed:

[CGS 1060](#) - Introduction to Microcomputer Usage (4 credits)

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**7. MAJOR COURSE REQUIREMENTS (40.00 credits)**

[CGS 1060](#) - Introduction to Microcomputer Usage (4 credits)

[COP 2823](#) - ASP/Script Language Programming (4 credits)

**ASSOCIATE IN SCIENCE DEGREE**  
**PROGRAM OF STUDY: COMPUTER PROGRAMMING AND ANALYSIS-GAME**  
**DEVELOPMENT (25064)**

**I. GENERAL EDUCATION REQUIREMENTS**

**1. COMMUNICATIONS** (3.00 credits)

- [ENC 1101](#) - English Composition 1 (3 credits)
- 

**2. ORAL COMMUNICATIONS** (3.00 credits)

- [SPC 1026](#) - Fundamentals of Speech Communications (3 credits)
- 

**3. HUMANITIES** (3.00 credits)

- [PHI 2604](#) - Critical Thinking/Ethics (3 credits)
- 

**4. BEHAVIORAL/SOCIAL SCIENCE** (3.00 credits)

- [CLP 1006](#) - Psychology of Personal Effectiveness (3 credits)
- 

**5. MATH/SCIENCE** (3.00 credits)

- [MAC 1105](#) - College Algebra (3 credits)
- 

**6. COMPUTER COMPETENCY**

Test type(s) needed:

- [CGS 1060](#) - Introduction to Microcomputer Usage (4 credits)
- 

**7. MAJOR COURSE REQUIREMENTS** (8.00 credits)

- COP1334 - Introduction to Programming in C++" (4 credits)

- COP2335 Advanced Object Oriented Programming using C++ (4 credits)

- 
- 

**8. PROGRAM CORE REQUIRED** (36.00 credits)

- [DIG 1710](#)  
 [DIG 1712](#)  
 [DIG 1705](#)  
 [DIG 2771](#)  
 [DIG 2714](#)

- [DIG 2625](#)  
 [DIG 2626](#)  
 [CAP 2047](#) - User Interface Design (4 credits)  
 [CAP 2048](#) - Game Development Project (4 credits)

**9. PROGRAM ELECTIVE** (4.00 credits)

- CEN\*  
 CGS\*  
 CIS\*

- COP\*  
 CTS\*  
 CAP\*

**ASSOCIATE IN SCIENCE DEGREE  
PROGRAM OF STUDY: COMPUTER PROGRAMMING AND ANALYSIS-BUS  
APPLICATION PROG. (25065)**

**CURRENT PROGRAM SHEET WITH MODIFICATIONS**

**I. GENERAL EDUCATION REQUIREMENTS**

**1. COMMUNICATIONS (3.00 credits)**

[ENC 1101](#) - English Composition 1 (3 credits)

---

**2. ORAL COMMUNICATIONS (3.00 credits)**

[SPC 1026](#) - Fundamentals of Speech Communications (3 credits)

---

**3. HUMANITIES (3.00 credits)**

[PHI 2604](#) - Critical Thinking/Ethics (3 credits)

---

**4. BEHAVIORAL/SOCIAL SCIENCE (3.00 credits)**

[CLP 1006](#) - Psychology of Personal Effectiveness (3 credits)

---

**5. MATH/SCIENCE (3.00 credits)**

[MAC 1105](#) - College Algebra (3 credits)

---

**6. COMPUTER COMPETENCY**

Test type(s) needed:

[CGS 1060](#) - Introduction to Microcomputer Usage (4 credits)

---

**ASSOCIATE IN SCIENCE DEGREE**  
**PROGRAM OF STUDY: NETWORKING SERVICES TECHNOLOGY-NETWORK**  
**SECURITY (25066)**

**I. GENERAL EDUCATION REQUIREMENTS**

**1. COMMUNICATIONS (3.00 credits)**

- [ENC 1101](#) - English Composition 1 (3 credits)
- 

**2. ORAL COMMUNICATIONS (3.00 credits)**

- [SPC 1026](#) - Fundamentals of Speech Communications (3 credits)
- 

**3. HUMANITIES (3.00 credits)**

- [PHI 2604](#) - Critical Thinking/Ethics (3 credits)
- 

**4. BEHAVIORAL/SOCIAL SCIENCE (3.00 credits)**

- [CLP 1006](#) - Psychology of Personal Effectiveness (3 credits)
- 

**5. MATH/SCIENCE (3.00 credits)**

- [MAC 1105](#) - College Algebra (3 credits)
- 

**6. COMPUTER COMPETENCY**

Test type(s) needed:

