

# Precalculus: Functions and Graphs

Point Loma Nazarene University, Fall 2020

<b>Instructor:</b> Kyle Havens	<b>Course:</b> Math 1033	<b>Section:</b> 1	<b>Units:</b> 3
<b>Days:</b> Monday, Wed., Friday	<b>Time:</b> 8:30 am to 9:25 am	<b>Room:</b> Online/Zoom	
<b>Web:</b> <a href="http://www.havensmath.com">www.havensmath.com</a>	<b>Email:</b> <a href="mailto:kylehavens@pointloma.edu">kylehavens@pointloma.edu</a>	<b>Office:</b> RS-276	

## Required Materials:

1. Graphing Calculator (TI-84+ recommended)
2. WebAssign Access Code (You will receive access to the eBook in purchasing)
- Opt. Physical Textbook – *Precalculus with Calculus Previews*, 5<sup>th</sup> Edition by Zill & Dewar (ISBN: 9781449649128)

**Prerequisite:** Math 1013 (Intermediate Algebra) or equivalent. You are expected to retain algebra skills.

**Welcome Message:** I look forward to spending the semester learning pre-calculus with you. You will be amazed at how easy some concepts are to understand, and equally amazed at how challenging some problems are to solve. Over the semester, you will experience a range of feelings, including: success and failure; challenge and boredom; accomplishment and frustration. Please know that your fellow classmates and I will be here to help you through it. Also, persistence and hard work mean a lot more in this class than “intelligence.” Put in time and effort and you will succeed. Skip class and homework and you will struggle.

**Zoom Office Hours:** Monday 12-2:30pm, Tues/Fri late morning or early afternoon by appointment

**Course Description:** An introduction to the functions necessary for the study of calculus with an emphasis on numericals and graphical notions of continuity, limits and derivatives. The following function types are used as examples for the study of the concepts: polynomial, rational, exponential, logarithmic, and trigonometric functions.

## Student Learning Outcomes:

1. Students will develop an ability to graph functions including polynomial and trigonometric functions.
2. Students will develop an ability to solve problems using polynomial, exponential and trigonometric functions.

**Class Performance:** Your final grade in my class will be calculated by the following system.

30%	Final Exam	Cumulative. You must get a “D” on the final exam to pass.
30%	Test Average	The cumulative score of your two in-class tests.
20%	Homework	Assigned from the textbook, submitted via WebAssign
15%	Class Activities	Worked on collectively during each live class period.
5%	Daily Participation	Credit for synchronous and asynchronous participation

**Letter Grade:** The letter grade you receive will be based on your total score from the above system.

Above 92% : A	82-87%: B	70-77%: C
90-91%: A-	80-81%: B-	60-69%: D
88-89%: B+	78-79%: C+	Under 60%: F

The grade you receive at the end of the semester will be the grade you earned based on the above grading system. All requests for an opportunity to improve your grade due to personal circumstances will be denied. Borderline grades may be rounded up if the student has good attendance.

**Final Exam:** The final exam is cumulative and will be held at the following time:

**Wednesday, December 2<sup>nd</sup> from 8:30am to 11:00am**

**Final Exam:** The final exam date and time is set by the university at the beginning of the semester and may not be changed by the instructor. This schedule can be found on the university website and in the course calendar. No requests for early examinations will be approved. Only in the case that a student is required to take three exams during the same day of finals week, is an instructor authorized to consider changing the exam date and time for that particular student.

**General Advice:** The key to success in this class is to attend class, watch the videos when they are scheduled, and do your homework. You learn mathematics by doing it yourself. You should expect to spend approximately two hours outside of class for every one hour in class working on homework and studying concepts. When doing homework, please note it is normal to not be able to do every problem correctly on the first attempt. Do not be discouraged, seek help.

**Zoom Participation:** Mathematics requires active participation. Participation means: asking questions, making conjectures and checking them, providing solutions to problems, sharing ideas with classmates. During class time we collectively will participate in the same way. I will act as the expert facilitator during class time, with a mixture of lecture, group problem solving, and integrated discussion.

**Class Activities:** We will regularly have activity worksheets that are to be worked on collectively during class. If you finish them during class time you may turn them in, but you won't always be able to finish them within the allotted time. You may continue to work on them during the week, and they are due by the next class period. After you complete the activity, upload your written solutions to Canvas.

