

PRE-CALCULUS II

Math 154-002, Winter 2020
M-F 8:00-8:50 AM, Samuelson 252

Instructor: Tyler Suronen

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Office Hours: M-F 11-11:50 AM

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Text: *Precalculus*, Michael Sullivan, 2nd Custom Edition for CWU.

Description: A continuation of MATH 153 with emphasis on trigonometric functions, vectors, systems of equations, the complex numbers, and an introduction to analytic geometry.

Course Objectives: By the end of this course you will be prepared to:

- Use knowledge of trigonometric functions in relation to the unit circle to graph, create functions, and describe behaviors of trigonometric functions.
- Use knowledge of trigonometric functions in relation to triangles to solve triangles.
- Simplify trigonometric expressions and solve trigonometric equations.
- Convert between rectangular and polar coordinates.

Required Materials:

- The Text: The course is taught from material in the text. We follow the material in the text in order (with some exceptions) from Chapter 6 onward. Practice problems will be assigned from the text regularly.
- A graphing calculator: TI-83 or TI-84 is preferable. I will teach using the TI-83. Higher TI models (such as TI-89) will have similar features, but the steps may differ. *Phones are not an acceptable substitute in testing situations.*
- Internet access for:
 - E-mail: Primary method of communication outside of class and office hours.
 - Canvas: For announcements and additional materials.
 - MyMathLab: For graded online homework assignments.

Attendance: Daily attendance is important for your success in this course. It will be your primary source for learning in this course. Announcements will be made during lecture and assignments given and received. If you are absent, you are responsible for obtaining any information or materials presented in lecture. Please bring your text and calculator to every lecture. The calculator will be handy for in-class work (which will be frequent) and the text will be used to reference tables, graphs, etc.

Grade percent breakdown:

- HW 10%

- Perfect Practice 25%
- Exams 45%
- Final Exam 20%

Grades: You must show all work. Answers without adequate justification will not receive full credit. Any kind of guess-and-check solution or recalling the solution without showing the process will not suffice. Occasionally, answers without work or explanation will be acceptable (e.g. reading values from a graph) and I will make it explicitly clear when such problems are given. I will make clear the amount of detail necessary with examples in lectures. Problems will be done by hand unless explicitly stated otherwise. Answers should be presented in exact form unless explicitly stated otherwise (that means giving as many digits as you are given: no rounding).

Your overall grade will be calculated by percentage of completed work with the following cutoffs (+/- grades will be determined later roughly following the standard of 3 points above and below the cutoffs).

$$\begin{aligned}
 90 &\leq A \\
 80 &\leq B < 90 \\
 70 &\leq C < 80 \\
 60 &\leq D < 70 \\
 &F < 60
 \end{aligned}$$

Homework: Homework will be assigned frequently. You will find assignments on Canvas under “Assignments” and through MyMathLab. Homework is worth 10% of your total grade. Each assignment is worth the same percent of your grade. The homework will reflect the material covered recently in class. It is expected that you keep up with the homework. You are expected to attempt all problems. I will take homework questions at the start of lectures.

Perfect Practice: These are short tasks, usually one to three questions, which will be given in class to be done in 10-20 minutes. You may attempt the questions as many times as you like, but you must complete these questions before the end of the lecture with no mistakes. This ensures that you leave the class on the right track for the homework and also means you have an correct example of your own work to reference. If you fall behind on perfect practice you may turn them in by the end of that week, but no later. Perfect practice is worth 25% of your grade.

Exams: We will have 3 exams during the quarter and a final exam at the end of the quarter. The 3 exams will each cover roughly 2-3 weeks of the most recent material. Exams will take 55 minutes. Exams must be taken in class on the date given unless arranged in advance for necessary absence (see Late Work and Make-ups). The three exams together are worth 45% of your grade.

Final Exam: The final will be held on Thursday March 19th 8:00-10:00 AM in our regular classroom. The final will be two hours long, the material will be comprehensive, and is worth 20% of your grade.

Late work and Excused Absences: No late homework will be accepted. Early homework is welcome. You may have opportunity to take exams for excused absences. Excused

absences will be treated on a case-by-case basis. Excused absences are those that are both valid and verifiable, e.g. illness, bereavement, and school-related activities. Documentation is required. Excused absences do not include travel for holiday breaks, work, or non-emergency travel delays.

