Course Syllabus for MTH 112Z, Precalculus II Online

Portland Community College, Rock Creek Campus, 17705 NW Springville Rd., Portland, OR 97229

Welcome! I am glad you are here! I want this place to be a safe place for people of all ages, backgrounds, beliefs, ethnicities, genders, sexual identities, races, religions, and other visible and not visible differences. Together, we can create a respectful, welcoming, and inclusive place for all of us to work and learn in.

Course Information

- **Course Title:** Precalculus II
- **Course Number**: MTH 112 = 112Z
- **CRN:** 30094
- **Credits**: 4
- **Term:** Summer 2026
- **Online Class:** This class is an online class with no scheduled meetings. This means you will learn the material online without being required to come to campus.

Instructor Information

- **Instructor:** Wendy Fresh
- **Email:** wfresh@pcc.edu. The best way to communicate with me is through email. I check email daily and emails sent Monday – Friday will be answered within 24 hours. Emails sent over the weekend will be answered by at least the following Monday, but likely sooner. Due to FERPA laws (Family Educational Rights and Privacy Act of 1974) I can only respond to e-mail that you send via your MyPCC account.
- **Phone:** 971-722-7602
- **Instructor Website:** http://www.pcc.edu/staff/wfresh
- **Office Location:** Through Zoom during Summer term
- **Student Office Hours:** Off Campus via Zoom, Monday – Friday by appointment.

How to Get Help

If you have any questions, do not hesitate to email me (after you've done your due diligence in thoroughly referring to the syllabus). Don't ever feel like you are bothering me!

- Make an appointment to meet with me via Zoom.
- Visit the Student Learning Center (SLC) either in person for drop-in or appointment based tutoring, or drop-in eTutoring via Zoom. This is a free service for PCC students.

Course Description and Prerequisites

A course primarily designed for students preparing for calculus and related disciplines. This course explores trigonometric functions and their applications as well as the language and measurement of angles, triangles, circles, and vectors. These topics will be explored symbolically, numerically, and graphically in real-life applications and interpreted in context. This course emphasizes skill building, problem solving, modeling, reasoning, communication, connections with other disciplines, and the appropriate use of present-day technology. This course is part of Oregon Common Course Numbering. MTH 112 and MTH

112Z are equivalent. Prerequisites: Successful completion (C or better) of MTH 111 and (RD 115 and WR 115) or IRW 115 or equivalent placement. Recommended: MTH 111 taken within the past four terms. Audit available. For more information, use the Course Content and Outcome Guide for this course..

Instructional Materials

Textbook(s)

- Algebra and Trigonometry, OpenStax, 2e. Free online version of textbook.
- Mth 111/112 PCC Supplement.

Technology

- You must be able to save files in pdf format. Students are eligible for a free Microsoft Office 365 account that may help.
- Access to a scanner or scanner app. PCC offers free scanning in the Library. There are many free scanning apps for smart phones. AdobeScan is recommended. Email me if you need help.
- Scientific Calculator. Cell phone calculators will not be allowed on assessments.
- Graphing technology is required, such as Desmos and/or GeoGebra (both free) or a handheld graphing calculator. Cell phone graphing apps will not be allowed on assessments.

Instructional Approach

I believe that it is easier to understand mathematics if you know why things work the way they do. Communication, practice and consistency on both my part and your part are important for success.

For this online class, you will watch instructional videos that I have created, take notes and do some of the basic questions in what is called the "Learning Assignment". Once you have mastered this assignment, you will move on to the "Practice Assignment" where you will encounter more complicated concepts. These assignments will be digital in form and will allow you to have multiple tries. Mixed into the week, there will be discussions, labs, quizzes and exams where applicable.

The material due each week will be both in the "Course Calendar" and within the "Content" tab in D2L, broken up into its own module. **Do not wait until the last minute to do all the work due for the week**. To really learn a new concept (think riding a bike, learning how to play the piano, etc....) it takes regular practice! Separate the work into small chunks throughout the week so you don't feel overwhelmed.

Participation Expectations

This class is an online class, meaning you will engage with the material I provide to gain information of the content for the course. To be successful in this model, you should:

- Have reliable access to the internet (and maybe even a backup).
- Have good time management skills to complete the requirements of the course.
- Log into MyPCC and our D2L course at least 3 times a week where you should check email, class announcements and discussion messages.
- **Work on the class daily if possible**, and no less than 10-15 hours a week.

