



**Syllabus**  
MAC2233 Business Calculus

**Term:** SPRING 2009-2

**Reference #:**550343

**Instructor's Name:**Thomas Flanagan

**E-mail:**tflanaga@mdc.edu

**Office:** Math Lab, Room # 2223

**Mail-box:** Math Lab, Room # 2223

**Office Hours:**Tuesdays and Thursday 4:40 pm - 5:40 pm, room 2223

To leave a message for the instructor, please call the Math Lab at 305-237-3834 during its hours of operation:

**MTWR** 8:00 AM - 9:00 PM

**F** 8:00 AM - 4:00 PM

**S** 8:00 AM - 4:00 PM

***Course Description:***

An introduction to the basic concepts of differential and integral calculus for business majors. Topics include limits; continuity; differentiation and integration of polynomial, logarithmic and exponential functions with applications to business.

Credits: 3

***Pre-requisites***

MAC1105 (Grade C or better), or appropriate placement score

***Textbook***

Calculus and its Applications, 9<sup>th</sup> Ed. by Bittinger & Ellenbogen; Pub Addison Wesley

**At the Instructor's discretion, a TI-83 or TI-84 Graphing Calculator may be required**

***Assistance***

You can obtain assistance for mathematics classes in the Mathematics Laboratory, room 2223. There, you will find course-related videotapes and computer software, and tutors that can help you to successfully complete this course. The Math Lab is open during these hours:

**MTWR** 8:00 AM - 9:00 PM

**F** 8:00 AM - 4:00 PM

**S** 8:00 AM-4:00 PM.

You do not need an appointment to get assistance from the tutors on the Floor, but the tutors on the Floor must help all the students and may have to take turns; they cannot work with one student for a prolonged period of time.

One-to-one tutoring (1 hour long session) is available by appointment only. Please visit the Math Lab and speak to any of the Supervisors to schedule an appointment.

If you have a problem with the Math Lab, please contact any of the supervisors: Arcides Acosta, Maliya Beylin, Jose De Paz, or Verdieu Lucas at 305-237-3834 or visit their offices in room 2223. If *after speaking with a supervisor* the problem persists, then you need to visit the chairperson, Dr. Alicia Giovinazzo (office 1540) as the next step.

## ***Classroom and Laboratory Etiquette***

The instructor would like to welcome all students into an environment that creates a sense of community, pride, courtesy and respect; we are all here to work cooperatively and to learn together. In order to create a smooth and harmonious learning community, please make every attempt to come to all the class sessions, to come to class on time, and to stay until the end of the class session unless you have informed your instructor that you must leave early. There may be a time when you are unavoidably late for class. In that case, please come into the room quietly (through the back door if there is one) and choose a seat closest to the entrance.

Once the class session has begun, please do not leave the room and then re-enter unless it is an emergency. If you miss a class meeting for any reason, you are responsible for all material discussed, for announcements made in your absence, and for acquiring any materials that may have been distributed in class. You are responsible for contacting the instructor for this information.

It is important that we are all able to stay focused on the class discussion. For this reason, only one person in the class at a time should be speaking. Side conversations are distracting for surrounding students and for the instructor. Professional behavior is expected at all times. You are encouraged to ask questions.

Please refrain from bringing food or drinks into any classroom or the Math lab.

Beeper and Cellular telephones must be turned off. ***The vibrate mode is not considered turned off.*** Absolutely no text messaging or instant messaging is allowed in the classroom. The instructor may ask you to leave the classroom for the day if you are caught.

## ***Problems with Instructor***

If you are having a problem with your mathematics instructor, please see that instructor **during** office hours. Before or after class is generally not a good time to discuss a problem with an instructor who is either about to start class or on the way to the next class. If *after speaking with your instructor during office hours* you cannot resolve the problem, then you need to visit the chairperson, Dr. Alicia Giovinazzo (office 1540) as the next step.

## ***Professional Student Behavior***

The MDC Students' Rights and Responsibilities Handbook describes students' appropriate and inappropriate behaviors, along with their consequences. Additionally, please be aware that cheating, plagiarism, and disruptive behavior are not tolerated and can result in serious consequences such as failure of a course or dismissal from the college. For more information, go to [http://www.mdc.edu/policy/student\\_rights\\_and\\_responsibilities.pdf](http://www.mdc.edu/policy/student_rights_and_responsibilities.pdf).

## ***Office Hours***

Your professor urges you to avail yourself of his/hers individual instruction during office hours. Do not wait until you are in trouble. If you have been absent or late to class, please read the lesson you missed and come to his/her office prepared with questions.

## ***Attendance***

The number one key to educational success is to attend classes. Students are responsible for any work missed when absent. Class attendance will be recorded daily. ***Frequent absences may cause you to be dropped from the course.*** You should make an effort to be in class, and on time. *Lateness is rude and disruptive.*

## ***Registration***

It is your responsibility to make sure that you are registered for this course. Be sure to obtain a copy of your schedule to verify the reference number and that you do not have any outstanding fees. ***You will not be allowed to take the final exam if you are not in your instructor's class roster*** so make sure to resolve any issues prior to the final exam date.

## **Withdrawal**

If you feel that you will be unable to complete the requirements for passing this class, it is important that you drop the class by the college's "drop date" as established by the registrar's office. You should speak to your instructor prior to making the decision to drop. Remember that it is your responsibility to drop a class, not the instructor's. If extenuating circumstances such as illness, accident, change in employment situation, etc., prevent you from continuing to attend your class **before** the drop date, speak to your instructor first and if needed, to the Chairperson, Dr. Alicia Giovinazzo (office 1540) to assess your options. If such a situation occurs **after** the drop date, you should contact the instructor for information as to how you can complete the requirements for passing the course.

