

Precalculus
Fall 2011
MATH 160.04F (4 credits), MTu_ThF, 01:00PM-01:50PM, W112

Prerequisites: One of the following:

1. High school Algebra I and II, high school geometry and trigonometry.
2. A grade of C – or better in MATH 101 *College Algebra* and in MATH 110 *Trigonometry*.
3. MATH 160 Placement.

Instructor: Dr. Buchanan

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Office Hours: 10:00AM-11:00AM (MTu_ThF), or by appointment

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Course URL: <http://banach.millersville.edu/~bob/math160>

Textbook: *Precalculus: A Concise Course*, 2nd edition, Ron Larson, Brooks/Cole, Cengage Learning, Belmont, CA, USA (2011), ISBN 978-1-4390-4908-2.

Objectives: MATH 160 *Precalculus* prepares students for further study in mathematics, specifically the calculus sequence of courses. Upon successful completion of MATH 160 students will have learned the methods and skills of analysis and trigonometry which are used in more advanced courses. Specifically students will

- find slope, distance, and midpoint,
- know relationships between parallel and perpendicular lines,
- solve equations and inequalities,
- graph equations, inequalities, and functions, and understand the relationship between a graph and its associated equation, inequality, or function,
- use logarithms and exponential expressions,
- translate word problems into the language of mathematics and mathematical symbolism,
- understand the trigonometry of the unit circle including radian and degree measure, the six trigonometric functions, and special angles,
- graph the six trigonometric functions, identify their domains, ranges, periods, amplitudes, and zeroes,
- know the trigonometric identities (Pythagorean Theorem, sum and difference formulas, negative angle, *etc*),
- use a graphing calculator to appropriately experiment, explore, and confirm mathematical ideas.

Course Contents: If time permits other topics may be covered as well.

- Functions and Their Graphs (Chap. 1)
- Polynomial and Rational Functions (Chap. 2)

- Exponential and Logarithmic Functions (Chap. 3)
- Trigonometry (Chap. 4)
- Analytic Trigonometry (Chap. 5)
- Topics in Analytic Geometry (Chap. 6)

Attendance: Students are expected to attend all class meetings. The face-to-face interaction permitted in the classroom provides the ideal setting for students see the course topics and to have their questions answered in real time by the instructor. Excessive absences will hinder students' understanding of the course material and may result in absentees being dropped from the course roster by the Registrar's Office. Many of the graded assessments in this course will be completed on-line and thus absences from class should have little impact on their timely completion.

Homework: In addition to the course specific objectives outlined above, successful students will also acquire study habits necessary for continued success in college-level mathematics courses. One of these study habits is diligent attention to homework. Students are expected to do their homework and participate in class. Students should expect to spend a minimum of three hours outside of class on homework and review for every hour spent in class. Homework exercises help students review and reinforce concepts covered in class. The textbook exercises are arranged in generally increasing level of difficulty. Working only the low-numbered exercises will not prepare a student sufficiently for the test and final examination exercises. All assigned homework exercises must be worked until successful completion.

In addition to practice exercises from the textbook, graded homework problems will be administered on-line through the [Enhanced WebAssign](#) website. Each student is responsible for enrolling in the on-line homework section of *Precalculus*. To access the [Enhanced WebAssign](#) website:

1. Navigate your browser to [Enhanced WebAssign](#).
2. Click on **I Have a Class Key**.
3. In the three blank text fields enter .
4. Enter the information to create your account.

New homework assignments will be made nearly day (including the first day of class); therefore, create your account as soon as possible. The deadline for completing a homework assignment will be 7 calendar days after the assignment is posted. This is more than enough time to complete an assignment. No extensions to the deadlines for homework assignments will be granted.

Since computer hardware and software problems, website availability, and network problems are often unpredictable you should start all assignments as early as possible.

Tests: There will be four tests and a comprehensive final examination. The tests and the final examination will be taken in the classroom and will be subject to 50-minute time limits (in the cases of the four tests) or 120-minute time limits (for the final examination only). The tests will be given on the following dates.

- Test 1, Thursday, September 15, 2011
- Test 2, Thursday, October 6, 2011
- Test 3, Thursday, November 3, 2011
- Test 4, Thursday, December 1, 2011

The final exam is scheduled for Wednesday, December 14, 2011 from 10:15AM-12:15PM. I will not “curve” test, quiz, or exam grades.

Grades: Course grade will be calculated as follows.

Test Average	45%
Homework Average	25%
Exam	30%

Tests and the final examination will be graded individually on a 100-point scale. I keep a record of students’ test, homework, and exam scores. Students should also keep a record of graded assignments, tests, and other materials. As an example of the calculation of the numerical course grade, suppose a student’s four test grades were 87, 78, 80, and 70 (out of a maximum of 100 points on each test), the student’s final examination grade was 71 (again, out of a maximum of 100), and the student’s average across all homework assignments was 90. This student’s test average is 78.75. The student’s numerical course grade is then

$$(78.3)(0.45) + (90)(0.25) + (71)(0.30) \approx 79.$$

The course letter grades will be calculated as follows. I will not “curve” course grades.

90-92	A-	93-100	A		
80-82	B-	83-86	B	87-89	B+
70-72	C-	73-76	C	77-79	C+
60-62	D-	63-66	D	67-69	D+
		0-59	F		

Calculator Policy: Frequently examples, homework exercises, quizzes, and tests will make use of a graphing calculator. The Department of Mathematics recommends the TI-83/84/85/86 model [calculator](#) for students in elementary calculus. The TI-89/92 or any other calculator with symbolic or computer algebra capabilities is not permitted to be used in this course.

Course Repeat Policy: An undergraduate student may not take an undergraduate course of record more than three times. A course of record is defined as a course in which a student receives a grade of A, B, C, D, (including + and -) F, U, Z or W. The academic department offering a course may drop a student from a course if the student attempts to take a course more than three times.¹

The last day to withdraw from a course (and receive the W grade) is November 4, 2011.

¹Memorandum to mathematics faculty from Dr. Charles G. Denlinger, Assistant Chair, Department of Mathematics, August 30, 2004.

Inclement Weather Policy: If we should miss a class day due to a school closing because of weather, any activities planned for that missed day will take place the next time the class meets. For example, if a test is scheduled for a day that class is canceled on account of snow, the test will be given the next time the class meets.

Cell Phones: Silence (or better yet, turn off) all cellular telephones upon entering the classroom. Leaving class to initiate or receive a telephone call will not be tolerated and students doing so will not be re-admitted to the classroom until the following class meeting. Texting or tweeting during class interferes with the learning process. Students distracted by their cell phones are not engaged in class and will find, over the course of the semester, that learning and course grade will suffer.

Final Word: Math is not a spectator sport. What you learn from this course and your final grade depend mainly on the amount of work you put forth. Daily contact with the material through homework assignments and review of notes taken during lectures is extremely important. Organizing and conducting regular study sessions with other students in this class will help you to understand the material better.

No one can guarantee you success in this course. Your responsibilities and the instructor's expectation are outlined above. There will be no second chances, "do-overs", or extra credit assignments.