

Math 129 - Pre-Calculus, Spring 2018 Course Syllabus

Instructor: Brian Leary

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Office: Learning Resource Center 323K

Office hours: Mon 1-2, Tue 2:20-3, Wed 1-3, Thurs 2:20-3

Math Tutoring Lab: Thurs 12-1, Fri 11-12

Class Room/Time: INN-B 302, MTWRF 8:00-8:50 am

Course website: community.wvu.edu/~bal0018/math129S18.html (as a backup website, I will also try to keep the eCampus site updated)

Homework assignments will be posted on the course website. Course announcements may also be posted on the website or sent via email. Please be sure to check the website regularly, and to regularly check the email address you have on record. You are responsible for any information posted on the course website.

Textbook: Stewart/Redlin/Watson, *Algebra and Trigonometry*, 4th edition (make sure your copy comes with a 4th edition WebAssign access code)

Catalog Data: MATH 129 Pre-Calculus Mathematics (4-1) Credits 4. A treatment of algebra, analytic geometry and trigonometry.

Prerequisite: ACT math score of 25 or higher.

Course material: This course covers the algebra skills and trigonometry content necessary to begin a study of calculus. The first 10 weeks of the course will focus on solving equations and inequalities and on understanding different types of functions, both algebraically and graphically. The last 5 or 6 weeks will introduce trigonometric functions and their applications. A rough outline of the topics covered can be found on the next page.

Course Objectives: Upon successful completion of the course, the student will be able to do the following:

1. Manipulate and simplify algebraic expressions containing rational exponents, negative exponents, radicals, and fractions.
2. Solve algebraic and trigonometric equations, inequalities, and systems of equations.
3. Sketch graphs of algebraic and trigonometric functions.
4. Understand compositions of functions and find the inverse, domain, and range of a function.
5. Use the basic trigonometric identities and inverse trigonometric functions to simplify expressions and solve equations.
6. Solve triangles using law of sines, law of cosines, and other trigonometric tools.
7. Convert from polar coordinates to rectangular coordinates and vice versa.
8. Apply the material learned in the course to solve various types of problems.

Topics:

1. Equations and Inequalities (10 days - Sections P.8, 1.4-1.8, 10.1-10.2)
2. Functions and Graphs (11 days - Sections 1.1-1.3, 2.1-2.4, 2.6-2.7)
3. Polynomial and Rational Functions (10 days - Sections 3.1-3.3, 3.6-3.7)
4. Exponential and Logarithmic Functions (9 days - Sections 2.8, 4.1-4.5)
5. Trigonometric Functions (10 days - Sections 5.1-5.6, 6.1-6.5)
6. Trigonometric Applications (11 days - Sections 7.1-7.4, 8.1, 8.3, 9.1-9.2)

Grading: Your final grade will be based on homework, quizzes, four exams during the semester, and the final exam. Your final course score will be the maximum of the following two grading schemes:

- 10% Homework/Attendance + 5% Quizzes + 15% Exam 1 + 15% Exam 2 + 15% Exam 3 + 15% Exam 4 + 25% Final Exam
- 10% Homework/Attendance + 5% Quizzes + 25% (highest grade of the four exams) + 15% (2nd grade of the four exams) + 15% (3rd grade of the four exams) + 30% Final Exam

Letter Grade Cutoffs: A: 90%, B: 80%, C: 70%, D: 60%, F: below 60%

Homework: Homework will be assigned in two forms: WebAssign and paper. You may complete both the WebAssign and paper assignments if you wish, but you are NOT required to do both. You will receive grades in both of these forms separately, and your homework score will be the maximum of the two scores.

Paper assignments will be posted on the course website.

For WebAssign, you can purchase an access code to WebAssign which comes with its own electronic copy of the textbook, OR purchase a new paper copy of the textbook which comes with an access code to WebAssign. You can access WebAssign for free for the first 2 weeks of class, but make sure you enter an access code before that time is done. Homework problems will be assigned in WebAssign for each section. I suggest that you work each problem in a homework notebook first and then submit your answer into WebAssign to find if your answer is correct. Each problem will allow 20 submissions. Resubmit each problem until it is correct to maximize your homework score.

Exams: There will be four exams, tentatively scheduled for Friday, January 26; Wednesday, February 21; Friday, March 9; and Friday, April 6. These will be 50 minute exams taken during the regular lecture time. The final exam time has been set by the university, and will be on Friday, May 4 from 8-9:50 am. Make-up exams will only be given to students with excused absences, and such make-up exams must be scheduled within 24 hours of the missed exam.

Quizzes: There will be a quiz given most weeks in which there is no exam. This will be a very brief quiz given at the beginning of class, intended to test you with more immediacy than the exams and with less consequence. The problems that appear on the quiz will be taken from the homework problems I assign. Only your best 5 quizzes will count toward your grade, and there will be absolutely NO make-up quizzes.

Class policies:

- Graphing calculators will never be allowed during any exams. Scientific calculators will be considered on an exam by exam basis. You may use any calculator to help you do the homework if you wish, but you should keep in mind that you may be required to solve similar problems without a calculator on the quizzes and exams.
- Tentatively, class attendance will not directly factor into your grade computation. However, should attendance dwindle below a reasonable level, I reserve the right to incorporate attendance into the grading scheme. Regardless, attendance of each lecture is highly recommended. Regular attendance will tend to lead to better understanding of the course material, which tends to lead to better performance on exams.
- If you believe a problem on a homework assignment or midterm exam has been graded incorrectly, you must notify the instructor of your complaint within 7 days of the date the exam is handed back. If you are unable to retrieve your graded material at the time it is handed back, it is your responsibility to make arrangements with the instructor to retrieve the material at another time.

Getting Help: Please feel free to come to office hours or email me if you have questions about the course material. If you are unable to make it to my regularly scheduled office hours, I am willing to make an appointment to meet at another time if possible. Additionally, you can get help in the Math Tutoring Lab in LRC 323 from 8 AM to 4:30 PM. Free tutoring is also available through Student Support Services, located in Benedum 130, and the Student Success Center, located in the library on the second floor of LRC. Finally, I would also encourage the formation of study groups, to learn from each other and help each other learn.

Academic Integrity: The integrity of the classes offered by any academic institution solidifies the foundation of its mission and cannot be sacrificed to expediency, ignorance, or blatant fraud. Therefore, I will enforce rigorous standards of academic integrity in all aspects and assignments of this course. For the detailed policy of West Virginia University regarding the definitions of acts considered to fall under academic dishonesty and possible ensuing sanctions, please see the Student Conduct Code at http://studentlife.wvu.edu/office_of_student_conduct/student_conduct_code. Should you have any questions about possibly improper research citations or references, or any other activity that may be interpreted as an attempt at academic dishonesty, please see me before the assignment is due to discuss the matter. [Available at: <http://faculty.senate.wvu.edu/r/download/15702>]