



Spring 2016

MTH 107 – PRECALCULUS I

COURSE SECTION: MTH 107 B section 1630_____

INSTRUCTOR: James McKeown

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OFFICE: Ungar 528b

OFFICE HOURS: By Appointment

COORDINATOR:

Dr. Leticia Oropesa

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OFFICE HOURS: MW 3:30 PM – 5:00 PM;
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TEXT: PRECALCULUS: CONCEPTS THROUGH FUNCTIONS
3rd edition SULLIVAN & SULLIVAN

Prerequisite: ALEKS score of 55 or higher or passing grade in [MTH 101](#).

Description: This course covers topics in algebra, providing students with the fundamentals of precalculus. This course is intended for students who will eventually take Calculus. Not open to students with credit in [MTH 105](#).

Topics: This course provides a concentration on functions and their applications, including function notation, finding the domain and range of functions, implicit functions, shifts of basic functions, operations on functions; graphs of linear functions, absolute value functions, polynomial functions, rational functions, exponential functions, and logarithmic functions; defining the inverse function and finding the inverse of one-to-one functions.

REQUIRED COURSE MATERIALS: Students will be required to use MyMathLab in this course. Homework and other graded assignments will be completed in MyMathLab. For your convenience a MyMathLab access code has been bundled with the textbook and is available at the UM Bookstore.

Students will need to purchase one of the following:

- a) Text bundled with MyMathLab Access code, **ISBN:** 9780321926036
- b) MyMathLab Student Access Kit: **ISBN:** 9780321199911

You may also purchase the MyMathLab access code on the MyMathLab website: www.mymathlab.com or <http://pearsonmylabandmastering.com>.

Your instructor will provide you with the course code that you will need when you are registering for MyMathLab. Purchase of the textbook is optional since all of the textbook pages are included in the MyMathLab access. Feel free to watch the following YouTube Video for tips on getting started and registering: <http://www.youtube.com/watch?v=7lqv93pFrWY&list=PL2B3F3F1E35931DD0>

NOTEBOOKS: Students are expected to keep an organized notebook for class notes and for homework. Although homework is submitted on-line and graded, it is extremely helpful to have the homework problems worked out in your notebook in order to refer to them when preparing for an exam.

CALCULATOR POLICY: A basic scientific calculator may be used in this course and will be useful in certain chapters of the text. The recommended calculator is the TI 30XA. Calculators that are programmable or have graphing or alphanumeric capabilities will **NOT** be permitted. Calculators on smart phones will **NOT** be permitted.

GRADING POLICY: Final grades for the course will be based on a **total of 750 points.**

EXAMS (400 points): There will be four 50-minute exams during the semester. Each exam will be worth 100 points, contributing 400 points to the total. The dates for the exams are stated in this syllabus.

HOMEWORK & QUIZZES (100 points): Graded homework assignments and periodic quizzes are to be completed in MyMathLab. The student is responsible for checking MyMathLab frequently for upcoming deadlines for these assignments. The work completed in MyMathLab will contribute 100 points to the total.

FINAL EXAM (250 points): The final exam for this course will be a comprehensive, open ended exam and will be worth 250 points. The **final exam** for MTH 107 is a departmental, group exam and has been scheduled on:

TUESDAY, MAY 3rd, 2016: 11:00 AM to 1:30 PM (location to be announced)

The grading scale is as follows:

690 - 750	A
670 - 689	A-
655 - 669	B+
615 - 654	B
595 - 614	B-
580 - 594	C+
540 - 579	C
520 - 539	C-
505 - 519	D+
445 - 504	D
444 and below	F

BONUS POINTS: Each student may earn **up to 30** extra points by completing several assignments as determined by the individual instructor.

ATTENDANCE POLICY: Attendance is required and will be recorded daily.

HONOR CODE: The Honor Code will appear on each exam. Students should consult the Undergraduate Bulletin for details of the Honor Code. Any infraction of the Honor Code will result in a grade of "F " for the course and a referral to the Dean of Students.

https://umshare.miami.edu/web/wda/deanstudents/pdf/undergrad_honorcode.pdf

SUPPLEMENTAL INSTRUCTION: The **Math Lab** is located in **Room 426 of the Ungar Building.** Tutoring is available to all students enrolled in this course. Tutors are available at the Math Lab on a walk-in basis. Please check <http://www.math.miami.edu/faci/mathlab.htm> for the hours of operation of the Math Lab.

