

Trigonometry 1060-001, SPRING 2020

Instructor: Predrag Krtolica, PhD

Place: JWB 335

Time: MWF, 10:45 AM – 11:35 AM

Office: JWB 121

Contact: krtolica@math.utah.edu, canvas

Office Hours: Mondays 11:40 – 12:30, Fridays 11:40 – 12: 30

TA: TBD

SI: TBD

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

Topics to be 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.

Text: The text is available on the course canvas page. You may print or download any portion you would like, or may view it entirely online. Homework is also entirely available on the course Canvas page.

Calculators: Calculators will be useful for homework, but will not be permitted on exams.

Homework: All homework is to be completed on IMathAS. The link to homework assignments and due dates can be found on the course canvas page. *Late homework will not be accepted.* You will be given ample time to do your assignments, you may ask me, the SI, or TAs questions or you may work with others on assignments. You have unlimited attempts for each prompt. Please note, homework is a substantial part of your grade for the course (15%), it is to your benefit to make success on the assignments a priority—partial credit is better than no credit!

Quizzes: There will be approximately 10 quizzes. You must be in attendance to take the quiz, however the three lowest quiz scores will be dropped.

Attendance: Like any college course, attendance is not “mandatory.” Please note however, that concepts will be thoroughly explained and reviewed in class. Students who regularly attend score on average 30% higher on exams than those who do not.

Important dates:

Class will meet every Monday, Wednesday, and Friday, however, *there will be no class:*

- Monday, January 20 (Martin Luther King Jr. Day)
- Monday, February 17 (Presidents' Day)
- Monday – Friday, March 8 – 15 (Spring Break)

MIDTERMS:

- Friday, February 21
- Friday, April 13

FINAL:

Tuesday, April 28, 1:00 – 3:00 (see: <http://registrar.utah.edu/academic-calendars/final-exams-spring.php>). The location will be announced in class.

There are no “make-up” exams. Students who miss an exam or quiz will receive a “0” on the missed exam or quiz.

Semester Grades will be determined using the following weights:

- 15% homework
- 15% quizzes (*There will be a quiz every Friday except the first Friday of the semester and on midterm days, the three lowest quiz scores will be dropped*)
- 20% 1st midterm
- 20% 2nd midterm,
- 30% Final exam
- Note: no scores will be dropped.

Semester letter grades will be converted from numerical semester scores (N) as follows:

100 ≥ N ≥ 93: A	83 > N ≥ 80: B-	70 > N ≥ 68: D+
93 > N ≥ 90: A-	80 > N ≥ 78: C+	68 > N ≥ 63: D
90 > N ≥ 88: B+	78 > N ≥ 73: C	63 > N ≥ 60: D-
88 > N ≥ 83: B	73 > N ≥ 70: C-	60 > N: E

Mathematics Tutoring Center: Drop in, sit down, and if you have a question, someone will come by who can help you. There are also study areas free of tutors, a computer lab, group study rooms available through reservations, and group tutoring sessions that can be arranged to meet at a regular time. Located on 1st Floor of JWB or LCB. Open 8am-8pm MTWH; 8am-6pm F.

Video Lectures: Video lectures are available at: <http://www.math.utah.edu/lectures/>

ADA Statement:

The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability and Access, 162 Olpin Union Building, 801-581-5020. CDA will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability and Access.

Addressing Sexual Misconduct:

Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran’s status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).

Official Dates:

The last day to drop classes is Friday, January 17; the last day to withdraw from this class is Friday, March 6. Please check the academic calendar for more information pertaining to dropping and withdrawing from a course.

Withdrawing from a course and other matters of registration are the student's responsibility.

Wellness Statement:

Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student's ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness at www.wellness.utah.edu or 801-581-7776.

Safety Statement:

The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit safeu.utah.edu.