Graded Assignments

Lab and Discussion Assignments – 10%

To mimic the type of conceptual activities that occur during an in-class environment, each week you will be given a task (located in the Discussions tab and within the module) to explore and learn in a conceptual way. You will then express your understanding in a procedural way, submit your work within the Discussions tab (paying attention to the notation and formatting presented in the week's lessons) and await feedback from your peers. This first step is the "Lab and Discussion post **Initial"** step.

From the feedback of your peers, as well as looking at how other students do the work, you may do revisions to your work as needed. This is meant to be helpful and a way that we can all learn from each other by seeing how others may be thinking about a concept.

Your "Lab and Discussion post **Final",** edited version of each Lab Assignment will be due in the Assignment tab at the end of each week. Please note that I will only grade the Lab and Discussion post **Final** Assignment that you upload to the Assignments tab. This should be your best work – free from scribbles, bad notation or unnecessary work.

Assignments – 8%

One of the keys to learning mathematics is to practice. Assignments will be digital and can be found within D2L. They will consist of "Learning Assignments" and "Practice Assignments".

- **Learning Assignments:** This assignment is where the instructional lecture videos are located. You will watch a short video, then work the questions that follow, watch another short video, then work the questions that follow, and so on… While watching the videos, you should be taking notes using the provided Blank Lecture Notes. **You will have 2 tries on each version of a question, and unlimited versions of each question.** You should use your notes to help you answer these questions, as well as to model good notation. While answering the questions, it is highly recommended to first write out your work in an organized assignment notebook and then submit the answer to check if it is correct. Although this assignment notebook won't be collected, it is important to practice showing work using good notation in an organized way.
- **Practice Assignments:** This assignment will be completed after you've completed the Learning Assignment with at least a 50%. It will contain practice over all the concepts taught in a section and may be more challenging than the Learning Assignments. **You will have 2 tries on each version of a question, and 3 versions of each question.** You should use your notes to help you answer these questions, as well as to model good notation. Like the Learning Assignments, you should be writing your work down in an organized way in an assignment notebook.

Suggestions: A correct answer doesn't always mean that the process to achieve that answer is correct. Be sure you are following similar processes to those demonstrated in the videos. If you are unsure whether your process is correct or not, please feel free to email me your written work and I can provide additional feedback and guidance.

In addition, your goal on an assignment should be to work through the exercises for full understanding of the material. **Your goal should NOT be to get the correct answer in the shortest amount of time and move on.** Work through each homework problem until you can

successfully complete that problem without using any resources (like in an exam). So even if you get an answer correct, work through the exercise until you feel that you've mastered that topic. To **get more practice**, after the due date, these assignments will be open for un-graded practice by clicking on "Practice". This feature is recommended to ensure complete understanding. However, do not click on this until you are done working on the assignment for a grade. Once you click on "Practice", you will no longer have access to a Late Pass (which is what gives you access to work on an assignment after the due date). This feature is recommended to ensure complete understanding.

Lecture Notes – 2%

Lecture notes should be taken while watching the videos in the Learning Assignments. These notes should include everything that is gone over in the Lecture Videos. Although you can use your own paper to take notes, many students find it easier and more organized to use the blank lecture notes that go with each section. You can find these blank lecture notes in D2L under the Content tab. These notes need to be scanned and turned into their corresponding "Assignment" tab folder each week.

Quizzes – 10%

Quizzes will occur each week and will cover any material/assignments previously assigned. These quizzes will be traditional pencil/paper and will be graded on correct answers, work and notation. You may use your Lecture Notes on quizzes. However, for each quiz to accurately reflect your abilities, no other outside resources will be allowed (no textbook, no friends/relatives, no websites, no apps, **no AI**, etc.). Some quizzes will allow a calculator and others will not; it will be indicated in the instructions.

Virtually Proctored Exams via Zoom – (Midterm Exam : 30%, Final Exam: 40%)

Proctored exams are an assessment tool used in math courses to assess student learning. For online sections, exams are scheduled and proctored virtually by the instructor in Zoom. The exams for this class will be proctored virtually by me (your instructor) on the following dates and times; please make every concerted effort to attend my virtually proctored exams listed below. **Please note that the first half hour of each exam time is to check-in and check workspaces.**

- **Midterm Exam** on **Wednesday**, **7/15, noon - 3 pm** on **Zoom**
- **Final Exam** on **Wednesday**, **8/12, noon - 3 pm** on **Zoom**

Please read the Student Guide to Virtually Proctored Exams in Zoom document in its entirety to understand the expectations of having an exam proctored virtually. If you are unable to meet the requirements for virtually proctored exams, prefer to take your exams in-person, and/or have an unavoidable scheduling conflict, please contact me as soon as possible. Alternative testing arrangements can be made for in-person proctoring at a testing center given adequate notice and depending on testing center capacity and availability. Scheduling appointments with a testing center and communicating with the instructor is the responsibility of the student, as well as paying any associated fees with using a non-PCC testing center. If you have accommodations through Accessible Ed & Disability Resources at PCC, please contact me so we can discuss your specific accommodations and how I can best support you. If you have any questions or concerns about virtually proctored exams, please feel free to contact me.