Individual tutoring for this course is also available through the Academic Resource Center's (ARC) Academic Support Program in room N-201 of the Whitten University Center. Tutors at the ARC are available by appointment.

ELECTRONIC DEVICES IN THE CLASSROOM: All electronic devices must be **turned off** in the classroom at all times. This includes cell phones, iPods, iPhones, iPads or other tablets, Blackberries, any MP3 player, etc. The use of laptops or other tablet may be allowed during certain classroom activities as determined by the instructor. **ABSOLUTELY NO ELECTRONIC DEVICES WILL BE PERMITTED DURING EXAMS.**

ACADEMIC CALENDAR AND FINAL EXAM SCHEDULE: Please refer to the links below for important dates for this semester.

<https://umshare.miami.edu/web/wda/registrar/calendars/Spring%202016.pdf>

<https://umshare.miami.edu/web/wda/registrar/calendars/FinalExams/Spring%202016%20Final%20Exam%20Schedule.pdf>

REPORTING OF ACADEMIC PROGRESS: Midterm Academic Deficiency Reports for undergraduate students will be reported according to the University Calendar. Undergraduate students whose performance is unsatisfactory (D or F) will be notified through *GradesFirst*.

MTH 107 EXAM SCHEDULE – SPRING 2016

EXAM #1 – FRIDAY, FEBRUARY 5th

EXAM #2 – FRIDAY, FEBRUARY 26th

EXAM #3 – WEDNESDAY, MARCH 30th

EXAM #4 – MONDAY, APRIL 18th

Material to be covered on the exams will be announced in class.

FINAL EXAM: FINAL EXAM - ALL SECTIONS OF MTH107:

TUESDAY, MAY 3rd, 2016: 11:00 AM to 1:30 PM

(locations to be announced)

MAKEUP POLICY: Any student who cannot take an exam on the specified date for a legitimate and documented reason must make arrangements with their instructor to take the exam **prior to that date**. No exams will be given after the specified test date. If an emergency occurs on the day of the exam, you **MUST CONTACT YOUR INSTRUCTOR IMMEDIATELY**.

If you will be missing any class for any religious holy day, you must notify your instructor during the first week of classes. Please refer to the Undergraduate Bulletin for the University policy on observance of Religious Holy Days.

<http://bulletin.miami.edu/general-university-information/undergraduate-academic-procedure-information/course-information/class-attendance-absences/class-attendance-absences.pdf>



2015 - 2016

MTH 107 – Precalculus I

TEXT: PRECALCULUS: CONCEPTS THROUGH FUNCTIONS (a unit circle approach)
3rd edition SULLIVAN & SULLIVAN

CHAPTER F: FOUNDATIONS – A PRELUDE TO FUNCTIONS (sections 1 – 4)

The rectangular coordinate system, distance and midpoint formulas; graphs of equations; symmetries; lines and circles.

CHAPTER 1: FUNCTIONS AND THEIR GRAPHS (sections 1 – 7)

Definition of function; graphs of functions; piece-wise defined functions; graphing techniques and transformations; operations on functions; mathematical models using functions and variation

CHAPTER 2: LINEAR AND QUADRATIC FUNCTIONS (sections 3 – 8)

Quadratic functions and models; real and complex zeros of quadratic functions; inequalities involving quadratic functions and the absolute value function; applications using quadratic models

CHAPTER 3: POLYNOMIAL AND RATIONAL FUNCTIONS (sections 1 - 6)

Polynomial functions and models; polynomial and rational inequalities; graphs of polynomial functions; real and complex zeros of polynomial functions; the Fundamental Theorem of Algebra; rational functions and their graphs

CHAPTER 4: EXPONENTIAL AND LOGARITHMIC FUNCTIONS (sections 1 - 8)

Composition of functions; inverse functions; exponential function and its properties; logarithmic function and its properties; solving exponential and logarithmic equations; applications involving exponential growth and decay

CHAPTER 10: SYSTEMS OF EQUATIONS AND INEQUALITIES (sections 1, 6, and 7)

Systems of linear equations in two and three variables; systems of nonlinear equations; systems of inequalities