

# Trigonometry

## Math 1060-004, Fall 2019

**Instructor:** Sung Chan Choi, (Office:JWB 121)

**Class meets:** 08/19/2017 to 12/04/2019

**Time:** MWF 9:40AM-10:30AM

**Place:** BEH S 110. See <https://map.utah.edu/>

**Email:** [choi@math.utah.edu](mailto:choi@math.utah.edu)

**Office Hours:** M, W, F 11AM-12PM

**SI:**

**Prerequisites:** "C" or better in MATH 1050 OR Accuplacer AAF score of 263 or better OR Accuplacer CLM score of 80 or better.

**Requirement Designation:** Quantitative Reasoning (Math)

**Course Goal:** To improve quantitative reasoning and to prepare for future math learning in calculus, linear algebra, and discrete mathematics.

**Course Description:** Trigonometry, Topics in Analytic Geometry, and the Complex Numbers.

### Expected Learning Outcomes:

Upon successful completion of this course, a student should be able to:

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 DeMoivres 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.

**Canvas:** Canvas will be used for posting course announcements, homework assignments, grades, files and any relevant supplementary material. You are also welcome to make use of the Canvas discussion board to discuss course problems or topics. You can access the Canvas page through CIS or by logging in at [utah.instructure.com](http://utah.instructure.com). Students should check the Canvas page regularly for course information and resources. Email notifications and correspondence will be sent to the student's UMail address (`[u-number]@utah.edu`); this email account must be checked regularly.

### Additional Resources

- **Tutoring Center & Computer Lab-** There is free tutoring in the T. Benny Rushing Mathematics Student Center (LCB 155, the lower level between JWB and LCB), as well as a computer lab (LCB 155C). The regular hours is M-Th 8:00am - 8:00pm, Fri 8:00am - 6:00pm. See <http://www.math.utah.edu/undergrad/mathcenter.php>
- **Private Tutoring-** University Tutoring Services, 330 SSB. There is also a list of tutors at the tutoring center LCB 155.
- **Departmental Videos-** The math department has a full set of lecture videos which you are welcome to use to supplement our course material.  
See <http://www.math.utah.edu/lectures/math1060.html>

### Grade Distribution:

Homework	15%
Quiz	15%
Midterm Exam 1 (10/4 (F))	20%
Midterm Exam 2 (11/22 (F))	20%
Final Exam (12/9 (M))	30%

*Note:* The final will replace the lowest midterm score if the final is higher than the midterm.

### Grading Scale:

[93, 100]	A	[73, 78)	C
[90, 93)	A-	[70, 73)	C-
[88, 90)	B+	[68, 70)	D+
[83, 88)	B	[63, 68)	D
[80, 83)	B-	[60, 63)	D-
[78, 80)	C+	[0, 60)	E

## Course Policies:

- **General**

- If you cheat on any homework, quiz or exam, I will automatically give you a zero for that grade.
- **No calculators** will be allowed in quizzes and exams.
- **No makeup exams and quizzes will be given** except in the case of a documented emergency. Please contact the instructor ASAP, or at least two classes ahead of time so that the instructor and student can make arrangements to make up the test. I reserve the right to make makeup exams more difficult than the scheduled test.
- There will be **no retakes** of exams and quizzes . . . ever. Your score is what you get.

- **Homework**

- All homework is to be completed on MyOpenMath.
- 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 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**

- Quiz will be given for **every class** during this semester.
- 5-10 minutes will be given.
- **3 lowest scores** will be dropped.

- **Midterms**

- There will be two in-class midterm exams.
- **10/4(F) and 11/22(F)** in the regular classroom.

- **Final**

- The comprehensive final exam will be on **December 9 (M), 1:00 PM - 3:00 PM**. The location will be announced in class.  
See <https://registrar.utah.edu/academic-calendars/final-exams-fall.php>
- There will be **no alternative** arrangements made for scheduling the final exam because we will have departmentally common final exam. You must be here for the scheduled final exam or you will receive a zero on that exam. Please **remember this fact** when scheduling your flights home for winter break.