By participating in a virtually proctored exam, you are agreeing to:

- To have your workspace viewed by your instructor/proctor(s) during the exam.
- To have your computer activity monitored by your instructor/proctor(s)during the exam.
- That you meet the technology/environmental requirements for a virtually proctored exam.

One of your first assignments will be to communicate your proctored exam plan with me.

Grading Scale

Letter Grade	A	B	C	D	F	Pass	Audit
Grading Scale by Percentage	90 - 100%	80 - 89%	70 - 79%	60 - 69%	0 - 59%	70 – 100%	Attendance > 70%
In addition to these scales, to pass the class with a C or better, you must earn at least a 70% average on your two exams.							

Late Work Policy

Students are expected to turn in all assigned work by the specified due dates. In *extreme situations*, exceptions to the late policy may be considered. But this consideration may require documentation and a deduction. The general late work policy is as follows:

- **Lab and Discussion Assignments** are only effective if everyone participates at the same time. Therefore, these assignments are not eligible to be turned in late. However, your lowest lab grade will be dropped.
- **Learning** and **Practice Assignments** are eligible for a "Late Pass" that is available digitally. Late Passes (36 available for the term) give you an additional 72 hours for a 25% deduction.
- **Lecture Notes** can be turned in up to 1 week late for a 25% deduction.
- **Quizzes** are not eligible to be taken late. However, your lowest quiz grade will be dropped.
- **Exams** are not eligible to be taken late.
- Any items missed beyond the policies above will receive a zero grade.
- **If you know in advance that you cannot take an exam on the scheduled date or time, please contact me ahead of time to schedule to take the exam early.**

PCC Policies and Deadlines

Flexibility

The instructor reserves the right to modify course content and/or substitute assignments and learning activities in response to institutional, weather or class situations.

AI Statement

You may use AI tools (such as ChatGPT) to help you understand concepts or generate *additional* practice problems. If you use AI to help you understand concepts or generate additional practice problems, you must include a brief statement indicating the AI tool you used, and on which work you used it.

You may not use AI to generate solutions for the questions or prompts in graded Lab Assignments and Before and In Class Assignments. Doing so and then presenting that work as your own will be considered a violation of the Academic Integrity Policy (see below).

Academic Integrity (rules about cheating, plagiarism, or sharing work)

Students are required to complete this course in accordance with the Student Rights and Responsibilities Handbook. For further information, review the institution's Academic Integrity Policy.

- Cheating includes any attempt to defraud, deceive, or mislead the instructor in arriving at an honest grade assessment. It includes copying answers from other students or using unauthorized notes.
- Plagiarism is a particular form of cheating that involves presenting as one's own the ideas or work of another and may include using other people's ideas without proper attribution and submitting another person's work as one's own.

Dishonest activities such as cheating on exams and submitting or copying work done by others will result in disciplinary actions including but not limited to receiving a failing grade. If I, as your instructor express a concern with your methods of work, you may be asked to meet to justify your methods and/or work a similar problem to ensure your work is your own.

Attendance Policy

You are expected to actively participate in all classes in which you are enrolled. If you do not participate or stop participating at all and fail to personally drop within the refund period, you will be responsible for all tuition and fees. Unless you have made prior arrangements with your instructor, you may be dropped from the class roster if you do not participate in **all** required items during the first week of the term. However, faculty members are not required to drop students for not participating. If you fail to drop or withdraw from class by the deadlines, a grade of F may be assigned. For further information, see Attendance Policies.

Add, Drop and Withdraw Deadlines

Students may attend this course only if registered. If you would like to be assigned a pass/no pass grade for the class, you must change your grading option through MyPCC. If you decide to drop the class, you must officially withdraw using MyPCC. A student who does not complete the course and does not officially withdraw from the course will receive a failing grade for the course. If you would like to audit the course, you must discuss this with me and submit a Registration and Change form to Registration Services. For further information, see Registration Policies.

