



Mathematics, Information, and Computer Sciences – School of STEM

MTH 1013- College Algebra

3 units

Fall 2024

Tuesdays and Thursdays – 1:30 pm – 2:45 pm

**Rohr Science, room 365**

**Final Exam: Thursday December 19<sup>th</sup> 1:30 pm – 4:00 pm**

Information	Specifics for the course
Instructor name and title:	Catherine Crockett, Professor of Mathematics
Phone:	619-849-2627
Email:	catherinecrockett@pointloma.edu
Office location and hours:	Rohr Science 222 or ZOOM Mondays, Wednesdays and Fridays 11:00 am – 12:00 pm Tuesdays and Thursdays 10:00 to 11:30 Tuesdays 3:00 to 4:00 Fridays 2:40 to 3:30 or by appointment

#### **PLNU MISSION: TO TEACH ~ TO SHAPE ~ TO 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 is an expression of faith. Being of Wesleyan heritage, we strive 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.

#### **COURSE DESCRIPTION**

##### **MTH 1013- College Algebra (3)**

A review and extension of elementary algebra, solutions of linear and quadratic equations, radicals, inequalities, linear and quadratic functions, polynomial functions, exponential and logarithmic functions, conic sections, sequences and series and graphing.

Prerequisite(s): MTH 0099 (or equivalent).

#### **PROGRAM AND COURSE LEARNING OUTCOMES**

- Students will be able to solve problems using linear equations, inequalities, graphs, and functions.
- Students will be able to solve systems of linear equations.
- Students will be able to solve problems using polynomials and factoring.
- Student will be able to solve problems using logarithms.

#### **REQUIRED TEXTS AND RECOMMENDED STUDY RESOURCES**

*Intermediate Algebra*, 13<sup>th</sup> Edition.

Margaret L. Lial, John Hornsby, and Terry McGinnis

**NOTE:** Students are responsible to have the required textbooks prior to the first day of class. Students are also encouraged to begin reading the books in preparation for the class as soon as possible.

*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. All supplemental materials posted on this course site (including articles, book excerpts, or other documents) are provided for your personal academic use. These materials may be protected by copyright law and should not be duplicated or distributed without permission of the copyright owner.*

### **COURSE CREDIT HOUR INFORMATION**

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. It is anticipated that students will spend a minimum of 37.5 participation hours per credit hour on their coursework.

### **ASSESSMENT AND GRADING**

The grade components are written homework, class activities, midterm exams, and the final examination.

**Homework (20% of course grade):** Homework will be assigned every class meeting. All homework assigned in a week will be due at the beginning of Thursday's class of the following week. No late homework will be accepted except by prior (meaning more than 24 hours before) arrangement (with me) or with a documented emergency. The object of the homework is to learn how to do the problems so there should be calculations on your homework using the terminology and methods of the class and not just an answer.

#### **Comments on homework:**

- This is the minimum amount of homework that is required but you may need to do several odd numbered problems to make sure you get the answer in the textbook.
- Please be sure that your homework is stapled together, and the problems are in order.
- **Homework will be scored on a combination of completeness and correctness. All work necessary to complete a problem must be shown to earn credit.**
- Start working on your homework early. These problems are difficult and meant to be done a little at a time over the course of a few days.
- When doing homework, please note it is normal to not be able to do every problem correct on the first attempt. Do not be discouraged, instead seek help.
- The two lowest homework scores will be dropped before calculating the overall grade for homework.

**Weekly Classwork (total is 10% of course grade):** Attendance at each class is required. In these class meetings, we will have lectures, work on activities and problems. Some classwork may be graded, and some you will get full credit just for attempting. No late homework will be accepted except by prior (meaning more than 24 hours before) arrangement (with me) or with a documented emergency. The object of the classwork is to test your knowledge and collaborate with others. This is an opportunity for informal assessment of your progress in the course.

**Exams (two midterm exams are 20% each of course grade and final exam is 30% of course grade):**

There are two exams and one final exam. The exams will include problems and questions over material assigned in the text, readings, and handouts, as well as material presented in class. If you do not take an exam, you will receive a zero for it. Late exams may be taken only by prior arrangement with me or a well-documented emergency beyond your control. The examination schedule is included in the daily schedule. Please note I do not intend to accept excuses such as poor communication with parents, benefactors, sport team sponsors and/or travel agents.