- [CGS 1060](#) - Introduction to Microcomputer Usage (4 credits)
- 

**7. MAJOR COURSE REQUIREMENTS (12.00 credits)**

- [CGS 1060](#) - Introduction to Microcomputer Usage (4 credits)

- COP1332 - Introduction to Visual Basic Programming (4 credits)

- [CEN 1511](#) - Networking Technologies (4 credits)

**8. PROGRAM CORE REQUIRED (36.00 credits)**

- [CGS 1560](#) - Using Microcomputer Operating Systems (4 credits)

- [CEN 1301](#) - Supporting Microsoft Clients (4 credits)

- [CEN 1304](#) - Managing a Windows Server Environment (4 credits)

- [CEN 2305](#) - Implementing a Networking Infrastructure (4 credits)

- [CEN 2323](#) - Design, Implement, Manage Network Security (4 credits)

- [CEN 2545](#) - Hardening the infrastructure (4 credits)

- [CEN 2546](#) - Network Defense and Countermeasures (4 credits)

- [CGS 2092](#) - Professional Ethics and Social Issues in CS (4 credits)

- [CTS 1312](#) - Fundamentals of Networking Security (4 credits)

\* End of Program Sheet \*

**ASSOCIATE IN SCIENCE DEGREE**  
**PROGRAM OF STUDY: ELECTRONICS ENGINEERING TECHNOLOGY (26039)**

**I. GENERAL EDUCATION REQUIREMENTS**

**1. COMMUNICATIONS** (3.00 credits)

- [ENC 1101](#) - English Composition 1 (3 credits)
- 

**2. ORAL COMMUNICATIONS** (3.00 credits)

- [SPC 1026](#) - Fundamentals of Speech Communications (3 credits)
- 

**3. HUMANITIES** (3.00 credits)

- [PHI 2604](#) - Critical Thinking/Ethics (3 credits)
- 

**4. BEHAVIORAL/SOCIAL SCIENCE** (6.00 credits)

Must take 3.0 credits from the following group.

- [CLP 1006](#) - Psychology of Personal Effectiveness (3 credits)

--- And ---

Must take 3.0 credits from the following group.

- [AMH 2010](#) - History of the United States to 1877 (3 credits)
- [AMH 2020](#) - History of the United States since 1877 (3 credits)
- [ECO 2013](#) - Principles of Economics (Macro) (3 credits)

- [POS 2041](#) - American Federal Government (3 credits)
- [WOH 2012](#) - History of World Civilizations to 1715 (3 credits)
- [WOH 2022](#) - History of World Civilizations from 1715 (3 credits)

The following course(s) are not allowed for credit in this area.  
All Labs

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**5. MATH/SCIENCE** (7.00 credits)

- [MAC 1105](#) - College Algebra (3 credits)

- [PHY 2053L](#) - Physics (without Calculus) Lab (1 credit)

- [PHY 2053](#) - Physics (without Calculus) (3 credits)
- 

**6. COMPUTER COMPETENCY**

Test type(s) needed:

