Course Syllabus: Mathematics 1060, Trigonometry
Section 090, Spring 2018

Instructor: Sabine Lang, **Office:** JWB 211, **E-mail:** sabine.lang@utah.edu

Communication: You may contact the instructor by e-mail or through Canvas-mail. When e-mailing your instructor, please include 1060 in the subject line. All announcements for the course will either be posted in quiz format on the Canvas website (these are graded) or sent by Canvas-mail.

Office hours: There will be in-person office hours each week, no appointment is necessary to come. I am also happy to schedule office hours by appointment, do not hesitate to send me an e-mail about it.

- Mondays 10:30-11:30 am in JWB 211
- Wednesdays 2-3 pm in JWB 211
- Thursdays 5-6pm **Online**

Participating to the online office hour is similar to making a Skype call while watching a math video. To attend, go to conferences in Canvas. You need speakers. You can ask questions with your microphone or you can type them.

Course information: Math 1060, Trigonometry is a 3-credit semester course.

Prerequisites: "C" or better in MATH 1050 OR Accuplacer CLM score of 80 or higher. The mathematics department DOES enforce prerequisites for all undergraduate courses. If you were able to register for this class based on your enrollment in the prerequisite course last semester and you did not receive the minimum grade in that course to enter this class, then you will be dropped from this class on Friday of the first week of classes. If you are in this situation, it is in your best interest to drop yourself from this class and enroll in a class for which you have the prerequisites before you are forcibly dropped.

Weekly workload: This is an online course, but still an intense course. According to the University of Utah, a 3-unit course should have about 3 hours of lecture and 6 hours of outside study/homework time. This means that our online course, will take the average student about 9 hours per week. Some students will be able to get by on less, and some student will need more. Each week, we cover specific sections. You can choose when you work on the material in the week, keeping your objective and topic goals in mind, but you cannot complete the course at your own pace.

Is online right for you?: Before committing to this course, consider whether the online format matches your learning style. To aid in this, please look at: A: Online?

Purchase course materials: You can find information about how to purchase the book and access to WebAssign here: `http://services.cengagebrain.com/course/site.html?id=2609570`.
In the first week, use the free trial on WebAssign to complete assignments and access the e-book. After you are certain you will stay in the class, buy access to WebAssign and the e-book directly from the publisher using the link above. DO NOT buy it at the WebAssign site, since the price on WebAssign is more expensive! Additional information can be found here:A: WebAssign and Textbook.

Course website: Canvas, `https://utah.instructure.com/`. Since you are taking this quiz, you have found this site. It is a good idea to save this address, so that you can get to Canvas without going through CIS.

Text: *PRECALCULUS, 9/e edition, Larson; Chapters 1-3, 7-9.* You get access to the e-book version of the textbook when you buy the package described above. If you learn by reading and writing, I would recommend buying the physical book, either the version above or a used version. More information about the text can be found here: A: WebAssign and Textbook.

Homework website: The homework website that accompanies the textbook is run by the company WebAssign. It has the weekly homework assignments and additional videos and tutorials. In order to get to a WebAssign assignment, click on that assignment in Canvas. The first time you do this, your WebAssign account will be created. To learn more about using WebAssign, go to A: WebAssign and Textbook. There is a free 14-day trial for WebAssign, which starts the first Monday of the semester and ends the second Sunday. After this, you must pay to use this site.

Recorded lecture videos: They are available through the modules or in both streamable and downloadable versions at `http://www.math.utah.edu/lectures/math1060.html`. It's good to save this address somewhere else.

Technology: The majority of the course work can be done without a calculator. No calculators will be allowed on exams nor the final. Calculators will be useful on some homework assignments and may be allowed on portions of quizzes. If you do not have a scientific or graphing a calculator, there are free calculator applications online.

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 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. Recognize the formulas for parabolas, hyperbolas and ellipses (including circles). Be able to manipulate these basic conics to find foci, any asymptotes, and important points and to graph these conics. Use conics in real world context situation.

Help: Contacting me by my e-mail, coming into office hours, or setting up an appointment is the first way to get help. I am happy to talk about individual problems, mathematical concepts, or help you make a study/learning plan. Please seek help early in the term. If you have a question about a WebAssign problem, you can contact me or look/post in the Canvas discussion board (good for content questions/ calculation issues). You can also get tutoring through the following:

- Math Tutoring Center (drop-in tutoring and computer lab). This is free to all students. It is in the underground passage between JWB and LCB, Room 155.
  See `http://www.math.utah.edu/ugrad/mathcenter.html` for hours.
- Private Tutoring: University Tutoring Services, 330 SSB (they offer inexpensive tutoring). There is also a list of tutors at the Math Department office in JWB 233.
- ASUU Tutoring in the evenings at the Marriott Library.
  See `https://tutoringcenter.utah.edu/tutoring-services.php` for details.

The structure of the course: Each week, we cover specific sections. Our week typically starts on Wednesday and ends on Tuesday, so that you can get help on Monday or Tuesday before the work is due. You can choose when you work on the material in the week (as long as you meet deadlines), but you can not complete the course at your own pace, as there are specific due dates throughout the semester. Here is a breakdown of the components in the course and what they are worth.

- Reading announcements on Canvas: Course documents and announcements are given in quiz format and have a short quiz about the content at the end. These "quizzes" begin with "A:..." Completing these is worth 2% of your grade. Suggested due dates are shown, but these can be completed at any time.

