

MATH 1060 Section 5 – Trigonometry – Spring 2018

Time and Location: Monday, Wednesday, Friday 11:50-12:40 in [LCB 215](#)

Instructor: Sean Groathouse, JWB 121

Contact: Email: sean.groathouse@utah.edu

Office Hours: Tuesday 1:00-1:55 and Friday 10:45-11:45 both in LCB 218, or by appointment.

Course Web Page: All course information and announcements will be posted on Canvas:
<https://utah.instructure.com/courses/476044>

Prerequisites: Either Math 1050 (College Algebra), or an Accuplacer CLM score of 80 or higher.

Course Goal: Improve quantitative reasoning and prepare for future math learning in calculus, linear algebra, and discrete mathematics.

Topics Covered: Trigonometry, Topics in Analytic Geometry, and the Complex Numbers.

Expected Learning Outcomes:

1. Understand trigonometric function definitions in the context of the right triangles and on the unit circle.
2. Graph basic trigonometric functions and those with basic transformations. Be able to write an equation given a graph. Identify amplitude, periods, phase shifts from graphic and algebraic representations of functions.
3. Solve applications problems using principles in trigonometry.
4. Represent and interpret real world contexts situations using radian trigonometric functions.
5. Use trigonometric inverses correctly, understanding the domain/range restrictions.
6. Verify trigonometric identities, using proper logic and use trigonometric identities to evaluate expressions.
7. Solve trigonometric equations.
8. Solve for all measurements in any triangle, using the Pythagorean Theorem, trigonometric functions, the Law of Sines, and Law of Cosines in a variety of contexts and applications.
9. Be able to convert to and from rectangular and trigonometric-form coordinates (polar coordinates).
10. Graph complex numbers in a plane, perform operations on such numbers and use DeMoivre's theorem to find roots and powers of complex numbers.
11. Understand geometry and arithmetic operations with vectors and use vectors in application problems.
12. Use parametric equations in application problems and be able to convert between parametric and non-parametric representation of functions.
13. Understand and explain arithmetic with complex numbers using trigonometry.
14. Write an equation for a conic given a graph of the conic; given an equation of a conic, recognize the conic and be able to graph it.

Textbook: Precalculus, 9th Edition, 2013 Larson, ISBN: 978-1-285-89228-3, with Enhanced Webassign. The University of Utah has negotiated special pricing for the online version of the text with Enhanced Webassign for \$75. (This price also includes Math 1050, College Algebra.)
<http://www.cengagebrain.com/course/2609570>.

Optional: If you like, you may also purchase a loose-leaf version of the text for \$40 on that same page.

Calculators: Calculators are not required and will not be permitted on exams. Calculators (or free online tools) may sometimes be helpful for homework.

Homework: All homework will be completed on Webassign (see the link in the Textbook section above). Due dates can be found on Webassign. Late homework will not be accepted. You are encouraged to work with others and ask me any questions you have. You will be given at least 10 attempts on each prompt (so

you can retry questions and still get full credit). Remember homework is a substantial part of the grade, and the webassign scores will add up. Partial credit is better than no credit!

Quizzes: There will be a total of 10 quizzes given on the Fridays we don't have exams (see Canvas for dates). You must be in attendance to take the quiz, however the three lowest quiz scores will be dropped.

Attendance: Attendance is not mandatory, but we will be thoroughly covering concepts in class. Students who regularly attend class score on average 30% higher on exams than students who do not.

Grading: Grades will have the following weights and scale:

Homework (Webassign)	15%	[93, 100] A	[80, 83] B-	[68, 70] D+
Quizzes	15%	[90, 93) A-	[78, 80) C+	[63, 68) D
Midterm 1	20%	[88, 90) B+	[73, 78) C	[60, 63) D-
Midterm 2	20%	[83, 88) B	[70, 73) C-	[0, 60) E
Final Exam	30%			

Midterm Exams: We will have two midterms during regular class time. **The midterm exam dates are Friday, February 16 and Friday, April 13.**

Final Exam: The final exam is a departmental final, so it is at a special time. **The final exam will be on Friday, April 27 from 1:00-3:00.** The room will be announced on Canvas and in class.

There are no make-up exams. Students who miss an exam or quiz will receive a 0 on that exam/quiz.

Getting Help: Please do not hesitate to contact me with any questions you have or to discuss anything about the course. Additionally, the Mathematics Tutoring Center offers free drop-in tutoring. You can work on homework or study and when you have questions someone will come over who can help you. Group tutoring can be arranged at a regular time. There are also study areas away from the tutors, a computer lab, and group study rooms to reserve. Located in the basement of LCB and JWB. Open 8am-8pm Monday through Thursday and 8am-6pm on Friday.

Academic Integrity: All University of Utah policies regarding ethics and honorable behavior apply to this course.

Disabilities: Any student who feels they may need an accommodation based on the impact of a disability should contact me and the Center for Disability Services at the beginning of the semester to coordinate reasonable accommodations for students with documented disabilities. The Center for Disability Services is at 162 Olpin Union Building, (801) 581-5020.

This syllabus can change: Although I don't expect any changes will be necessary, I reserve the right to change the syllabus as needed. Any changes will be announced on Canvas and in class.

Important Dates: We will meet for class every Monday, Wednesday, and Friday except for these days:

- Monday, January 15 (Martin Luther King Jr. Day)
- Monday, February 19 (Presidents' Day)
- Monday, Wednesday, and Friday, March 19-23 (Spring Break)
- Wednesday, April 25 (Reading Day)

Last day to add, drop, or elect CR/NC	Friday, January 19
Midterm 1	Friday, February 16
Last day to withdraw	Friday, March 2
Midterm 2	Friday, April 13
Final Exam	Friday, April 27