Math 1060, Trigonometry

FALL 2017

Instructor: Ornella Mattei
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Office location: JWB 128
Office hours: Tuesdays 4.30pm–5.30pm, Thursdays 4.30pm–5.30pm, or by appointment
Class schedule: Tuesdays 6pm–7.20pm, Thursdays 6pm–7.20pm, JTB 130

Math 1060 will help you to become confident in topics such as trigonometry, analytic geometry, and complex numbers. This course will provide you the tools to solve a large variety of problems and to prepare for calculus, linear algebra and discrete mathematics. Specifically, the course will focus on the study of trigonometric functions, trigonometric identities, and trigonometric equations. Vectors, complex numbers, conics, and polar coordinates will also be introduced.

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. 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, Larson, 2013.
Online version: The online version of the text is available with Enhanced WebAssign for 75 dollars. The price covers both Math 1050 and Math 1060.
Loose–leaf version: Available at the price of 45 dollars.
The text can be purchased at http://www.cengagebrain.com/course/2459057.

NOTE: If you decide to purchase the loose–leaf version of the book (totally optional) you still need to purchase the access to WebAssign, unless you have it already purchased for Math 1050. Furthermore, I will distribute in class a handbook with instructions regarding how to get access to WebAssign. If you still need help, you can contact WebAssign Customer Service (the contact details will be on the last page of the handbook).

Important dates:
First class: Tuesday, August 22
Last class: Tuesday, December 12
Fall break: Monday–Friday, October 9–13
Thanksgiving break: Thursday–Friday, November 23–24
Midterm 1: Thursday, October 5
Midterm 2: Thursday, November 30
Final Exam: Tuesday, December 12, 6pm–8pm

Homework: Homework will be posted on WebAssign on Thursday at 12:00am (except on October 12, due to fall break), starting August 24. Homework will be due at 11:59pm on the Wednesday after it is assigned. *Late homework will not be accepted*. You are encouraged to work in groups and to contact me whenever needed to solve the homework problems.

NOTE: To access a homework file first log in into Canvas, then click the Assignments section, choose the assignment you are looking for and this will direct you to WebAssign. While doing your homework you may find helpful the link to the Online Solutions of Odd Problems in the Textbook that you will find on Canvas course homepage under the heading Using WebAssign and Textbook in the section WebAssign info. Most of the homework problems are very similar to the problems proposed in the textbook. To look for a problem, you have just to click on the link above mentioned, select the textbook, select the section of the book you are interested in and you will find a selection of already solved problems.

Quizzes: There will be a quiz every Thursday except the first Thursday of the semester and on midterm days, for a total of 10 quizzes. *There will not be any "make up" quiz*. If you miss a quiz you will receive a "0" on that quiz. However, the three lowest quiz scores will be dropped.

Exams: There will be two midterm exams and a final exam. *There will not be any "make up" exam*: if you miss an exam you will receive a "0" on that exam. No exam scores will be dropped. Calculators and cell phones will not be allowed. Cheating will not be tolerated.

Grades: The break-up for the grades is the following:
15% homework
15% quizzes
20% Midterm 1
20% Midterm 2
30% Final exam
The conversion from numerical scores (N) to letter scores is the following:

$$100 \geq N \geq 93 : A \qquad 93 > N \geq 90 : A- \qquad 90 > N \geq 88 : B+$$
$$88 > N \geq 83 : B \qquad 83 > N \geq 80 : B- \qquad 80 > N \geq 78 : C+$$
$$78 > N \geq 73 : C \qquad 73 > N \geq 70 : C- \qquad 70 > N \geq 68 : D+$$
$$68 > N \geq 63 : D \qquad 63 > N \geq 60 : D- \qquad N < 60 : E$$

TAs contacts and Tutoring: I encourage you to come to office hours every time you need it. I am also available to meet students by appointment. Further help is provided by the TAs:

Cyndi Munoz, email address: cynmunoz@gmail.com
Claudia Dzieszko, email address: u1002346@utah.edu

You can also seek help at the tutoring center located in room 155 of the T. Benny Rushing Mathematics Center. It is open from Monday to Friday, from 8am to 8pm, except on Fridays when it closes at 6pm. Their website is http://www.math.utah.edu/ugrad/tutoring.html. The department has also video lectures corresponding to the course available at http://www.math.utah.edu/Lectures

ADA Statement: The Americans 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 Olpin Union Building, (801)581-5020) in order to have the accommodations provided. The instructor needs to be informed about such a disability and approved accommodations at the beginning of the semester.

Disclaimer: This syllabus has been created as a preview to the course and I have tried to make it as accurate as possible. However, I reserve the right to make reasonable changes to the above policies. Any such changes will be announced in class.