

Math 32 Precalculus II

Winter 2021
De Anza College

Instructor Information: Doli Bambhania

Contact through Canvas message or e-mail (bambhaniadoli@fhda.edu)

Office hours:

- Mondays 10:30 a.m. – 12:00 p.m. (Zoom link: <https://fhda-edu.zoom.us/j/97458286911>)
- Wednesdays 1 p.m. – 2:30 p.m. (Zoom link: <https://fhda-edu.zoom.us/j/93287281341>)
- Fridays 11 a.m. – 12 p.m. (<https://fhda-edu.zoom.us/j/95775202592>)
- Or, by appointment (email me to schedule)

Course Description: Preparation for calculus: extending the elementary functions of first quarter precalculus to include the theory of periodic functions; composition of trigonometric functions with other elementary functions; polar co-ordinates; further exploration of the complex plane; introduction to the algebra of vectors.

Prerequisite: MATH 31 or MATH 31B (with a grade of C or better); or a satisfactory score on college placement.

Textbook: Jay Abramson, et al, Precalculus, OpenStax. This is a free textbook and is available at <https://openstax.org/details/books/prec calculus>.

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

Prepared Lecture Notes: The PDFs for prepared lecture notes will be shared with you. These are designed to help you keep your lecture notes organized. Please print them, or open on a tablet if you have the ability to annotate electronically. As you watch the prerecorded video lectures, take notes! If you don't have access to a printer or a tablet, then simply take notes in a regular notebook, as you would in any other class. I hope that being able to pause and replay portions of the video will help you master the lecture material.

Weekly Schedule:

- **Friday through Monday** (and other days): Read textbook, watch lecture videos (and take notes), work on homework, respond to discussion boards, and study!
- **Tuesdays, Wednesdays, Thursdays:** We will have synchronous Zoom meetings on these days. The link can be found in the Zoom tab in Canvas. You're expected to attend each of these meetings. Be sure to watch appropriate lecture videos before attending these meetings. We will use these synchronous meeting times to go over your questions, work in groups and take quizzes and exams.

If, for any reason, you stop participating and intend to drop the class, please do an official drop in a timely manner. If you fail to do so, you will receive an 'F' in the class. Follow the deadlines for this class in My Portal. I do not have the ability to make exceptions to these.

Important Note:

Since we are conducting the class fully online, I will look for your engagement through participation during synchronous sessions, and through the submission of assignments. Be sure to submit all first week and second week assignments to get into the "rhythm" of the class. Please note that if you're not submitting any

assignments, I will assume that you are not interested in the taking the class and may drop you (so you can get your refund)!

Homework and 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 groupwork 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 in Zoom breakout rooms, work them out on paper, and submit them individually by the deadline on Thursday before class. You will start them in class, but may 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. 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 a single PDF document, NOT multiple images. Use the Notes app on iOS, or a scanning app such as Adobe Scan or Genius Scan (both free), or something else from among many options. Be sure to check that your scanned copy is legible. I will need to be able to read it for you to get points.*
- *Problem sets are due on Thursdays at the start of class time, so should be submitted before you join Zoom. You can have a 24-hour extension with 10% penalty.*

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). These will be similar to your online homework. We will start them during the synchronous section of class. You will need to submit them on time to receive any points. *IMPORTANT: There will be NO MAKEUPS for any of the quizzes. However, your lowest quiz score 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:

Homework	18 @ 5 points each	90
In-class Problem Sets	Top 10 @ 8 points each	80
Weekly Discussions	10 @ 10 points each	100
Quizzes	Top 8 @ 15 points each	120
Exams	2 @ 80 points each	160
Final Exam		100
TOTAL		650

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. Message me through Canvas with questions or attend office hours. On online homework, you can message me by using 'Message Instructor' button.
3. Ask questions during our synchronous meetings.
4. Get help from De Anza's Math Student Success Center. See details at <http://deanza.edu/studentssuccess/>.
5. Use NetTutor for help through Canvas.
6. If you need any technical help with MyPortal, Zoom, Canvas, etc., visit <https://www.deanza.edu/online-winter/#Learning>.

7. 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.

watch this video that's designed to help you understand what academic honesty means:
<https://www.youtube.com/watch?v=4unoOe-l0eY>

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.

