Math 1060-004: Trigonometry
Spring Semester 2022
Mondays, Wednesdays, Fridays, 9:40-10:30am, in BU C 105

Instructor: Sam Swain
Contact: Message me on Canvas, or email swain@math.utah.edu
Office Location: JWB 311
In-Person Office Hours: TBD
Zoom Conference Office Hours: TBD

Required Materials
The textbook for this course is available at no cost over Canvas.

Course Description
This course covers trigonometric functions, inverses, equations and identities with applications; introduction to vectors.

Course Outcomes
1. Understand trigonometric function definitions in the context of 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, and asymptotes from graphic and algebraic representations of functions.
3. Represent and solve physical world problems using trigonometric functions.
4. Use trigonometric inverses correctly, understanding the domain/range restrictions.
5. Verify trigonometric identities, using proper logic and use trigonometric identities to evaluate expressions.
7. 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.
8. Be able to convert to and from rectangular and trigonometric forms of complex numbers and polar and rectangular forms of coordinates.
9. Graph complex numbers in a plane, perform operations on such numbers and interpret this graphically, and use DeMoivre’s theorem to find roots and powers of complex numbers.
10. Understand geometry and arithmetic operations with vectors and use vectors in application problems.
11. Give an equation or verbal description for a conic given a graph of the conic; given an equation of a conic, identify the conic and be able to graph it and describe its attributes.

Teaching and Learning Methods
This course will primarily be delivered in lectures with many examples and exercises to engage students with the material. Students will practice exercises on given topics in homework and quiz assignments, and demonstrate their understanding on the homework, quizzes, and exams.
University Policies

1. **The Americans with Disabilities Act.** 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 Services, 162 Olpin Union Building, (801) 581-5020. CDS 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 Services.

2. **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.

3. **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).

4. **COVID-19 Spring 2022 Statement**

   University leadership has urged all faculty, students, and staff to model the vaccination, testing, and masking behaviors we want to see in our campus community.

   These include:

   - Vaccination
   - Masking indoors
   - If unvaccinated, getting weekly asymptomatic coronavirus testing

**Vaccination**

- **Get a COVID-19 vaccination** if you have not already done so. Vaccination is proving highly effective in preventing severe COVID-19 symptoms, hospitalization and death from coronavirus. Vaccination is the single best way to stop this COVID resurgence in its tracks.
- Many in the campus community already have gotten vaccinated:
More than 80% of U. employees
Over 70% of U. students
- Visit http://mychart.med.utah.edu/, http://alert.utah.edu/covid/vaccine, or http://vaccines.gov/ to schedule your vaccination.

Masking
- Note: The bullet below was written before the latest Salt Lake County Order came into effect. Currently, face masks are required indoors for everyone until February 7.
- While masks are no longer required outside of Health Sciences facilities, UTA buses and campus shuttles, CDC guidelines now call for everyone to wear face masks indoors.
  - Treat masks like seasonal clothing (i.e. during community surges in COVID transmission, masks are strongly encouraged indoors and in close groups outside).

Testing
- If you are not yet vaccinated, get weekly asymptomatic coronavirus tests. This is a helpful way to protect yourself and those around you because asymptomatic individuals can unknowingly spread the coronavirus to others.
  - Asymptomatic testing centers are open and convenient:
    - Online scheduling
    - Saliva test (no nasal swabs)
    - Free to all students returning to campus (required for students in University housing)
    - Results often within 24 hours
    - Visit alert.utah.edu/covid/testing
- Remember: Students must self-report if they test positive for COVID-19 via this website: https://coronavirus.utah.edu/.

Course Policies

Attendance & Punctuality: Attendance is not required but strongly encouraged; however, you must be present in class to take all quizzes and exams. Exceptions will be given for university-approved absences and in cases of illness when the instructor is notified in advance. Please do not come to class if you have possible COVID symptoms - contact me and we will make arrangements to get the lecture content to you.

Participation: Students who regularly participate in class by asking relevant questions or answering the instructor’s questions may have their final grade rounded up to the next letter or sign if it is within 0.5% of the threshold. Nonparticipation in class will not negatively affect your grade.
**Electronic Devices in Class:** During lecture you may use whatever electronic devices help you be an attentive and productive student as long as it does not disturb those around you. **Calculators will not be permitted on quizzes or exams.**

**Communication:**
- All course materials, such as lecture notes, assignments, solutions, grades, will be posted on the course Canvas site. Class announcements will be given via Canvas message. You will be responsible for any information contained in them as well as the information announced in class.
- It is also your responsibility to check your Canvas messages regularly. There will be occasions during the semester that I may need to reach out to you individually (e.g. regarding a grade or assignment); in such cases, please respond promptly.
- Feel free to contact me by email (swain@math.utah.edu) or Canvas message. I check both methods with equal frequency and will do my best to respond promptly.
- Students are expected to log in and check Canvas every day for posted announcements and assignments. Students are also strongly advised to set up notifications for Canvas so they do not miss any important information.