**Online and Hybrid Preparation:** Due to limitations of social distancing, our course is hybrid online this semester. This means that a great deal of learning and participations is required from you outside of class. I will upload lots of instructive and informative videos before class time as outlined in the course schedule. It is expected that all students come to Zoom prepared, having watched the online videos. At the start of the semester, we will be fully online.

**Attendance:** Attendance is expected at each Zoom session. In the event of an absence you are responsible for the material covered in class and the assignments given that day. Regular and punctual attendance at all classes is considered essential to optimum academic achievement. If the student is absent from more than 10 percent of class meetings, the faculty member can file a written report which may result in de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice until the university drop date or, after that date, receive the appropriate grade for their work and participation. See the Undergraduate Academic Catalog: [Class Attendance](#).

**Homework:** Homework problems will be assigned regularly and posted on WebAssign. A homework assignment is late if it is not submitted by the posted due date. Please check regularly to ensure that you are keeping up with the homework. Late homework will not be accepted without prior approval. Your lowest homework score will be dropped.

**WebAssign:** Due to the fact that our course has been forced online, we will be using WebAssign as a homework submission tool. You must purchase an access code and register at [www.webassign.net](http://www.webassign.net). To begin the process of connecting to our class, click "Enter Class Key" and enroll using the Course ID: **gcccd 8068 7918**

**Exams:** There will be a total of two normal exams covering 2-3 chapters each. Exams will be taken during class time and administered online. However, the exams are still written exam. I expect you to neatly solve each question on separate paper, and when complete, you must also upload your written solutions on Canvas. Your grade on the exam will largely be determined by your written solutions. Certain formulas may be provided on the exam and others will need to be memorized. No make-up exams are allowed without express consent. Contact me before missing exam if you have a critical emergency. If you do not inform me that you will be missing an exam, you will get a zero on that exam. Review problems will be given the week before the exam and we will work on them collectively in class.

**University Mission – Teach, Shape, Send:** Point Loma Nazarene University exists to provide higher education in a vital Christian community where minds are engaged and challenged, character is modeled and formed, and service becomes an expression of faith. Being of Wesleyan heritage, we aspire to be a learning community where grace is foundational, truth is pursued, and holiness is a way of life.

**Department Mission:** The Mathematical, Information, and Computer Sciences department at Point Loma Nazarene University is committed to maintaining a curriculum that provides its students with the tools to be productive, the passion to continue learning, and Christian perspectives to provide a basis for making sound value judgments.

**Class Enrollment:** It is the student's responsibility to maintain his or her class schedule. Should the need arise to drop this course (personal emergencies, poor performance, etc.), the student has the responsibility to follow through (provided the drop date meets the stated calendar deadline established by the university), not the instructor. Simply ceasing to attend this course or failing to follow through to arrange for a change of registration (drop/add) may easily result in a grade of F on the official transcript.

**Copyright Protected Materials:** Point Loma Nazarene University, as a non-profit educational institution, is entitled by law to use materials protected by the US Copyright Act for classroom education. Any use of those materials outside the class may violate the law.

**Academic Honesty:** Students should demonstrate academic honesty by doing original work and by giving appropriate credit to the ideas of others. Academic dishonesty is the act of presenting information, ideas, and/or concepts as one's own when in reality they are the results of another person's creativity and effort. A faculty member who believes a situation involving academic dishonesty has been detected may assign a failing grade for that assignment or examination, or, depending on the seriousness of the offense, for the course. Faculty should follow and students may appeal using the procedure in the university Catalog. See [Academic Honesty](#) for definitions of kinds of academic dishonesty and for further policy information.