**GRADING SCALE**

A passing grade requires getting at least 60% in one of the two tests or on the final exam. Grades are based on the number of points accumulated throughout the course. Approximate minimal percentages required to obtain a given grade are:

Grading Scale in Percentages				
	A	B	C	D
+		(87.5, 90]	(77.5, 80]	(67.5, 70]
	(92.5, 100]	(82.5, 87.5]	(72.5, 77.5]	(62.5, 67.5]
-	(90, 92.5]	(80, 82.5]	(70, 72.5]	[60, 62.5]

**GRADING DISTRIBUTION**

Grade Distribution	
Two Mid Terms scored at 20% each	40%
Final Exam (Cumulative)	30%
Weekly Classwork	10%
Homework	20%
Total	100%

**FINAL EXAMINATION POLICY**

Successful completion of this class requires taking the final examination on its scheduled day. The final examination schedule is posted on the [Traditional Undergraduate Records: Final Exam Schedules](#) site. If you find yourself scheduled for three (3) or more final examinations on the same day, you are authorized to contact each professor to arrange a different time for one of those exams. However, unless you have three (3) or more exams on the same day, no requests for alternative final examinations will be granted.

**INCOMPLETE AND LATE ASSIGNMENTS**

- All assignments are to be submitted/turned in by the beginning of the class session when they are due—including assignments posted in Canvas. Late work need not be accepted. Make-up tests will be given only by prior arrangement with the instructor for reasons of documented emergency.
- **Incomplete grade:** Incompletes will only be assigned in extremely unusual circumstances. You may request a grade of I (incomplete) only if you are having a passing grade and at least 70% of the course work is completed.

**SPIRITUAL CARE**

Please be aware PLNU strives to be a place where you grow as whole persons. To this end, we provide resources for our students to encounter God and grow in their Christian faith.

If you have questions, a desire to meet with the chaplain or have prayer requests you can contact the [Office of Spiritual Life and Formation](#)

**STATE AUTHORIZATION**

State authorization is a formal determination by a state that Point Loma Nazarene University is approved to conduct activities regulated by that state. In certain states outside California, Point Loma Nazarene University is not authorized to enroll online (distance education) students. If a student moves to another state after admission to the program and/or enrollment in an online course, continuation within the program and/or course will depend on whether Point Loma Nazarene University is authorized to offer distance education courses in that state. It is the student's responsibility to notify the institution of any change in his or her physical location. Refer to the map on [State Authorization](#) to view which states allow online (distance education) outside of California.

**PLNU COPYRIGHT POLICY**

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.

**PLNU RECORDING NOTIFICATION**

In order to enhance the learning experience, please be advised that this course may be recorded by the professor for educational purposes, and access to these recordings will be limited to enrolled students and authorized personnel.

Note that all recordings are subject to copyright protection. Any unauthorized distribution or publication of these recordings without written approval from the University (refer to the Dean) is strictly prohibited.

**PLNU ACADEMIC HONESTY POLICY**

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. For all student appeals, faculty and students should follow the procedures outlined in the University Catalog. See [Academic Policies](#) for definitions of kinds of academic dishonesty and for further policy information.

**ARTIFICIAL INTELLEGEANCE (AI) POLICY**

You are allowed to use Artificial Intelligence (AI) tools (e.g., ChatGPT, Gemini Pro 1.5, GrammarlyGo, Perplexity, etc) to generate ideas, but you are not allowed to use AI tools to generate content (text, video, audio, images) that will end up in any work submitted to be graded for this course. If you have any doubts about using AI, please gain permission from the instructor.

**PLNU ACADEMIC ACCOMMODATIONS POLICY**

PLNU is committed to providing equal opportunity for participation in all its programs, services, and activities in accordance with the Americans with Disabilities Act (ADA). Students with disabilities may request course-related accommodations by contacting the Educational Access Center (EAC), located in the Bond Academic Center ([EAC@pointloma.edu](mailto:EAC@pointloma.edu) or 619-849-2486). Once a student's eligibility for an accommodation has been determined, the EAC will work with the student to create an Accommodation Plan (AP) that outlines allowed accommodations. The EAC makes accommodations available to professors at the student's request.