**Exam Dates:** The midterm exams will take place on Fridays: February 4, March 18, and April 22. The final exam is April 28, 1:00-3:00 pm. The only possible conflicts with this schedule occur if you are also taking Finance 3040 or French 1010, 1020, 2010, or 2020. If you are in one of these classes, work out final exam arrangements with your two instructors within the first two weeks of the semester.

**Official Drop/Withdraw Dates:** The last day to drop classes is Friday, January 21; the last day to withdraw from this class is Friday, March 4. 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.

**Holidays:** There will be no class on January 17, February 21, and March 7-11.

**Schedule:** Below is a week-by-week approximate schedule of the course. Quizzes and exams take place on the Friday of any given week.

<table>
<thead>
<tr>
<th>Week #</th>
<th>Start</th>
<th>Finish</th>
<th>Schedule Notes</th>
<th>Sections</th>
<th>Assessments</th>
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<tr>
<td>1</td>
<td>1/10</td>
<td>1/14</td>
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<td>1.1, 1.2, 2.1</td>
<td>Syllabus Quiz</td>
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<td>1/18</td>
<td>1/21</td>
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<td>2.2, 2.3, 2.5</td>
<td>Quiz 1</td>
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<td>1/24</td>
<td>1/28</td>
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<td>3.1-3.4</td>
<td>Quiz 2</td>
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<td>1/31</td>
<td>2/4</td>
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<td>1.3, 2.4, 4.1</td>
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<td>2/11</td>
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<td>4.2-4.4</td>
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<td>6</td>
<td>2/14</td>
<td>2/18</td>
<td></td>
<td>5.1-5.3</td>
<td>Quiz 4</td>
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<tr>
<td>7</td>
<td>2/22</td>
<td>2/25</td>
<td>no class 2/21</td>
<td>6.1-6.2</td>
<td>Quiz 5</td>
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<td>8</td>
<td>2/28</td>
<td>3/4</td>
<td></td>
<td>7.1-7.3</td>
<td>Quiz 6</td>
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<td>3/14</td>
<td>3/18</td>
<td></td>
<td>catchup</td>
<td>Exam 2 (3/18)</td>
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Grading Policy (Evaluation Methods & Criteria)
Semester letter grades will be converted from numerical semester scores (N) as follows:

<table>
<thead>
<tr>
<th>N</th>
<th>Grade</th>
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<tbody>
<tr>
<td>100 ≥ N ≥ 93</td>
<td>A</td>
</tr>
<tr>
<td>90 &gt; N ≥ 87</td>
<td>B+</td>
</tr>
<tr>
<td>80 &gt; N ≥ 77</td>
<td>C+</td>
</tr>
<tr>
<td>70 &gt; N ≥ 67</td>
<td>D+</td>
</tr>
<tr>
<td>60 &gt; N</td>
<td>E</td>
</tr>
</tbody>
</table>

In general I will not round up decimal percentages in your final grade. For example, a 79.78% will earn a C+, not a B-.

The numerical grade consists of several components:

- 15% of final grade: Homework. Homework is delivered online through the IMathAS system. These homeworks will be linked through Canvas and are fully online (no file uploads needed). If you think you have caught a mistake in the online homework, email me with an explanation of what you think is wrong (screenshots help).
- 15% of final grade: Quizzes. There will be weekly quizzes in the last 15 minutes of class each Friday. There are 10 quizzes in total, the two lowest quiz scores will be dropped.
- 45% of final grade: Midterms. There will be three midterm exams which are longer than quizzes. These will also be delivered in class. The lowest midterm exam score may be dropped and replaced by a higher final exam grade. Each midterm is worth 15%. If you do not take an exam, that score will not be dropped, so you should attempt all the assigned work.
- 25% of final grade: Final Exam. The final exam is a comprehensive exam covering all topics in the course. The final exam grade will replace the lowest midterm score.

It is the student’s responsibility to ensure the accuracy of all recorded homework, quizzes, online assignments, and exam grades. Also you should keep as record all your graded assignments. If you see any
error in your grades on Canvas, reach out to the instructor as soon as possible, or at the latest within two weeks from when the assignment was returned.