**Academic Accommodations:** While all students are expected to meet the minimum standards for completion of this course as established by the instructor, students with disabilities may require academic adjustments, modifications or auxiliary aids/services. At Point Loma Nazarene University (PLNU), these students are requested to register with the Disability Resource Center (DRC), located in the Bond Academic Center. ([DRC@pointloma.edu](mailto:DRC@pointloma.edu) or 619-849-2486). The DRC's policies and procedures for assisting such students in the development of an appropriate academic adjustment plan (AP) allows PLNU to comply with Section 504 of the Rehabilitation Act and the Americans with Disabilities Act. Section 504 (a) prohibits discrimination against students with special needs and guarantees all qualified students equal access to and benefits of PLNU programs and activities. After the student files the required documentation, the DRC, in conjunction with the student, will develop an AP to meet that student's specific learning needs. The DRC will thereafter email the student's AP to all faculty who teach courses in which the student is enrolled each semester. The AP must be implemented in all such courses. If students do not wish to avail themselves of some or all of the elements of their AP in a particular course, it is the responsibility of those students to notify their professor in that course. PLNU highly recommends that DRC students speak with their professors during the first two weeks of each semester about the applicability of their AP in that particular course and/or if they do not desire to take advantage of some or all of the elements of their AP in that course.

**Credit Hour:** In the interest of providing sufficient time to accomplish the stated course learning outcomes, this class meets the PLNU credit hour policy for a 3-unit class delivered over 15 weeks. To the right are the predicted number of hours you will spend on class preparation and assignments.

Online Assignments	15	Group Activities	15
Written Homework	30	Exam Review Problems	5
Reading Text	15	Midterms	2.5
Watching Videos	35	Final Exam	2.5
Zoom	5	<b>TOTAL</b>	<b>125</b>

#### Sources of Help:

1. Professor. If you have questions, email me, ask in class, or come to my office hours.
2. Other classmates. Form study groups and work together.
3. Tutoring. Available in Rohr Science or through the Tutoring Center. Their hours will be on Canvas.
4. Online resources. Posted on Canvas, or find them yourself via YouTube, Khan Academy, etc.
5. Practice exams. Look at them ahead of time and use them to gauge your understanding.

## Course Schedule

<b>Week of</b>	<b>Monday</b>	<b>Wednesday</b>	<b>Friday</b>
8/17/2020	Online Course Intro Videos	Zoom Course Intro Course Information	Online Lecture 2.1 Online Lecture 2.3
8/24/2020	Online Lecture 2.4 Office Hours	Mandatory Zoom Lecture 2.4 Activity - Applied Linear and Quad	Online Lecture 2.2 Online Lecture 2.5
8/31/2020	Online Lecture 2.6/2.7 Office Hours	Mandatory Zoom Lecture 2.7 Activity - Inverse Functions	Online Lecture 3.1 Online Lecture 3.2
9/7/2020	<i>No Class</i> Labor Day	Mandatory Zoom Lecture 3.3 Activity - Polynomials	Online Lecture 3.3
9/14/2020	Online Lecture 3.4 Office Hours	Mandatory Zoom Lecture 3.5 Activity - Flagpolynomials	Online Lecture 3.6
9/21/2020	Online Lecture 3.6 Office Hours	Mandatory Zoom Lecture Activity - Review Problems	Online Lecture 6.1
9/28/2020	Online Lecture 6.2 Office Hours	<b>Exam #1</b> Chapters 1-3	Online Lecture 6.3
10/5/2020	Online Lecture 6.4 Office Hours	Mandatory Zoom Lecture 6.4 Activity - App. Exp/Log	Online Lecture 4.1
10/12/2020	Online Lecture 4.2 Office Hours	Mandatory Zoom Lecture 4.1-4.3 Activity - Unit Circle and Trigs	Online Lecture 4.3 Online Lecture 4.4
10/19/2020	Online Lecture 5.1 Office Hours	Mandatory Zoom Lecture 5.1 Activity - Right Triangles	Online Lecture 4.8 Online Lecture 5.2
10/26/2020	Online Lecture 5.3/5.4 Office Hours	Mandatory Zoom Lecture 5.4 Activity - Construct Triangles	Online Lecture 4.5
11/2/2020	Online Lecture 4.6 Office Hours	Activity - Trig Applications Activity - Review Problems	Online Lecture 4.7 Online Lecture 4.9
11/9/2020	Online Lecture 4.9 Office Hours	<b>Exam #2</b> Chapters 4-6	Online Lecture 10.1
11/16/2020	Online Lecture 10.2 Office Hours	Mandatory Zoom Lecture Activity - Review Problems	Catch Up Time
11/23/2020	Catch Up Time	<i>No Class</i> Thanksgiving Break	
11/30/2020	<i>Finals Week</i>	<b>Final Exam</b> Cumulative	<i>Finals Week</i>

**Modifications may occur due to unforeseen circumstances or government mandates.**