Miscellaneous: 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.
8. **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.
9. **Practice discipline!** Succeeding in a college class requires personal discipline. This is especially true for online classes. It's quite easy to put things off until later, skip some video lectures, skip taking notes while watching them, distracting yourself with social media and other apps while doing class activities. A life skill you are expected to practice in the online setting is: Be mindful of what you are giving your attention to. Think carefully about your priorities, and give the most time and attention to your biggest priorities. Don't put off working on them because the task at the moment is hard or unpleasant. Learning anything that's worthwhile requires a sustained effort and discipline! And that practice is what ultimately leads to personal growth.

Course Calendar: The detailed calendar that we will follow in this class is on the next page. Please look at it carefully to understand it, and mark important exam dates in your own calendar.

Here are some important Admissions & Records dates.

Important Admissions & Records dates

Last Day for Adds	16-Jan-21
Census Date	19-Jan-21
Last Day for Drops w/ Refund	17-Jan-21
Last Day for Drops w/o W	18-Jan-21
Last Day for Drops	26-Feb-21

Math 32 Precalculus II - Tentative Calendar - Winter 2021

	<i>No synchronous meeting on these days</i>				Zoom meeting on these days: 9:30 - 10:20 a.m.		
	Friday	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday
Week 1	1-Jan	2-Jan	3-Jan	4-Jan	5-Jan	6-Jan	7-Jan
	<i>Watch Videos: 5.1</i>				Orientation Worksheet 1	Questions Worksheet 1	Questions Quiz 1 (on 5.1)
Week 2	8-Jan	9-Jan	10-Jan	11-Jan	12-Jan	13-Jan	14-Jan
	<i>Watch Videos: 5.2, 5.3</i>				Questions Worksheet 2	Questions Worksheet 2	Questions Quiz 2 (on 5.2, 5.3)
Week 3	15-Jan	16-Jan	17-Jan	18-Jan	19-Jan	20-Jan	21-Jan
	<i>Watch Videos: 5.4, 6.1</i>				Questions Worksheet 3	Questions Worksheet 3	Questions Quiz 3 (on 5.4, 6.1)
Week 4	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan	27-Jan	28-Jan
	<i>Watch Videos: 6.2, Start 6.3</i>				Questions Worksheet 4	Questions Worksheet 4	Questions Quiz 4 (on 6.2)
Week 5	29-Jan	30-Jan	31-Jan	1-Feb	2-Feb	3-Feb	4-Feb
	<i>Watch Videos: Finish 6.3</i>				Questions Worksheet 5	Questions Worksheet 5	Exam 1 (on Ch 5, 6)
Week 6	5-Feb	6-Feb	7-Feb	8-Feb	9-Feb	10-Feb	11-Feb
	<i>Watch Videos: 7.1, 7.2, 7.3</i>				Questions Worksheet 6	Questions Worksheet 6	Questions Quiz 5 (on 7.1, 7.2, 7.3)
Week 7	12-Feb	13-Feb	14-Feb	15-Feb	16-Feb	17-Feb	18-Feb
	<i>Watch Videos: 7.5, 7.6</i>				Questions Worksheet 7	Questions Worksheet 7	Questions Quiz 6 (on 7.5, 7.6)
Week 8	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb	24-Feb	25-Feb
	<i>Watch Videos: 8.1, 8.2</i>				Questions Worksheet 8	Questions Worksheet 8	Questions Quiz 7 (on 8.1, 8.2)
Week 9	26-Feb	27-Feb	28-Feb	1-Mar	2-Mar	3-Mar	4-Mar
	<i>Watch Videos: 8.3, 8.4</i>				Questions Worksheet 9	Questions Worksheet 9	Questions Quiz 8 (on 8.3, 8.4)
Week 10	5-Mar	6-Mar	7-Mar	8-Mar	9-Mar	10-Mar	11-Mar
	<i>Watch Videos: 8.5</i>				Questions Worksheet 10	Questions Worksheet 10	Exam 2 (on Ch 7, 8.1-8.5)
Week 11	12-Mar	13-Mar	14-Mar	15-Mar	16-Mar	17-Mar	18-Mar
	<i>Watch Videos: 8.8</i>				Questions Worksheet 11	Questions Worksheet 11	Questions Quiz 9 (on 8.8)
Finals Week	19-Mar	20-Mar	21-Mar	22-Mar	23-Mar	24-Mar	25-Mar
	<i>Prepare for Final Exam</i>				Final Exam 9:15 - 11:15 a.m.		

Student Learning Outcome(s):

* Formulate, construct, and evaluate trigonometric models to analyze periodic phenomena, identities, and geometric applications.