In compliance with RCW 28B.137.010, Central Washington University makes every effort to deal reasonably and fairly with students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. Students must present written notice to their instructor within the first two weeks of class listing the specific dates on which accommodations are required. Contact the Dean of Student Success at (509) 963-1515 for further information or questions.

Academic Dishonesty: Consult university policies (CWUP 5-90-040(22), CWUR 2-90-040(22), and WAC 106-125-020) for student conduct, cheating, plagiarism, and other academic expectations. Disciplinary action will be taken, up to and including failure of the course, in accordance with CWU policy and recommendations.

Classroom Equity: It is my duty as your instructor to provide a safe and inclusive environment for learning. As students you are expected to share this commitment. Our shared responsibility is to welcome everyone to learn and to treat each other with dignity and respect. Mutual respect and nondiscrimination includes freedom from sexual harassment. CWU policy defines sexual harassment as unwelcome, sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature under particular conditions. Title IX considers sexual harassment to be a form of discrimination. If you experience sexual harassment, or know someone who is being sexually harassed, you are encouraged to report concerns to me, another faculty member or employee, or to Equal Opportunity, at 509-963-1202, OfficeforEqualOpportunity@cwu.edu, Mitchell Hall 1st floor. Complete policies are available online at www.cwu.edu/hr.

Accessibility: Students who have special needs or disabilities that may affect their ability to access information or material presented in this course are encouraged to contact me. Students with disabilities should contact Disability Services to discuss a range of options to removing barriers, including accommodations: Hogue Hall 126, 509.963.2214, DS@cwu.edu.

Important Dates:

January 7 First day of classes.

January 13 Add/Drop classes.

January 20 Martin Luther King Jr. Holiday. No classes.

February 17 Presidents Day. No classes.

February 21 Uncontested withdrawal period deadline.

March 13 Last day of class instruction.

March 13 Hardship withdrawal petition deadline.

March 16 Study Day.

March 19 FINAL EXAM

Other: Our classroom time will be for three things: learning new material through lecture, practicing with examples, and testing. The majority of our time will be spent on these first two. Expect that the start of a classroom session may include either lecture or practice. When new concepts have been introduced, we'll reinforce them with examples that the class will work through together and then we'll spend time individually or in groups to practice the methods.

Testing will come on a regular basis. Exams will take up our entire class session. Quiz days will typically begin with either lecture or discussion and include some practice before we attempt the quiz.

Participation is not graded, but it is essential for your learning! I will often ask for your input in class. You will be asked questions directly. Be prepared for that. I may ask for students to "give me the next step" or even present a full solution at the board. Similarly I also expect you to ask questions about the material. The more input I have from you, the better I can facilitate your learning needs.

Math requires lots of practice. Plan to spend a 1-2 hours outside of class for every hour in class. Reading your notes and text will only get you so far. The deepest understanding comes from working through many examples and internalizing the concepts.

Resources:

1. **YOUR INSTRUCTOR:** I'm available for additional help several days a week during my office hours. During office hours I can help you review material, work on practice problems, answer questions related to homework, etc. If you have questions, you don't need to wait for my office hours to ask: you're welcome to e-mail me.

2. **YOUR TEXT:** The majority of the material in this class is based on the text. I recommend you keep up with the material in the book as we cover it in class. The text also has practice problems and will make a decent study guide.

3. **YOUR FELLOW STUDENTS:** Again, math is a collaborative effort. Form study groups, work through homework, share notes, etc. Borrow understanding from others and share your understanding with them.

4. **LEARNING COMMONS:** Free tutoring is offered 5 days a week in the library. See cwu.edu/learning-commons for more information.

What is PRECALC II?

A summary of the aspects students have appreciated in this course:

Examination Tools

- Perfect Practices...
 - translate well to exams.
 - further understanding.
 - reassure students they have understood the material.
- Online Homework (MyMathLab) is convenient.

Lecture

- Examples...
 - include interesting applications.
 - are challenging to provide deep understanding.
- Provide interesting and engaging intellectual challenge.
- Takes time to explain clearly.

Fun!

- Topics covered are interesting! There's something for everyone to enjoy.
- Students enjoy the challenge presented (the class is difficult in a good way).

The rule-of-thumb for studying is that a student should spend 1-2 hours studying for every hour in class. With a 5 credit course you should expect 5-10 hours per week of study. Here's how much time Pre Calculus II students take to study and how they use that time:

