Syllabus

Precalculus II, Fall 2023, Math 32.03Y, CRN 27583

M-Th 8:30-9:20AM

Room MLC 112

Instructor: Rani Fischer, fischerrani@fhda.edu

Course Description:

In this course, we will explore the theory of trigonometric functions and their applications.

Student Learning Outcome:

Upon successful completion of the course, students will be able to: Formulate, construct, and evaluate trigonometric models to analyze periodic phenomena, identities, and geometric applications.

Course Content:

1. Unit circle and right triangle trigonometry
2. Graphing trigonometric functions: period, amplitude, phase shifts
3. Inverse trigonometric functions
4. Modeling with periodic functions
5. Trigonometric identities and inverse trigonometric identities
6. Verifying trigonometric identities and solving trigonometric equations
7. Polar coordinates
8. Polar form of complex numbers
9. 2-dimensional vectors

Tips for Success

1. **Log into our course in Canvas every day.** Check for upcoming deadlines and make sure you are aware of them.
2. **Turn everything in.** Every homework, every discussion, every problem set. Also, don't miss any quizzes or exams.
3. **Prepare for quizzes and exams as if they were closed-notes assessments.** That is, prepare as if you were allowed only paper, pencil and calculator. Preparing this way for quizzes will help you retain the material for exams. Preparing this way for exams will help you retain this material for when you need it for the next math or physics class(es).
4. **Come to every class.** Allowing yourself to occasionally miss class is a slippery slope, and can easily turn into a bad habit that can cost you the grade you want in this class.
5. **Come to class prepared and ready to contribute!** Be sure to have watched the required videos so you can benefit from the synchronous session and, more importantly, contribute.
6. **Don't wait to ask for help.** I cannot know what you don't tell me. If you're dealing with an unusual or an unexpected challenge, please let me know if I can do something to help keep the class manageable for you.

Textbook and Calculator:

Your textbook for this class is available for **free** online!

Precalculus from OpenStax, ISBN 1-947172-06-9

However, PLEASE BUY the hardcopy of the **Prepared Lecture Notes**

Bound hardcopies of prepared lecture notes will be for sale in the bookstore. You can also find them in Modules under weekly activities. These are designed to help you understand the lectures so that you don't have to take copious notes. They highlight the important ideas and practice problems.

You will need a scientific calculator for this class. This can be a physical or an online app, such as the one at https://www.desmos.com/scientific

Office Hours: M,W 9:30-10:30 am & Tu, Th 11am-noon in S37

Online Homework & in-class Problem Sets

The best way to succeed in any math class is doing all of the assigned work correctly and in a timely manner, making sure you really understand what you are doing! Focus on how to think mathematically about problems, not just on following a procedure or learning a skill! Time spent on the homework and in-class group work on problem sets will directly benefit you on quizzes and exams.

Online Homework: You will have online homework for each section we cover. The homework will be embedded within Canvas, and will be graded for correctness. The links and due dates are within the modules. You will have 5 late passes, each of which will give you a 24-hour extension.

In-class Problem Sets: Each week, we will have a problem set that you will work on. These problems will be posted as a PDF in the Canvas modules. You are to start work on them in groups, work them out on paper, and submit them individually by the deadline on Thursday. You will start them in class, but will need to finish them up on your own. These sets include problem-solving and critical-thinking exercises that rely on your conceptual understanding of the material and related skills.

Problem Sets Submission Guidelines:

- *Even though the problems will be discussed in groups, write up your own solutions independently.*
- *Label each problem clearly – use highlighter to mark the number, or put a box around it so it's easy to find. You don't need to write the question, just fully-worked out solutions.*
- *Do the problems in order, showing all work neatly, clearly and completely.*
- *Write your solutions out in full detail, as modeled in the textbook and in lectures. It's important to write up problem sets neatly, showing all work, and explaining the logic behind each step. You should also draw well-labeled and appropriately scaled diagrams and graphs when they are helpful in understanding your solution.*
- *Submit on paper at the beginning of class on Monday. I will not accept lateness, though I will drop your two lowest problem sets.*

Participation:

Even though this is an online class, you are expected to participate. I expect you to:

- Ask questions during the synchronous portions of our class – you can raise your hand to speak, or use the chat feature in Zoom.
- Participate actively in breakout rooms during our synchronous sessions. Come to the synchronous session prepared, having at least watched the assigned videos and ideally, having read the appropriate textbook sections.
- Participate in weekly discussion boards (it's part of your grade)
- Post and answer questions in discussion boards (1 point extra credit for posting or answering a question)

Quizzes:

We will have nine 20-minute quizzes (see the last page of this document for calendar). *IMPORTANT: There will be NO MAKEUPS for any of the quizzes. However, your lowest two quiz scores will be dropped.*

Exams:

We will have two midterm exams, and a cumulative final exam. See the calendar for the dates. Exams must be taken at the scheduled time, so pay careful attention to their dates and times.

