MATH 42 (CRN: 42023)

PRECALC II: Trigonometric Functions

TR, 10:30-11:20am, through ConferZoom

2020 April 13 - June 24

Instr: Patrick Allmann

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Website: https://deanza.instructure.com/
Office Location: through ConferZoom found on Canvas (the course website)
Office Hour: T 11:30am-12:30pm or by appointment

The contents of this syllabus are subject to change.

Course Description: The theory of trigonometric functions and their applications.
Prerequisite: MATH 41 or MATH 41H (with a grade of C or better); or a satisfactory score on the College Level Math Placement Test within the last calendar year.
Credit Hours: 5

(optional) texts:

- *Precalculus with Limits*, 3$^{\text{rd}}$ Edition **Author:** Ron Larson 2014; **ISBN:** 978-1-133-94720-2

- OpenStax, Precalculus. OpenStax CNX. Jun 18, 2019 http://cnx.org/contents/fd53eae1-fa23-47c7-bb1b-972349835c3c@10.129.

Course Objectives:

Group sessions will start Thursday of the first week.

1. Define and evaluate trigonometric functions using both degree and radian measure
2. Solve oblique and right triangles
3. Solve arc length and sector area problems
4. Graph and analyze the six trigonometric functions
5. Apply trigonometric identities to simplify and evaluate trigonometric expressions and verify other identities
6. Analyze the inverse trigonometric functions

7. Solve trigonometric equations
8. Define the polar coordinate system and introduce polar graphs
9. Examine complex numbers in the complex plane
10. Perform operations with 2D vectors
11. Examine the logic of conditional and bi-conditional statements as they appear in mathematical statements

Grade Distribution:

Attendance	10%
Group work	30%
Homework	25%
Midterm Exams	20% (10 % each)
Final Exam	15%

Course Policies:

- **Attendance**

  - This class is partially asynchronous.

  - There will be Zoom power point lectures made available Monday and Friday and Saturday each week. The slides will be posted on Canvas as well.

  - We will meet each Tuesday and Thursday from 10:30-11:20am. This will be a chance to ask questions and work on group work.

  - The use of the discussions tab (on Canvas) as a forum is highly encouraged.

  - Office hours will be problem solving sessions with the potential to go through more examples.

  - To obtain attendance credit, you must **meet with me individually at least twice this quarter and ask a question regarding the course content**. These meetings must occur on either side of a midterm exam. For example, you might meet with me after the first exam, then after the second exam. Email me to schedule a Zoom appointment.

- **Groupwork**

  - Group discussion will occur Tuesday during the slotted meeting time, facilitated through 'break-out rooms' on Zoom and/or through the discussion board on Canvas. As a group, decide which medium(s) you wish to use.

  - Group sessions will start the second week of the course.

- Groups will be assigned randomly at first, with the possibility of forming your own once the quarter progresses.

- Groupwork is due every Friday night at 11:59pm except for midterm weeks.

- Turn in one assignment per group. Group work is, of course, collaborative. Please make sure everyone in your group is doing their part.

- There are many ways to collaborate and share documents online. As mentioned above, the use of the discussion board on Canvas is highly encouraged. To share documents, I recommend using either Google Drive or DropBox.

- You will probably need to collaborate more often than once per week. This can be through email, the discussion board, Skype, Zoom, or through Google Hangouts.

- **Homework**

  - Due every Sunday at 11:59pm.

  - Check the course website for each assignment.

  - Homework assignments are meant to improve your conceptual understanding of the material and writing skills.

  - Students are encouraged to work together during assignments, but are expected to turn in their own work.

- **Exams**

  - **Due dates of Midterm exams:** Friday May 8 (week 4), Friday June 5 (week 8) at 11:59pm.

  - **Due date of Final exam:** Wednesday June 24 at 11:59pm.

  - Check the course website for recommended study materials.

  - You'll have a week to complete the exams. Exams are 'take-home'. 'open book, open notes'. Do not use internet sources.

  - Exams are non-collaborative. You cannot work together in groups or talk to each other about the exam while it's available.

  - If a midterm exam is missed, the final absorbs the percentage of it.

– The final exam must be taken in order to pass the class.

2020 Spring Deadlines:

April 25 : Last day to add classes
April 26 : Last day to drop classes for full refund or credit
April 26 : Last day to drop classes without a W
May 8 : Last day to request "Pass/No Pass" for full-length classes
June 5 : Last day to drop classes with a "W"

Academic Dishonesty:

Academic dishonesty will not be tolerated. This includes, but is not limited to, plagiarism. See https://deanza.edu/policies/academic_integrity.html for more info.

Tentative Course Outline:

The daily coverage might change as it depends on the progress of the class. The sections are from the OpenStax text.

Week	Content
1	Angles. Radians. The unit circle. sine and cosine. 5.1, 5.2
2	The other trig functions. Right triangle trig. 5.3, 5.4
3	Graphs of trig functions. 6.1,6.2
4	Inverse trig functions 6.3 Midterm due May 8
5	Trig identities 7.1-7.4
6	Trig equations 7.4-7.5
7	Non-right triangles 8.1-8.2
8	Polar coordinates 8.3-8.5 Midterm due June 5
9	Parametric equations 8.6-8.7
10	vectors 8.8
Finals	Final due Jun 24

Student Learning Outcome(s):

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