- The final will replace the lowest midterm score if the final is higher than the midterm.
- **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.
- **Other Policies**
  - I do NOT allow the use of laptop computers in my classroom. But tablets are okay if you are taking notes on it.
  - There will be no retakes of exams . . . ever. Your score is what you get.
  - You may take an alternate exam if you submit a documented verification about it to me first and explain the extenuating circumstances that make it necessary. Needing to work, babysitting your siblings, oversleeping, or needing more time to study do not pass as acceptable reasons.
  - I will demand respectful behavior in my classroom. Examples of disrespect include reading a newspaper or magazine in class, social chatting with your friend in class, text-messaging your buddies during class or cuddling with your girl/boyfriend in class.
  - There will be no cursing nor negative ranting (for example, "math sucks") on any written work turned in. The penalty for such things on your written work will be a zero score on that assignment or test!
  - You need to have a valid email address registered with Campus Information System.
  - You need to check CANVAS everyday.
  - Student Responsibilities: All students are expected to maintain professional behavior in the classroom setting, according to the Student Code, spelled out in the Student Handbook. You have specific rights in the classroom as detailed in Article III of the Code. The Code also specifies proscribed conduct (Article XI) that involves cheating on tests, collusion, fraud, theft, etc. Students should read the Code carefully and know you are responsible for the content. According to Faculty Rules and Regulations, it is the faculty responsibility to enforce responsible classroom behaviors, beginning with verbal warnings and progressing to dismissal from class and a failing grade. Students have the right to appeal such action to the Student Behavior Committee.  
See <http://regulations.utah.edu/academics/6-400.php>
  - I reserve the right to change my policies stated in this syllabus at some point in the semester. If I do make a change to a policy, I will announce it in class and send the change in email.

### Important Dates:

- **Holidays**
  - 9/2 (M): Labor Day
  - 10/7 (M) - 10/11 (F): Fall Break
  - 11/29 (F) : Thanksgiving Break
- 8/30 (F): Last Day to Add,Drop(Delete),Elect CR/NC,or Audit Classes
- 10/18 (F): Last Day to Withdraw from classes
- See <http://registrar.utah.edu/academic-calendars/fall2019.php>

**Student Names and Personal Pronouns:**

Class rosters are provided to the instructor with the students legal name as well as Preferred first name (if previously entered by you in the Student Profile section of your CIS account). While CIS refers to this as merely a preference, I will honor you by referring to you with the name and pronoun that feels best for you in class, on papers, exams, group projects, etc. Please advise me of any name or pronoun changes (and update CIS) so I can help create a learning environment in which you, your name, and your pronoun will be respected. If you need assistance getting your preferred name on your U-ID card, please visit the LGBT Resource Center Room 409 in the Olpin Union Building, or email [bpeacock@sa.utah.edu](mailto:bpeacock@sa.utah.edu) to schedule a time to drop by. The LGBT Resource Center hours are M-F 8am-5pm, and 8am-6pm on Tuesdays.

**ADA:**

The American with Disabilities Act requires that reasonable accommodations be provided for students with physical, cognitive, systemic learning, and psychiatric disabilities. The student needs to have such a disability approved by the Disability Service Office (162 UNION, 581-5020) in order to have the accommodations provided. The instructor need to be informed about such a disability and approved accommodations at the beginning of the semester.

**Veterans Center:**

If you are a student veteran, the U of Utah has a Veterans Support Center located in Room 161 in the Olpin Union Building. Hours: M-F 8-5pm. Please visit their website for more information about what support they offer, a list of ongoing events and links to outside resources: [veteranscenter.utah.edu/](http://veteranscenter.utah.edu/). Please also let me know if you need any additional support in this class for any reason.

**University 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](http://safeu.utah.edu).

**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, veterans 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).

**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](http://www.wellness.utah.edu) or 801-581-7776.