

MIAMI DADE COLLEGE, WOLFSON CAMPUS
COURSE SYLLABUS
MAC1105 - COLLEGE ALGEBRA
FALL 2007 (16 WEEKS)

Reference Number: **433024**

Tuesday/Thursday 9:50 – 11:15 AM

Instructor: Miguel A. Montañez
Office: 1543 (Building 1, 5th Floor)
Telephone: 305-237-7995
E-mail: mmontane@mdc.edu
Web Page: <http://faculty.mdc.edu/mmontane>

Office Hours: to be determined



Course Description This course introduces you to the concept of functions and their graphs. You will graph linear, quadratic, rational, exponential, logarithmic, radical, power, and absolute value functions and transformations; perform operations on 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; solve related applications and modeling problems.

Course Competencies The competencies for this course are on the department's web site, <http://www.mdc.edu/wolfson/departments/math/>. Additionally, you will also find very useful information, including links and reviews for final exams.

Prerequisite MAT 1033 with grade of C or better or equivalent.

Subsequent Course Depending on your major, you may take MAC 1140, MAC 1114, MAC 1147, or MAC 2233 after you successfully complete (C or better) MAC 1105. Education majors may take MTG 2204 and MTG 2204 L after successfully completing this course, and are strongly encouraged to take MAC 1105 L concurrently with MAC 1105. You may take STA 2023 concurrently with this course, or (suggested) after completing it. Education majors: We offer MAC 1105L as a one-credit enrichment course that you may take concurrently with or after this course.

Textbook Sullivan and Sullivan, *College Algebra: Enhanced with Graphing Utilities, 4th Edition*. ISBN: 0-13-149104-0. Note that you may use myMathLab as your primary textbook source.

MyMathLab Powered by CourseCompass and MathXL, MyMathLab is a series of text-specific online courses that accompany Prentice Hall textbooks in Mathematics and Statistics. Since 2001, over one million students have done better in Math with MyMathLab's dependable and easy-to-use online homework, guided solutions, multimedia, tests, and eBooks. MyMathLab also offers guided mathematical instruction and free tutoring for students from the Math Tutor Center.

Graphing Calculators You are **required** to have your own graphing calculator; our department generally uses the TI 83/ TI 83 Plus or TI 84/TI 84 Silver Ed. Also, your cellphone **MAY NOT** be used as a calculator.

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 these hours: MTWR 7:30 AM-9:00 PM, F 7:30 AM-4:00 PM, Saturday 8:00 AM-4:00 PM. The phone number for the Math lab is 305-237-3834.

*Classroom
Etiquette*

Please refrain from bringing food or drinks into any classroom or lab. Please turn off any cellular phones and set pagers to "vibrate". You are expected to arrive on time to class, depart when the class has concluded, and treat others respectfully.

*Cellular
Phones*

BEEPERS AND CELLULAR PHONES MUST BE TURNED OFF! The vibrate mode is not considered *turned off*. **If a cell phone goes off, a quiz will be given on the same day or during the following class (depending on time left). If a cell phone goes off during an exam, the student may have to leave the classroom and all unanswered questions will be marked wrong.**

ABSOLUTELY NO TEXT MESSAGING OR INSTANT MESSAGING ALLOWED IN CLASSROOM. RULES ARE VERY SIMPLE; CELL PHONES MUST BE OFF AND AWAY FROM YOUR DESKS.

*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, Alicia Giovinazzo (office 1540) as the next step.

Withdrawal

If you feel that you will be unable to complete the requirements for passing a 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 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 and see the Dean of Students (room 1201) for your options regarding an appeal. 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.

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. If your name does not appear on your instructor's class roll by the first day of the mini-term as being registered and having paid for the class, you will not receive a grade for this course, and you will have to retake it next term, regardless of whether you continue to sit in on the class.

Grading

Tests. In this class, you will have:

- Three (3) unit exams; **100 points each**. Each exam will consist of:
 - In-class test .
 - Assigned homework and/or on-line quizzes.
 - In-class quizzes at the discretion of instructor.