- [CGS 1060](#) - Introduction to Microcomputer Usage (4 credits)
-

**COLLEGE CREDIT CERTIFICATE  
PROGRAM OF STUDY: COMPUTER PROGRAMMING (66045)**

**EXISTING SHEET SHOWING CHANGES**

**I. GENERAL EDUCATION REQUIREMENTS**

**1. MAJOR COURSE REQUIREMENTS (33.00 credits)**

- 
- |   |  |
|---|--|
| <input type="checkbox"/> <a href="#">ACG 2021L</a> - Financial Accounting Lab (1 credit)                | <input type="checkbox"/> <a href="#">COP1334</a> - Introduction to Programming in C++ (4 credits)                |
| <input type="checkbox"/> <a href="#">CGS 1060</a> - Introduction to Microcomputer Usage (4 credits)     | <input type="checkbox"/>   |
| <input type="checkbox"/> COP2335 Advanced Object Oriented Programming Using C++                         | <input type="checkbox"/> <a href="#">COP 2333</a> – Advanced Programming Concepts using Visual Basic (4 credits) |
| <input type="checkbox"/> CIS1321 - Introduction to Systems Analysis and Design (4 credits)              | <input type="checkbox"/> <a href="#">COP 2800</a> - Java Programming (4 credits)                                 |
| <input type="checkbox"/> <a href="#">COP1332</a> - Introduction to Visual Basic Programming (4 credits) | <input type="checkbox"/> <a href="#">COP 2805</a> - Advanced Java Programming (4 credits)                        |

**COLLEGE CREDIT CERTIFICATE  
PROGRAM OF STUDY: MICROSOFT SOLUTIONS DEVELOPER (66047)**

**I. GENERAL EDUCATION REQUIREMENTS**

**1. MAJOR COURSE REQUIREMENTS (16.00 credits **15 credits**)**

- |  |   |
|--|---|
| <input type="checkbox"/> <a href="#">CGS 2547</a> - Microsoft SQL Implementation (4 credits)   | <input type="checkbox"/> <a href="#">COP 2333</a> - Visual Basic-3 (4 credits)<br><b>(Title Change: Advanced Programming Concepts Using Visual Basic)</b> |
| <input type="checkbox"/> <a href="#">COP 2332</a> - Distributed Applications with Visual Basic (4 credits) <b>(Prefix/Number Change to CTS 2404)</b> | <input type="checkbox"/> <a href="#">CTS 2700</a> - Design Business Solutions (4 credits)   |
- 

\* End of Program Sheet \*

**COLLEGE CREDIT CERTIFICATE**  
**PROGRAM OF STUDY: WEB DEVELOPMENT SPECIALIST (66051)**

**I. GENERAL EDUCATION REQUIREMENTS**

**1. MAJOR COURSE REQUIREMENTS** (~~36.00 credits~~ 35.00 credits)

- |   |  |
|---|--|
| <input type="checkbox"/> <a href="#">CGS 1060</a> - Introduction to Microcomputer Usage (4 credits) | <input type="checkbox"/> <a href="#">COP 2823</a> - ASP/Script Language Programming (4 credits)              |
| <input type="checkbox"/> COP1332 - Introduction to Visual Basic Programming (4 credits)             | <input type="checkbox"/> <a href="#">COP 2812</a> - Extensible Markup Language Programming (XML) (4 credits) |
| <input type="checkbox"/> COP1334 - Introduction to Programming in C++ (4 credits)                   | <input type="checkbox"/> <a href="#">COP 2612</a> - Operating System Principles (4 credits)                  |
| <input type="checkbox"/> <a href="#">COP 1822</a> - Web Page Design and Programming (4 credits)     | <input type="checkbox"/> <a href="#">COP 2825</a> - Implementing an Internet Server (4 credits)              |
| <input type="checkbox"/> <a href="#">COP 2800</a> - Java Programming (4 credits)                    |  |

**ASSOCIATE IN SCIENCE DEGREE**  
**PROGRAM OF STUDY: BIOTECHNOLOGY-BIOINFORMATICS (22028)**

**I. GENERAL EDUCATION REQUIREMENTS**

**1. COMMUNICATIONS** (3.00 credits)

- [ENC 1101](#) - English Composition 1 (3 credits)
- 

**2. ORAL COMMUNICATIONS** (3.00 credits)

- [SPC 1026](#) - Fundamentals of Speech Communications (3 credits)
- 

**3. HUMANITIES** (3.00 credits)

- [PHI 2604](#) - Critical Thinking/Ethics (3 credits)
- 

**4. BEHAVIORAL/SOCIAL SCIENCE** (3.00 credits)

- [CLP 1006](#) - Psychology of Personal Effectiveness (3 credits)
- 

**5. MATH/SCIENCE** (6.00 credits)

- [MAC 1105](#) - College Algebra (3 credits)                       [BSC 2010](#) - Principles of Biology 1 (3 credits)
- 

