Course Syllabus for MTH 112, Precalculus II In Person

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
- **CRN:** 21418
- Credits: 4
- **Term:** Spring 2024
- **Class Time:** Tuesday and Thursday, 10:30 am – 1:20 pm
- **Class Location:** Rock Creek Campus, Building 2, Room 262

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:** Rock Creek Campus, Building 2, Room 210 or through Zoom
- **Office Hours:** On campus Tuesday and Thursday from 1:30 pm – 3:30 pm and Off Campus via Zoom 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!

- Come to my Student Office Hours! See above for my available hours. You are always welcome **you do not need an appointment**. This time is set aside to help you!
- Visit the Student Learning Center (SLC) on the Rock Creek Campus in Building 7, Room 218. This is a free service for PCC students and offers math tutoring at various times. Both remote and in-person times are available.

Course Description and Prerequisites

Provides preparation for calculus and related disciplines. Explores trigonometric functions and their applications as well as the language and measurement of angles, triangles, circles, and vectors. Explores topics symbolically, numerically, and graphically in real-life applications and interprets them in context.

Emphasizes skill building, problem solving, modeling, reasoning, communication, connections with other disciplines, and the appropriate use of present-day technology. Introduces the polar coordinate system. This course is part of Oregon Common Course Numbering. MTH 112 and MTH 112Z are equivalent. Prerequisites: 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.
- 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 class, you will watch instructional videos outside of class, take notes and do some of the easier questions in what is called the "Before Class Assignment". In class, you will be in groups doing activities that will dig deeper and flesh out misconceptions. These activities will be summarized in a lab writeup that will be graded on your participation and accuracy. This will allow you to gain an understanding and help on the more complicated concepts. The last hour of class will be given to you to then work on the "In Class Assignment" that covers these more complicated concepts, as well as taking a weekly quiz.

The material due each week will be both in the "Course Calendar" and within the "Content" tab in D2L, broken up into its own folder. **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. There is a lot of content in this course!

Participation Expectations

This class meets in person every Tuesday and Thursday. In addition, you will have assignments to do outside of class. To be successful in this model, you should:

- Have access to the internet (and maybe even a backup).
- Have good time management skills to complete activities outside of class.
- Attend the scheduled class times each week.

Graded Assignments

Lab Assignments – 15%

During each class, you will form groups to work on a conceptual activity. Within your group, you will discuss and explore the content in a deeper way that will hopefully allow you to tackle more advanced levels of each topic. Individually, you will write up your understanding of the concepts in a procedural way, paying attention to the notation and formatting presented in the week's lessons. See the Course Calendar for due dates each week. Lab assignments will be graded on accuracy, notation and participation within your in-class group time.

Assignments – 18%

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

- **Before Class 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.
- **In Class Assignments:** This assignment will be completed during class (but only after earning at least 50% on the Before Class Assignment). It will contain practice over all the concepts taught in a section and may be more challenging than the Before Class 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 Before Class 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 as to 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.

Lecture Notes – 2%

Lecture notes should be taken while watching the videos in the Before Class Assignments. 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. Lecture notes will be checked for completion each class session for the material due that day.

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, etc.). Some quizzes will allow a calculator and others will not; it will be indicated in the instructions.

Proctored Exams – 15% each

There will be two exams. These exams will be pencil/paper and graded like the quizzes. There will be a calculator and no calculator portion to each exam. No other items will be allowed on exams.

Proctored Final Exam – 25%

The final exam will be pencil/paper and will be graded like the exams. There will be a calculator and no calculator portion to each exam. No other items will be allowed on the final exam.

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%

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 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.
- **Before Class** and **In Class Assignments** are eligible for a "Late Pass" that is available digitally. Late Passes will allow you to turn in your assignment 72 hours late 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. However, if your grade on the Final Exam is higher than one of your two exams, I will replace that grade with the higher Final Exam grade. Any missed exam or zero exam will be replaced with the score you earn on the Final Exam.
- 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.

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.

- Cheating includes any attempt to defraud, deceive, or mislead the instructor in arriving at an honest grade assessment, and may include copying answers from other students or using unauthorized notes during tests.
- 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. For further information, review the institution's Academic Integrity Policy.