IMPORTANT: In case of an unforeseen emergency or illness due to which you cannot take an exam, please get in touch with me immediately, and I can work with you to find a solution. If this happens for the final exam, that may result in an 'Incomplete' (provided that you supply me with a sufficient proof).

Evaluation:

Your final grade will be computed as follows:

Breakdown of point value of assessments		
Online Homework		10%
In-class Problem Sets	Top 9	18%
Weekly Discussions		5%
Quizzes	Top 7	28%
Exams	2 @ 12 each	24%
Final Exam		15%
TOTAL		100%

Letter Grade based on overall percentage	
Overall percentage	Your grade will be at least
97 % or greater	A+
92% to less than 97%	A
89% to less than 92%	A-
87% to less than 89%	B+
82% to less than 87%	B
79% to less than 82%	B-
75% to less than 79%	C+
70% to less than 75%	C
55% to less than 70%	D
less than 55%	F

Help:

1. Your classmates are a great resource. Ask for help and provide help to others either within your current groups or using Canvas discussion boards!
2. Ask me question through Canvas or attend office hours. For online homework, PLEASE DON'T use the 'Message Instructor' button, rather ask me in person during or after class.

3. Get help from De Anza's Math Student Success Center. See details at http://deanza.edu/studentsuccess/.

4. Use NetTutor for help through Canvas.

5. If you need any technical help with MyPortal, Zoom, Canvas, etc., visit https://www.deanza.edu/online-winter/#Learning.

6. On the link above, under 'Student Services and Support', you will find links to services with some specific to this time, such as for help with tech equipment, food and financial assistance, health services, resources for undocumented students, etc.

Academic Integrity:

All students are expected to exercise academic integrity throughout the term. Any instances of cheating or plagiarism will result in disciplinary action, which may include recommendation for dismissal. You are encouraged to work together on homework but simply copying down from someone else's work is wrong! Also, that activity will be of no help to you later. Cheating on a quiz or an exam will result in getting a 0 on it, an 'F' in the course or dismissal from the class. Also, each incident of cheating will be reported to the Dean of the Physical Science, Mathematics and Engineering Division. Please see the De Anza College's page on Academic Integrity: https://www.deanza.edu/policies/academic_integrity.html.

Disability Notice:

If you feel that you may need an accommodation based on the impact of a disability, please contact me privately to discuss your specific needs. Also, please contact Disability Support Programs & Services through https://www.deanza.edu/dsps/ for information or questions about eligibility, services and accommodations for physical, psychological or learning disabilities.

Additional Tips for Success:

In any math class, and especially this one, your goal should be to get **ownership** of the material. This means that you understand the concepts, can demonstrate the skills, and explain the concepts and skills to someone that doesn't have them. When I teach

Calculus, I find that the students are the weakest in their trigonometry background. Those with weak trigonometric backgrounds (and generally, precalculus background) often don't do well in Calculus because of lack of prerequisite skills. So, this is not a "learn and forget" class. Rather, it's a "learn well so you remember" class. Here are some tips to help you succeed.

1. **Stay on schedule**. While the video lectures can be watched any time, you should stick to the schedule I have recommended on the calendar. Don't fall behind! Be disciplined about this to stay on top of the class. When you watch the videos, take careful notes in the prepared lecture notes. Writing aids memory so you are more likely to retain the material you watched.
2. To succeed in any math class you must **do your work (homework and problems sets) diligently**. I am aware that there are many sources that can provide you the answers and even the worked solutions to homework problems; however, such resources will be only be of so much use if you don't understand what you're doing. **Productive struggle** is essential in learning most things, especially mathematics. To learn and retain the material, you must sweat through the problems, especially ones that challenge you.
3. **Form a study group**. Exchange your contact information with at least 3 other people in the class. This will come in handy if you miss a class, or if you want to work with someone on homework, or while studying for an exam. **This is an essential college skill, especially for STEM students.**
4. **Read the textbook**! Simply watching the lectures is not enough to give you a complete idea of the material. I expect you to be familiar with the examples in the textbook in addition to in-class examples. I will cover different examples in the lecture videos than those in the textbook. The reason for this is to give you a richer set of examples to learn from.
5. **Review your notes** regularly and keep them complete! Ask questions about anything that's unclear in a timely manner to avoid losing points on quizzes and exams.
6. **Ask questions**! Whether it's to your classmates, me or a tutor, get your questions answered in a timely manner.
7. Make **summary review sheets** of important concepts for yourself throughout the term to make sure you have the key concepts, facts and skills organized in your head. This will help you prepare better for exams, but more importantly, it will come in handy when you truly need this material in Calculus and beyond.

The quarter passes by faster than expected – especially if you're new to the quarter system – and it's almost impossible to catch up, so plan accordingly.

Office Hours:

T,TH	11:00 AM	12:00 PM	In-Person	S37
M,W	10:30 AM	11:30 AM	In-Person	S37