

# MATH 112 Trigonometry and Functions Spring 2017 Syllabus

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**Class Times:** MWF 10:00-10:50 AM

**Class Location:** Hirt 209

**Office Hours:** M 11AM-1PM, Tu 9-10AM and 3-4PM, W 1-3PM, F 11AM-12PM,  
or e-mail to request an appointment

**Course Webpages:** [math.mercyhurst.edu/~aberardine/classes/MATH112](http://math.mercyhurst.edu/~aberardine/classes/MATH112) and  
[math.mercyhurst.edu/moodle](http://math.mercyhurst.edu/moodle)

**This syllabus is a contract.** It is meant to tell you what you can expect of me, and what I will expect of you. It is a binding document you should read and understand thoroughly.

## 1 Course Description

This course will include a further exploration of functions, followed by additional topics in trigonometry. A student may take MATH 112 without taking MATH 111. The student must have knowledge of the topics listed in MATH 111. 3 credits.

**Prerequisites:** MATH 111 or ALEKS placement score of 61.

## 2 Required Resources

**Textbook:** *Trigonometry*, by Michael Corral.

## 3 Course Objectives

A student who successfully completes this course will be able to:

- recognize, define, and apply properties of functions, such as their domain, range, intercepts, and inverse;
- compute the values of the six trigonometric functions for any real angle measured in both degrees and radians using the unit circle and the trigonometry of right triangles;
- graph all six trigonometric functions and their transformations;
- evaluate and graph exponential and logarithmic functions;
- evaluate and graph the arcsine, arccosine, and arctangent functions;
- simplify expressions containing trigonometric, exponential, and logarithmic quantities;
- prove trigonometric identities;
- solve trigonometric, exponential, and logarithmic equations using algebraic techniques;
- use trigonometric, exponential, and logarithmic expressions and equations to solve applied problems.

## 4 Grading

### Final Grade Calculation:

	Percentage of Final Grade
In-Class Presentations (4)	20%
In-Class Exams (3)	60%
Final Exam	20%

### Letter Grade Scale:

If you have a weighted average of at least:

94%	90%	84%	78%	70%	65%	60%	0%	
then you will earn a(n):	A	B+	B	C+	C	D+	D	F

**Grade Assignment:** Student grades will be determined based solely on the evaluation criteria listed in this section of the syllabus. Grades reflect proficiency in the course content as demonstrated on the graded evaluation criteria. In particular, if you want to earn an A, you need to demonstrate consistent excellence over the course of the entire term; an A on the final is not equivalent to an A in the course.

## 5 Homework and In-Class Presentations

Attending every class is not enough; mathematics can only be learned through practice. You should expect to spend a significant amount of time on homework for this course. According to the typical 2-3 hours outside of class per week for each credit, it is expected that you spend approximately 6-9 hours per week every week studying the material for this course outside of class.

You need to stay up to date on homework and seek help if you cannot understand a problem after trying it on your own. If you are having trouble with a topic, come talk to me during office hours, ask questions in class, seek help from a classmate, and/or go to the department tutors for assistance.

Every student is expected to present a complete, prepared solution to at least **four** homework problems throughout the semester. There will be opportunities to present in every class period except the first day and on exam days. Your four highest presentation grades will be counted. So, if you are unhappy with one of your presentations grades, simply prepare better next time and volunteer again.

## 6 Exams

There are three in-class exams scheduled for this semester.

Exam 1: (Chapter 1) Wednesday, February 8

Exam 2: (Exponents and Logarithms) Friday, March 3

Exam 3: (Sections 2.1, 2.2, 2.4, 4.1, 4.2; Chapter 5) Wednesday, April 12

**Final Exam:** The final exam will be cumulative (Chapters 1-6 + Exp/Log). It is scheduled for Wednesday, May 10 10:30AM - 12:30PM in our normal classroom.

**Exam Format and Expectations:** In-class exams will not be multiple choice and you will be required to show your work to get credit. During class I will clearly indicate what I consider to be a complete solution, and what is “enough work.” My expectations will be clear, and if you need further clarification you can ask questions in class or visit during office hours. You should be sure to emulate the standards modeled in class to receive full credit on in-class exams.

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**Make-Up Exams:** No make-up exams will be given. If you know you are going to miss a scheduled exam for a pre-scheduled event (examples: Mercyhurst-operated sporting event, academic event for another Mercyhurst course, doctor's appointment, wedding, etc.), you must contact me via e-mail or in office hours at least seven days before the exam is scheduled to take place to arrange to take the exam early. That is, you may arrange to take the exam prior to the scheduled date and time, but you may not make an exam up after it has been administered in class. If you miss an in-class exam, you will receive a zero.

**Exam Grading:** As shown in Section 4 of the syllabus, your in-class exam average counts for 60% of your final grade in the course. Your lowest exam grade will be replaced by your final exam, if your final exam score is higher than your lowest in-class exam grade. A zero received from a missed exam may be replaced by the final, no questions asked. If you miss more than one exam, only one of your zeros will be replaced by the final exam. If you receive a zero for cheating on an exam, that score will not be replaced by the final exam.

## 7 Course Policies

**Attendance:** Students are responsible for all information (notes, announcements, etc.) given in class, regardless of attendance.

**E-mail:** You can always e-mail me with course-related questions or to request an appointment outside of office hours. However, you should allow up to 2 days for a reply to your e-mail. Also, you should not e-mail me with questions about your grade; to discuss your grade please meet with me in person in my office. E-mail is not a substitute for class attendance. Sometimes, I will need to send out e-mail communications to the class. These communications will be sent to your Mercyhurst account. I will not send to any other e-mail account you may use, so be sure you have access to your Mercyhurst account and check it often enough to receive these important announcements in a timely manner.

**Course Assistance and Tutoring:** If you need assistance, ask for it! I have office hours every week, and the Department of Mathematics offers free tutoring for MATH 112 students. See <http://math.mercyhurst.edu/~griff/courses/Tutoring/> for details, including the schedule.

**Classroom Etiquette:** Please be courteous to the instructor and your fellow students and silence your cell phone before class and do not send or receive calls or text messages during class time. Take off your headphones; do not read the newspaper or other books. Avoid disrupting the instructor and your classmates by arriving to class late or leaving class early unless absolutely necessary.

**Academic Integrity:** Cheating and plagiarism in any form are serious offenses and will be dealt with as such. University policy related to this issue may be found in the Student Handbook under Academic Affairs. <http://handbook.mercyhurst.edu>

**Regarding Learning Differences:** In keeping with college policy, any student with a disability who needs academic accommodations must call Learning Differences Program secretary at 824-3017, to arrange a confidential appointment with the director of the Learning Differences Program during the first week of classes.

**Support of the Mercy Mission:** This course supports the mission of Mercyhurst University by creating students who are intellectually creative. Students will foster this creativity by: applying critical thinking and qualitative reasoning techniques to new disciplines; developing, analyzing, and synthesizing scientific ideas; and engaging in innovative problem solving strategies.

**Final Note:** This syllabus is subject to change if deemed necessary. Any syllabus changes or addendum will be communicated in class.