**6. COMPUTER COMPETENCY**

Test type(s) needed:

- [CGS 1060](#) - Introduction to Microcomputer Usage (4 credits)
- 

**7. MAJOR COURSE REQUIREMENTS** (23.00 credits)

- |  |   |
|--|---|
| <input type="checkbox"/> <a href="#">STA 2023</a> - Statistical Methods (3 credits)                      | <input type="checkbox"/> <a href="#">BSC 2426L</a> - Biotechnology Methods and Applications 1 Lab (2 credits) |
| <input type="checkbox"/> <a href="#">BSC 2010L</a> - Principles of Biology 1 Lab (2 credits)             | <input type="checkbox"/> <a href="#">BSC 2427</a> - Biotechnology Methods and Applications 2 (3 credits)      |
| <input type="checkbox"/> <a href="#">CHM 1045</a> - General Chemistry (3 credits)                        | <input type="checkbox"/> <a href="#">BSC 2427L</a> - Biotechnology Methods and Applications 2 Lab (2 credits) |
| <input type="checkbox"/> <a href="#">CHM 1045L</a> - General Chemistry Lab (2 credits)                   | <input type="checkbox"/> <a href="#">BSC 2943L</a> - Bioscience Internship (3 credits)                        |
| <input type="checkbox"/> <a href="#">BSC 2426</a> - Biotechnology Methods and Applications 1 (3 credits) |   |
- 

**8. MAJOR COURSE ELECTIVE** (20.00 credits)

- |  |  |
|--|--|
| <input type="checkbox"/> <a href="#">CGS 1021</a> - Scientific Computing (4 credits)           | <input type="checkbox"/> <a href="#">COP 2004</a> - Perl Programming (4 credits)                 |
| <input type="checkbox"/> <a href="#">CGS 1145</a> - Introduction to Bioinformatics (4 credits) | <input type="checkbox"/> <a href="#">COP 2700</a> - Database Application Programming (5 credits) |
| <input type="checkbox"/> CIS1321 - Introduction to Systems Analysis and Design (4 credits)     |  |

# PROGRAM OF STUDY: BIOTECHNOLOGY - BIOINFORMATICS (C6029)

## Total Credits Required 33.00

### I. GENERAL EDUCATION REQUIREMENTS

#### 1. ADV. CERT. CORE REQUIRED (13.00 credits)

- |   |   |
|---|---|
| <input type="checkbox"/> <a href="#">BSC 2426</a> - Biotechnology Methods and Applications 1 (3 credits)      | <input type="checkbox"/> <a href="#">BSC 2427L</a> - Biotechnology Methods and Applications 2 Lab (2 credits) |
| <input type="checkbox"/> <a href="#">BSC 2426L</a> - Biotechnology Methods and Applications 1 Lab (2 credits) | <input type="checkbox"/> <a href="#">BSC 2943L</a> - Bioscience Internship (3 credits)                        |
| <input type="checkbox"/> <a href="#">BSC 2427</a> - Biotechnology Methods and Applications 2 (3 credits)      |   |
- 

#### 2. ADV. CERT. PROG. REQUIREMENTS (20.00 credits)

- |  |  |
|--|--|
| <input type="checkbox"/> <a href="#">CGS 1021</a> - Scientific Computing (4 credits)                       | <input type="checkbox"/> <a href="#">COP 2004</a> - Perl Programming (4 credits)                 |
| <input type="checkbox"/> <a href="#">CGS 1145</a> - Introduction to Bioinformatics (4 credits)             | <input type="checkbox"/> <a href="#">COP 2700</a> - Database Application Programming (5 credits) |
| <input type="checkbox"/> <a href="#">CIS1321</a> - Introduction to Systems Analysis and Design (4 credits) |  |