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 elect to 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 21418

Module	Date	Topics Covered (Sections in OpenStax) In-class activities	Items Due and Due Dates
Module 1	Tuesday, 4/2	Angles (7.1)	***Module 1 due dates must ALL be completed on time to avoid being No Showed from the class.***
	Thursday, 4/4	Unit Circle Trig. (7.3)	Due Thursday in class: • Syllabus Quiz • Introduction to MyOpenMath • Pre-requisites Assignment • Lecture Notes 7.1, 7.3 • Before Class Assignments 7.1, 7.3 Due **by** Saturday at 11:59 pm: • Lab 1 • In Class Assignments 7.1, 7.3
Module 2	Tuesday, 4/9	Other Trig. Functions (7.4)	Due Tuesday in class: • Before Class Assignments 7.4 Due Thursday in class: • Lecture Notes 7.4, 7.2 • Before Class Assignments 7.2 • Quiz #1 over 7.1 – 7.4 Due **by** Saturday at 11:59 pm: • Lab 2 • In Class Assignments 7.4, 7.2
	Thursday, 4/11	Right Triangle Trig. (7.2)	
Module 3	Tuesday, 4/16	Graph of Sine/Cosine (8.1)	Due Tuesday in class: • Before Class Assignments 8.1 Due Thursday in class: • Lecture Notes 8.1, 8.2 • Before Class Assignments 8.2 • Quiz #2 over 8.1 – 8.2 Due **by** Saturday at 11:59 pm: • Lab 3 • In Class Assignments 8.1, 8.2
	Thursday, 4/18	Graph of Other (8.2)	

Module 4	Tuesday, 4/23	Review for Exam 1	
	Thursday, 4/25	**Exam 1 over 7.1 – 8.2**	
Module 5	Tuesday, 4/30	No class – PCC Inservice	Due Tuesday in class: • Before Class Assignments 8.3 Due Thursday in class: • Lecture Notes 8.3, 9.5 • Before Class Assignments 9.5 • Quiz #3 over 8.3, 9.5 Due **by** Saturday at 11:59 pm: • Lab 4 • In Class Assignments 8.3, 9.5
	Thursday, 5/2	Inverses (8.3) Solving Trig. Equations (9.5)	
Module 6	Tuesday, 5/7	Law of Sines (10.1)	Due Tuesday in class: • Before Class Assignments 10.1 Due Thursday in class: • Lecture Notes 10.1 – 10.2 • Before Class Assignments 10.2 • Quiz #4 over 10.1 – 10.2 Due **by** Saturday at 11:59 pm: • Lab 5 • In Class Assignments 10.1 – 10.2
	Thursday, 5/9	Law of Cosines (10.2)	
Module 7	Tuesday, 5/14	Polar Coordinates (10.3)	Due Tuesday in class: • Before Class Assignments 10.3 Due Thursday in class: • Lecture Notes 10.3, 10.8 • Before Class Assignments 10.8 • Quiz #5 over 10.3, 10.8 Due **by** Saturday at 11:59 pm: • Lab 6 • In Class Assignments 10.3, 10.8
	Thursday, 5/16	Vectors (10.8)	
Module 8	Tuesday, 5/21	Review for Exam 2	
	Thursday, 5/23	**Exam 2 over 8.3,9.5,10.1,10.2,10.3,10.8**	

Module 9	Tuesday, 5/28	Verifying Identities (9.1)	Due Tuesday in class: • Before Class Assignments 9.1 Due Thursday in class: • Lecture Notes 9.1 – 9.2 • Before Class Assignments 9.2 • Quiz #6 over 9.1 – 9.2 Due **by** Saturday at 11:59 pm: • Lab 7 • In Class Assignments 9.1 – 9.2
	Thursday, 5/30	Sum/Difference (9.2)	
Module 10	Tuesday, 6/4	Double Angle (9.3)	Due Tuesday in class: • Before Class Assignments 9.3 Due Thursday in class: • Lecture Notes 9.3 – 9.4 • Before Class Assignments 9.4 • Quiz #7 over 9.3 – 9.4 Due **by** Saturday at 11:59 pm: • Lab 8 • In Class Assignments 9.3 – 9.4
	Thursday, 6/6	Product to Sum (9.4)	
Module 11	Tuesday, 6/11	No class – Final Exams Week	
	Thursday, 6/13 10 – 11:50 am	**Cumulative Final Exam**	