- Group Project (100 points)
- A final exam, **100 points**. The final exam is **cumulative** and must be taken on the date and time designated by the registrar's office. The final exam has the same weight as the regular tests.

Homework. Homework is assigned each day in class. It is strongly recommended that you do all the suggested problems in each section. Also, in preparation for the tests, it is recommended that you do the Chapter Reviews and Tests located at the end of each chapter.

The final exam must be taken during Final Exam Week on the date and time scheduled by the Office of the Registrar. You MAY NOT take the finalexam early!

Grades. Your grades will be available on the Instructor's Web Site a week after the test was taken (at the latest). To protect your privacy, only the last four digits of your **STUDENT ID** will be shown.

Grading scale. The grades will be averaged along with the final examination grade. There are **NO MAKE-UPS!!! NO EXTRA CREDIT OR SPECIAL "CURVES" WILL BE CONSIDERED. If you missed one test, the grade of your final exam will replace the test you missed (in other words, the final will count as two tests).**

Average of 90-100%	A
Average of 80-89%	B
Average of 70-79%	C
Average of 60-69%	D
Average below 60%	F

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.

Test Administration

You MAY NOT leave the room once you have begun taking an exam. If a student leaves the room during an exam, your test will be collected and graded as a completed exam. The test will not be returned to the student for completion when they return to the room.

Instructor Drops

Approximately 6 weeks into the term, your professor will purge her class roll of non-attending students. This is a college requirement. No-shows or students with **three (3)** consecutive unexcused absences will be dropped from the course. This may jeopardize your full time, scholarship, or financial aid status. You are advised not to count on this process if you wish to drop a course. It is the student's responsibility to drop a course before the drop deadline if s/he wishes to receive a grade of W.

Office Hours

Your professor urges you to avail yourself of his 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 the office **prepared with questions**.

Attendance

The number one key to educational success is to attend class. Class attendance will be recorded daily. Students are responsible for any work missed when absent. Since this is an accelerated course, frequent absences will impact your grade. You should make it an effort to be in class, and **on time. LATENESS IS RUDE AND DISRUPTIVE.**

Professional Student Behavior The MDC Students’ Rights and Responsibilities Handbook describes students’ appropriate and inappropriate behaviors, along with their consequences. As we are all adults in this classroom, I do not expect this to be an issue. 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.

Cheating **Any student found cheating, will receive an F for the course. If the student subsequently withdraws from the course, your professor will issue forms to have the W changed to an F on the student’s transcript.**

<i>IMPORTANT DATES</i>	Classes Begin: Weekday and Evening Weekend (Saturday, Sunday)	W Aug 29 S Sep 8
	Last Day to Change Courses without Penalty; Withdraw from classes with 100% refund	W Sep 5
	Last Day to Withdraw with Grade of W	T Nov 6
	Last Day of Classes	F Dec 14
	Last Day of Final Exams	F Dec 21
	Holidays	S Sep 1 - M Sep 3 R Nov 22 - U Nov 25

Students are encouraged to approach the instructor regarding any and all conditions that may affect their equal opportunity to learn.