## **Homework**

At the discretion of the instructor, homework may be completed on line or on paper. Homework completed on paper is turned in to the instructor at the beginning of class on the day of each unit test and is generally checked for completion. All work must be shown. Your complete name and MDC-ID, instructor's name and reference number, book section numbers and problem numbers must be clearly written on your homework. Section numbers must be highlighted. The homework must be turned in stapled together and in the proper order. Homework may not be turned in late.

## **Grading**

In this class, you will have

- 4 Unit Exams
- Short in-class quizzes, at the instructor's discretion
- Online quizzes, homework and reviews, at the instructor's discretion
- A Final Exam, which is cumulative and must be taken during final exam week on the date and time designated by the registrar's office (<http://www.mdc.edu/main/finals>).

*Grading scale:* The final grade will be based on the following components

Best 3 out of 4 Exams	55 %	Average of 90-100%	A
Homework	10%	Average of 80-89%	B
Quizzes	10 %	Average of 70-79%	C
Cumulative Final Exam	<u>25 %</u>	Average of 60-69%	D
Total	100%	Average below 60%	F

If you missed one exam, the grade of your final exam will replace the test you missed (in other words, the final will count as two exams). There will be no make ups.

In addition, at the discretion of the instructor, students may be assessed through various in-class activities such as board work and small group presentations.

## **Incomplete**

The grade of *I (Incomplete)* is given in the rare case that a student is **passing** a class but for some extenuating circumstance is unable to complete the last part (usually the final exam) of the class. ***If you are not passing your class, it is not possible for your instructor to give you an I.*** Note that you will have one full term (Fall or Winter) to complete the requirements of your Incomplete Contract. If you do not complete your requirements in that time, the **I** generally will automatically change to an **F** on your records. The instructor makes the determination as to whether you are eligible for an Incomplete.

## **MDC Email Account**

Students are **required** to activate and use their MDC email account. The MDC account allows students to receive email from their instructors and get notification/announcements or other pertinent information from the College

### ***Important Dates***

Class begins		
Weekdays and Evening		T Jan 5
Weekend (Saturday and Sunday)		S Jan 9
Last day to Withdraw with a Grade of W		W Mar 7
Last day of Final Exams		F Apr 30
Holidays	M. L. K. Day: S Jan 16, U Jan 17, M Jan 18	
	Presidents Day: S Feb 13, U Feb 14, M Feb 15	
	Easter: F Apr 2, S Apr 2, U Apr 3	

## **Miami-Dade Learning Outcomes**

As graduates of Miami Dade College, students will be able to:

1. Communicate effectively using listening, speaking, reading, and writing skills.
2. Use quantitative analytical skills to evaluate and process numerical data.
3. Solve problems using critical and creative thinking and scientific reasoning.
4. Formulate strategies to locate, evaluate, and apply information.
5. Demonstrate knowledge of diverse cultures, including global and historical perspectives.
6. Create strategies that can be used to fulfill personal, civic, and social responsibilities.
7. Demonstrate knowledge of ethical thinking and its application to issues in society.
8. Use computer and emerging technologies effectively.
9. Demonstrate an appreciation for aesthetics and creative activities.
10. Describe how natural systems function and recognize the impact of humans on the environment.

Each course taken at the college addresses some of these Learning Outcomes. The learning activities designed in this course will address outcomes 1, 2, 3, 4, and 8.

# MAC2233

## Syllabus, Homework Assignments Tentative Schedule

Sect.	Topic	Suggested Homework (odds unless otherwise noted)
1.1	Limits: A numeral and Graphical Approach	11-73
1.2	Algebraic Limits and Continuity	9-55
1.3	Average Rates of Change	1-55
1.4	Differentiation Using Limits of Difference Quotients	1-23 and 35-39
1.5	Differentiation Techniques: The Power and Sum-Difference Rules	1-107
1.6	Differentiation Techniques: The Product and Quotient Rules	1-47 and 97-111
1.7	The Chain Rule	1-81
1.8	Higher-Order Derivatives	1-55
===== <b>Exam # 1</b> =====		
2.1	Using First Derivatives to Find Maximum and Minimum Values and Sketch Graphs	1-33 and 69-81
2.2	Using Second Derivatives to Find Maximum and Minimum Values and Sketch Graphs	1-53 and 101-107
2.3	Graph Sketching: Asymptotes and Rational Functions	1-61
2.4	Using Derivatives to Find Absolute Maximum and Minimum Values	1-85 and 97-103
2.5	Maximum – Minimum Problems: Business and Economics Applications	1-47
2.6	Marginal and Differentials	1-53
2.7	Implicit Differentiation and Related Rates	1-47
===== <b>Exam # 2</b> =====		
3.1	Exponential Functions	1-63, 75-77 and 81-91
3.2	Logarithmic Functions	1-85
3.3	Applications: Uninhibited and Limited Growth Models	7-47
3.4	Applications: Decay	1-37
3.5	The Derivatives of $a^x$ and $\log_a x$	1-47
===== <b>Exam # 3</b> =====		
4.1	The Area under a Graph	1-29
4.2	Area, Antiderivatives, and Integrals	1-69
4.3	Area and Definite Integrals	1-89
4.4	Properties of Definite Integrals	1-57
4.5	Integration Techniques: Substitution	1-63
6.1	Functions of Several Variables	1-15
6.2	Partial Derivatives	1-63
===== <b>Exam # 4</b> =====		
Review for Final Exam		
===== <b>Cumulative Final Exam</b> =====		