Math 128 - Plane Trigonometry, Fall 2017
Course Syllabus

Instructor: Brian Leary
    Email: Brian.Leary1@mail.wvu.edu
    Office: Learning Resource Center 323H
    Office hours: Mon 2-3, Tues 1-2, Wed 2-4, Thurs 11-1, Fri 11-12
Math Tutoring Lab: Mon/Wed 11-12
Class Room/Time: INN-B 304, MWF 1:00-1:50 pm
Course website: eCampus site (personal website: community.wvu.edu/∼bal0018)

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 (be sure it has 4th edition WebAssign access code)

Catalog Data: MATH 128 Trigonometry (3-0) Credits 3. Trigonometric functions, identities, vectors, complex numbers, and trigonometric equations.

Prerequisite: MATH 93; or 2 units of high school algebra, 1 unit of high school geometry and ACT math score of 19 or higher.

Course material: Trigonometry is the branch of mathematics studying triangles, and the formulas that govern the lengths of sides and measures of angles in triangles. Chapters 5 and 6 consider trigonometry from a geometric perspective, with chapter 5 focusing on right triangles and chapter 6 developing trigonometric functions from the viewpoint of the unit circle. Chapter 7 takes an analytic approach to trigonometric functions and investigates the formulas that these functions satisfy. Chapters 8 and 9 apply our knowledge of trigonometry to study polar coordinates and the complex plane. Finally, chapter 12 gives a brief introduction to conic sections.

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. Compute the values of the trigonometric functions of an angle.

2. Graph the trigonometric functions.

3. Use basic trigonometric identities to simplify expressions, solve equations, and prove identities.

4. Solve right triangles, solve oblique triangles, and find the area of a triangle.

5. Use the properties of inverse trigonometric functions to simplify expressions.

6. Use the trigonometric form of a complex number to compute products, quotients, powers, and roots of complex numbers.

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.

This course satisfies GEC 2: Basic Mathematical Skills and Scientific Inquiry - The use of quantitative and scientific knowledge effectively.

Topics:

1. Trigonometric Functions: Right Triangle Approach (8 days - Chapter 5)

2. Trigonometric Functions: Unit Circle Approach (7 days - Sections 6.1-6.5)

3. Analytic Trigonometry (7-8 days - Chapter 7)

4. Polar Coordinates and Vectors (9 days - Sections 8.1-8.3 and Sections 9.1-9.2)

5. Conic Sections (5 days - Sections 12.1-12.3)

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

- 10% Homework + 20% Exam 1 + 20% Exam 2 + 20% Exam 3 + 30% Final Exam

- 10% Homework + 30% (highest grade of the three exams) + 20% (middle grade of the three exams) + 5% (lowest grade of the three exams) + 35% 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 eCampus 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 three exams, on Wednesday, September 13; Friday, October 13; and Friday, November 10. 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, December 8 from 1:00-2:50 pm. 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.

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 exams.

- While class attendance does not directly factor into your grade computation, 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://facultysenate.wvu.edu/r/download/15702]