COURSE SCHEDULE

WEEK	SECTION	TOPICS	SUGGESTED HOMEWORK AND ACTIVITIES ¹
1	Intro, 1.1	Distribute Course Handout Cartesian Plane; Distance and Midpoint Formulas	<u>R1</u> : 1-79 alternate odds, 87, 89, 90 <u>1.1</u> 13-17, 31-49, 55-77 Read manual for your graphing calculator, especially how to set window and graph equations
1	1.1	Graphing Equations with a graphing utility	<u>1.1</u> : 79-97
1	1.5	Review of Equations Transformations	<u>1.5</u> : 9, 11, 13, 15, 19, 47, 49, 79, 89, 101, 103, 105, 123, 125
1	1.9	Graphs and Equations of Circles	<u>1.9</u> : 5-21, 31-43
2	2.1	Symmetry and Graphing key equations	<u>2.1</u> : 7-43
2	2.2, 2.3	Relations and Functions; notation, value, domain, graphs and operations with functions	<u>2.2</u> : 17, 19, 27, 29, 35, 39, 41 a-e, 45 a-e, 47, 49, 51, 61, 63, 79, 81, 87, 94 <u>2.3</u> : 9, 10, 11, 13, 15, 19, 21, 23, 25, 37, 38, 39, 41 (Review section 1.8 on slopes and linear equations)
2	2.4	Properties of Functions; Review of Slopes and Equations of Lines	<u>2.4</u> : 11-26 all, 29, 31, 33, 35, 37, 41, 45, 53, 55, 69
2	2.5	Linear Functions and Models	<u>2.5</u> : 11-29 odd, 31-39 all, 57 Review sections 1.1, 1.8, 1.9, 2.1-2.5
2		Linear Functions and Models, cont.	<i>On-line Quiz #1</i>
3		EXAM 1	
3	2.6	Library of Functions	<u>2.6</u> : 9-16 odd, 17, 18, 19, 20, 24, 29, 31, 33, 35, 45, 47, 57, 58, 60, 63
4	2.7 2.8	Graphing Techniques: Transformations Constructing Functions	<u>2.7</u> : 7-30 all; 35-44 all, 67, 69, 87 <u>2.8</u> : 1, 2, 3, 5 (Review section 1.3 on quadratic equations)
4	3.1	Quadratic Functions	<u>3.1</u> : 1, 5, 6, 7, 8, 11-18 all, 19-25 odd, 35-49 odd, 53-58 all, 59-65 odd, 71, 75, 83, 97, 99, 100, 101
4	1.4	Complex Numbers and Quadratic Functions	<u>1.4</u> : 9-49; 53-57, 69 Review sections 1.3-1.5, 2.6-2.8, 3.1
5		Complex Numbers and Quadratic Functions, cont.	<i>On-line Quiz #2</i>
5		EXAM 2	
5	3.2 R6	Polynomial Functions Synthetic Division	<u>3.2</u> : 11-31; 37, 39, 45, 47, 57-73; 81, 83, 91-94 all <u>R6</u> : 5-19 (Review section 1.7 on inequalities and

¹ ODD-NUMBERED EXERCISES UNLESS OTHERWISE NOTED.

			interval notation)
5	3.5	Interval Notation Solving Inequalities	<u>3.5</u> : 3-39
5	3.3, 3.4	Properties and Graphs of Selected Rational Functions	<u>3.3</u> : 13, 23-28 all; 29, 31, 33, 41
6	3.4	Review of Variation; looking at solutions of inequalities through graphs of functions	<u>3.4</u> : 7, 11, 17, 19, 55, 57, 63, 67, 71, 75 Review sections 1.7, R6, 3.2-3.5
6	Review	Review of Variation, cont.	<i>Online Quiz #3</i>
6		EXAM 3	
7	4.1	Composite Functions	<u>4.1</u> : 7, 8, 9, 10, 11-35, 45-49
7	4.2	One-to-one and Inverse Functions	<u>4.2</u> : 9-43, 47-59 <u>R.8</u> 55-73
7	4.3	Exponential Functions	<u>4.3</u> : 11-43, 45, 47, 53, 61, 71, 73, 75, 77, 79
8	4.4	Logarithmic Functions	<u>4.4</u> : 9-45, 57, 67-73, 75, 77, 91, 103, 105, 115, 117, 121
8	4.5	Properties of Logarithms	<u>4.5</u> : 9, 11, 15, 17, 31-45. 51, 65
9	4.6	Logarithmic and Exponential Equations	<u>4.6</u> : 5, 21, 29, 33, 45, 53-67
9	4.7	Applications: Compound Interest	<u>4.7</u> : 1-39
9	4.8	Growth and Decay Problems	<u>4.8</u> : 1-13, 25
10	4.9	Modeling	<u>4.9</u> : 1, 5, 9; Review sections 4.1- 4.9 <i>Online Quiz #4</i>
10		Modeling; cont.	
10		EXAM 4	
11	5.1	Systems of Linear Equations in 2 or 3 variables	<u>5.1</u> : 7-15, 55-59
11	5.2	Solving a system of Linear Equations using matrices with a graphing utility	<u>5.2</u> : 5-15, 49-65 (use RREF on graphing calculator)
11	5.3	Determinants; Cramer's rule (optional)	<u>5.3</u> : 5-13 (optional 5.3 15-37)
11		In class Quiz on 5.1- 5.3, Review	Study Guide & Cumulative Review
12		FINAL EXAM	TUESDAY, DECEMBER 18, 2007





