

Math 128 - Plane Trigonometry, Spring 2019 Course Syllabus

Instructor: Brian Leary

Email: Brian.Leary1@mail.wvu.edu

Office: Learning Resource Center 323K

Office hours: Mon 9:30-10 & 2-3, Tues 9:30-10 & 1-2, Wed 2-3, Thurs 1-2

Math Tutoring Lab: Wed 9-10, Fri 9-10

Class Room/Time: INN-B 201, MWF 1:00-1:50 pm

Course website: community.wvu.edu/~bal0018/math128S19.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 (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 124 or MATH 126 with minimum grade of C.

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 GEF Area 3 and GEC Objective 2A: Basic Mathematical Skills and Scientific Inquiry - The use of quantitative and scientific knowledge effectively.

Topics:

1. Trigonometric Functions: Right Triangle and Unit Circle Approaches (11 days - Sections 5.1-5.4 and 6.1-6.5)
2. Analytic Trigonometry (9-10 days - Sections 5.5-5.6 and Chapter 7)
3. Polar Coordinates and Vectors (9 days - Sections 8.1-8.3 and Sections 9.1-9.2)
4. Conic Sections (OPT, 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, February 6; Friday, March 8; and Friday, April 12. 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 3 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.

Institutional Policies: Students are responsible for reviewing policies on inclusivity, academic integrity, incompletes, sale of course materials, sexual misconduct, adverse weather, as well as student evaluation of instruction, and days of special concern/religious holiday statements. [Available at: <https://tlcommons.wvu.edu/qualitymatters/syllabus-policies-and-statements>]