- Reading from your textbook
- Watching the video lectures: These were produced by the University of Utah math department. They are available in Canvas or on the math department website. If you find a video is not addressing your questions, ask your instructor for additional resources.
- Solving problems: Working through problems helps you understand and master the material. In WebAssign, there are three types of materials:
    - Practice assignments: These assignments are for you to get familiar with the concepts before you start the graded homework and/or use as reviews before exams. Doing these assignments is good practice for most students, but they are not required. You can work on them at any time in the semester.
    - Graded assignments: Worth 14% of your grade. These assignment are a transition between the practice assignments and quizzes and exams and have fewer help features/allowed submission than the practice assignments. These are due on Tuesday nights at 11:55pm. The lowest three homework scores will be dropped at the end of the semester.
    - Personal Study Plan (PSP) resources: These are a collection of interactive practice problems, videos, and quizzes to be used for online tutoring, practice, and review.

    For additional problems, use your textbook. There is a link in the Canvas modules to solutions of the odd textbook problems.
- Bi-weekly take-home quizzes: There will be seven take-home quizzes, one at the end of weeks 1, 2, 4, 7, 9, 10, 13, and 14. You can access them on Friday (earlier by special arrangement) and they are due on Tuesday. You will need to scan and upload them as pdf files. The quizzes are worth 14% of your grade. The lowest quiz score will be dropped at the end of the term.
- Exams: There will be two midterm exams, and a comprehensive final exam at the end of the semester. Each midterm is worth 20% of your grade and the final is worth 30%. You must schedule your exams and final through the "Schedule Exams" link on Canvas. Exams will be administered at the Uonline testing center (in the Marriott Library), at satellite testing center in Sandy, or if you are out of area, with a proctor that you set up and register with Uonline. There will be practice material provided prior to each exam. You are not allowed to use notes, a calculator, textbook, or phones during the exam. More information about exams, including how to set up a proctor, can be found here A: Exams.
- Common final: The final is comprehensive and worth 30% of your grade. All the students in Math 1060 at the University of Utah take the same common final at the same time, including online students. However, if you are an online student and unable to be at the common final due to the time or location, you are allowed to take an alternative final exam at the testing center or with a proctor at an earlier time. See the exact dates below.
- Extra credit: Extra credit, worth up to 3% or more of your course grade, can be earned for participating in online discussions (by asking or answering questions with significant mathematical content), or by spotting errors in course materials. See A: Extra credit for details.

Dates:
- Weekly due dates: WebAssign homework due each Tuesday at 11:55pm.
- Biweekly due dates: Quiz every Tuesday night in Canvas at 11:59pm at the end of weeks 1, 2, 4, 7, 9, 10, 13, and 14.
- Exams Schedule at a time between the dates below:
    - Exam 1: Monday, February 12th to Saturday, February 17th
    - Exam 2: Monday, April 2nd to Saturday, April 7th
    - Alternative Final: Wednesday, April 25th.

    <div align="center">OR</div>

    - Common Final: Friday, April 27th, 1-3pm.
- Drop date: Friday, January 19th
- Withdraw/audit date: Friday, March 2nd

Grading: Grades are calculated as follows:

Announcement quizzes	2 %
Content quizzes	14 %
WebAssign homework assignments	14 %
Midterm exams	40% (20% each)
Final axam	30%

The lowest two WebAssign scores and the lowest quiz score will be dropped at the end of the term.
You should monitor your course grade throughout the semester by looking at Grades in Canvas. At the end of the semester, the "current grade", not the "final grade" is used to determine the course letter grade.
The grading scale is:

A	93% – 100%	B-	80% – 82.9%	D+	67% – 69.9%
A-	90% – 92.9%	C+	77% – 79.9%	D	60% – 66.9%
B+	87% – 89.9%	C	73% – 76.9%	D-	50% – 59.9%
B	83% – 86.9%	C-	70% – 72.9%	E	0% – 49.9%

Early policy: You can start WebAssign homework early at any time. You have a five-days window to complete quizzes. Under special circumstances, you may request them up to two days earlier than this. Please request this at least 48 hours before you would like to access the quiz. You can also take exams up to a week early, upon well-planned request. Please let me know at least 7 days before you wish to take the exam. Students are encouraged to take the departmental final. If this time or location is inconvenient, you may schedule an earlier alternative final either at the Uonline testing center or with a proctor.

Late policy: Unexpected events arise you get sick, called into work, have computer or Internet problems, get back late from a trip, etc. If you know you will have a time conflict, busy week, be away, etc., please start work early.

- Graded WebAssign assignments: You can request five-days extensions of WebAssign assignments up to two weeks after they are due. This deduction is automatically granted by WebAssign. The is a penalty of 30% of the unearned points for using this feature (i.e. a penalty of 1 to 15 points per assignment). After two weeks, extensions are not given on graded assignments. Instead, you should use the practice assignments for practice. The two lowest graded WebAssign assignment scores will be dropped as well at the end of the term. If a situation arises in your life which will prevent you from completing your assignments within two weeks of the due date, please contact your instructor with documentation.

- Quizzes and Exams: You have a five-days window to take quizzes and a six-days window to take exams. It is recommended that you complete these during the middle of the window, in case something arises at the end which would prevent you from completing them. The following reasons are not sufficient to get an extension on a quiz: technical issues like failed computers or internet, running out of printer ink, being called into work or asked to work late, being stuck in traffic, etc. At the end of the semester, your lowest quiz score will be dropped. This will provide a buffer in the cases like this. Similarly, there are very few reasons that qualify for extensions on exams. Extensions on quizzes and exams are only given in the case of **big, unanticipated, documentable** circumstances beyond your control. If this occurs, you must contact your instructor in a timely manner and provide documentation by a third party (for example, a doctor note or police report).

Center for Disability and Access: 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 the 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 alternative format with prior notification to the Center for Disability and Access.

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.
http://regulations.utah.edu/academics/6-400.php

Disclaimer: This syllabus may change during the semester. If I do any modification to this syllabus, I will let you know by email and post the new syllabus on the Canvas webpage.