MyMathLab is an interactive website where you can:

- Self-test to improve your math skills.
- Study more efficiently. Create personalized study plans with exercises that match your book.
- Get help when you need it. Includes multimedia learning aids like videos and animations.
- Talk to a live tutor via a toll free number.

What do I need to get started?

You will need the following materials to register for your online course materials:

<input checked="" type="checkbox"/>	A Valid Email Address	Don't have a yet? Contact your school's technology center or set up a free account on a web site that offers this service (for example, through Hotmail or Yahoo).
<input checked="" type="checkbox"/>	Course ID (CourseCompass students only)	Don't have a yet? Contact your instructor to get it. The Course ID is unique for each course.
<input checked="" type="checkbox"/>	Student Access Code 	Don't have a yet? your new textbook does not, bundled with a Student Access Code (you need to): <ul style="list-style-type: none"> • Go to your campus bookstore to buy the stands one Student Access Kit (it contains access code card and instruction) for your textbook. OR • Purchase online access for using a credit card. 

What steps do I take next?

Take the access card that was packaged with the text, review the grid above *one more time* and then follow steps 1 - 8 below.

- 1) Go to www.coursecompass.com and click on Register.
- 2) Enter your six-word student access code, school zip code and country.
- 3) Enter the **Course ID: montanez59629** given to you by your instructor.
- 4) Fill in the requested information, and then create your unique Login Name and Password. It's recommended that you use your email address as your login name.
- 5) Return to www.coursecompass.com and log in. At the Welcome page, click on the course you are taking.
- 6) The first time you enter the site from your computer *and* anytime you use a new computer, click on the software **Installation Wizard** on the Announcements page or on the navigational buttons on the bottom left side of the screen. This wizard will walk you through the installation of the software you will need to use the MyMathLab resources. Note: the software may already be installed in the school lab. Check with your lab administrator.
- 7) Technical problems? Call Tech Support at 800-677-6337, Monday – Friday 9am – 6pm EST.
- 8) Additional help can be found on the Announcements page by clicking on Student Help or viewing the tip sheets.

Don't forget, MyMathLab includes **FREE** access to the PH Tutor Center.
 Toll free 888-777-0463, Sunday to Thursday 5pm – 12am EST.

ACKNOWLEDGEMENT

I, _____, student ID _____,
understand and acknowledge that:

- (i) I read and understood the Syllabus.
- (ii) I may obtain assistance from my instructor and from the Math Lab located in Room 2223.
- (iii) The myMathLab course id code is: **montanez59629**.
- (iv) If applicable, I will turn off my cell phone and put it away so that it is not visible to me or to the instructor. I also understand that no text messaging or IM'ing is allowed in class.
- (v) A quiz will be given if a cell phone goes off.
- (vi) I will require a graphing calculator in class and in the exam.
- (vii) I MAY NOT use my cell phone calculator capabilities in class or in exams.
- (viii) There are NO MAKE UP tests should I miss an exam.
- (ix) NO EXTRA CREDIT will be considered.
- (x) I may not leave the classroom once the test begins.
- (xi) Cheating and disruptive behavior may result in serious consequences such as course failure or dismissal from the college.
- (xii) The course schedule may change due to unforeseen circumstances.
- (xiii) The final exam will be given during date and time scheduled by the Registrar's office.

Student's Name

MIGUEL A. MONTANEZ

Instructor's Name

Student's Signature

Instructor's Signature

Date: _____

Date: _____

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