Student Rights and Responsibilities Handbook:

The Student Rights and Responsibilities Handbook establishes students' freedoms and protections as well as expectations of appropriate behavior and ethical academic work. The Handbook includes items such as the Policy on Student Rights, and the Student Code of Conduct Policy and Procedures.

Accessible Ed & Disability Resources

PCC is committed to ensuring that classes are accessible. Accessible Ed & Disability Resources works with students and faculty to minimize barriers. If students use approved academic accommodations, they must provide in advance formal notification from Accessible Ed & Disability Resources to the instructor.

Title IX/ Non-Discrimination

Portland Community College is committed to creating and fostering a learning and working environment based on open communication and mutual respect. If you believe you have encountered sexual harassment, sexual misconduct, sexual assault, or discrimination based on race, color, religion, age, national origin, veteran status, sex, sexual orientation, gender identity, or disability please contact the Office of Equity and Inclusion at (971) 722-5840.

Sanctuary College

PCC is a sanctuary college and offers Resources for non-immigration status (undocumented) and DACA students.

Course Calendar – CRN 30094

Module	Dates (Mon –Sat)	Topics Covered	Items Due and Due Dates
Module 1	6/22 – 6/27	Angles (7.1) Unit Circle Trig. (7.3)	***Module 1 due dates must ALL be completed on time to avoid being No Showed from the class.*** Due Wednesday by 11:59 pm • Syllabus Quiz • Lab and Discussion post #1 **Initial** • Learning Assignments 7.1, 7.3 Due Saturday by 11:59 pm • Practice Assignments 7.1, 7.3 • Lecture Notes 7.1, 7.3 • Lab and Discussion post #1 **Final**
Module 2	6/29 – 7/4	Other Trig. Functions (7.4) Right Triangle Trig. (7.2) Graph of Sine/Cosine (8.1)	Due Wednesday by 11:59 pm • Learning Assignments 7.4, 7.2, 8.1 • Lab and Discussion post #2 **Make appointment with Wendy** **Due Thursday by 7 pm** • Lab and Discussion post #2 **Meet with Wendy via Zoom** Due Saturday by 11:59 pm • Practice Assignments 7.4, 7.2, 8.1 • Quiz #1 • Lecture Notes 7.4, 7.2, 8.1 • Communication Plan for Exams
Module 3	7/6 – 7/11	Graph of Other (8.2) Inverses (8.3) Solving Trig. Equations (9.5)	Due Wednesday by 11:59 pm • Learning Assignments 8.2, 8.3, 9.5 • Lab and Discussion post #3 **Initial** Due Saturday by 11:59 pm • Practice Assignments 8.2, 8.3, 9.5 • Quiz #2 • Lecture Notes 8.2, 8.3, 9.5 • Lab and Discussion post #3 **Final**

Module 4	7/13 – 7/18	***Midterm over 7.1-9.5, Wednesday, 7/15, noon – 3 pm***	Due Wednesday by 11:59 pm • Lab and Discussion post #4
Module 5	7/20 – 7/25	Law of Sines (10.1) Law of Cosines (10.2) Polar Coordinates (10.3)	Due Wednesday by 11:59 pm • Learning Class Assignments 10.1, 10.2, 10.3 • Lab and Discussion post #5 **Initial** Due Saturday by 11:59 pm • Lab and Discussion post #5 **Final** • Practice Assignments 10.1, 10.2, 10.3 • Quiz #3 • Lecture Notes 10.1, 10.2, 10.3
Module 6	7/27 – 8/1	Vectors (10.8) Verifying Identities (9.1)	Due Wednesday by 11:59 pm • Learning Assignments 10.8, 9.1 • Lab and Discussion post #6 **Initial** Due Saturday by 11:59 pm • Lab and Discussion post #6 **Final** • Practice Assignments 10.8, 9.1 • Quiz #4 • Lecture Notes 10.8, 9.1
Module 7	8/3 – 8/8	Sum/Difference (9.2) Double Angle (9.3) Product to Sum (9.4)	Due Wednesday by 11:59 pm • Learning Assignments 9.2, 9.3, 9.4 • Lab and Discussion post #7 **Initial** Due Saturday by 11:59 pm • Lab and Discussion post #7 **Final** • Practice Assignments 9.2, 9.3, 9.4 • Quiz #5 • Lecture Notes 9.2, 9.3, 9.4
Module 8	8/10 – 8/14	***Final Exam over whole course, Wednesday, 8/12, noon – 3 pm***	