PLNU highly recommends that students speak with their professors during the first two weeks of each semester/term about the implementation of their AP in that particular course. Accommodations are not retroactive so clarifying with the professor at the outset is one of the best ways to promote positive academic outcomes.

Students who need accommodations for a disability should contact the EAC as early as possible (i.e., ideally before the beginning of the semester) to assure appropriate accommodations can be provided. It is the student's responsibility to make the first contact with the EAC. Students cannot assume that because they had

accommodations in the past, their eligibility at PLNU is automatic. All determinations at PLNU must go through the EAC process. This is to protect the privacy of students with disabilities who may not want to disclose this information and are not asking for any special accommodations.

### **LANGUAGE OF BELONGING**

Point Loma Nazarene University faculty are committed to helping create a safe and hospitable learning environment for all students. As Christian scholars we are keenly aware of the power of language and believe in treating others with dignity. As such, it is important that our language be equitable, inclusive, and prejudice free. Inclusive/Bias-free language is the standard outlined by all major academic style guides, including MLA, APA, and Chicago, and it is the expected norm in university-level work. Good writing and speaking do not use unsubstantiated or irrelevant generalizations about personal qualities such as age, disability, economic class, ethnicity, marital status, parentage, political or religious beliefs, race, gender, sex, or sexual orientation. Inclusive language also avoids using stereotypes or terminology that demeans persons or groups based on age, disability, class, ethnicity, gender, race, language, or national origin. Respectful use of language is particularly important when referring to those outside of the religious and lifestyle commitments of those in the PLNU community. By working toward precision and clarity of language, we mark ourselves as serious and respectful scholars, and we model the Christ-like quality of hospitality.

If you (or someone you know) have experienced a bias incident regarding language, you can find more information on reporting and resources at [www.pointloma.edu/bias](http://www.pointloma.edu/bias).

### **SEXUAL MISCONDUCT AND DISCRIMINATION**

In support of a safe learning environment, if you (or someone you know) have experienced any form of sexual discrimination or misconduct, including sexual assault, dating or domestic violence, or stalking, know that accommodations and resources are available through the Title IX Office at [pointloma.edu/Title-IX](http://pointloma.edu/Title-IX). Please be aware that under Title IX of the Education Amendments of 1972, faculty and staff are required to disclose information about such misconduct to the Title IX Office.

If you wish to speak to a confidential employee who does not have this reporting responsibility, you can contact Counseling Services at [counselingservices@pointloma.edu](mailto:counselingservices@pointloma.edu) or find a list of campus pastors at [pointloma.edu/title-ix](http://pointloma.edu/title-ix).

If you (or someone you know) have experienced other forms of discrimination or bias, you can find more information on reporting and resources at [www.pointloma.edu/bias](http://www.pointloma.edu/bias)

### **PLNU ATTENDANCE AND PARTICIPATION POLICY**

Regular and punctual attendance at all class sessions is considered essential to optimum academic achievement. If the student is absent for more than 10 percent of class sessions, the faculty member will issue a written warning of de-enrollment. If the absences exceed 20 percent, the student may be de-enrolled without notice until the university withdrawal date or, after that date, receive an "F" grade.

### **CLASS ENROLLMENT**

It is the student's responsibility to maintain his/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.

## DAILY SCHEDULE

Week	Tuesday	Thursday
1	9/3 First Day of classes Introduction R1: Fractions, Decimals and Percents R2: Basic concepts from Algebra	9/5 R3: Operations on Real Numbers R4: Exponents, Roots and Order of Operations
2	9/10 1.1: Linear Equations in One Variable 1.2: Formulas and Percents	9/12 1.3: Applications of Linear Equations 1.4: Further Applications of Linear Equations Due: Homework #1
3	9/17 1.5: Linear Inequalities in One-Variable 1.6: Set Operations and Compound Inequalities	9/19 1.7: Absolute Value Equations and Inequalities Due: Homework #2
4	9/24 2.1: Linear Equation in Two Variables 2.2: The Slope of a Line 2.3: Writing the Equations of Lines	9/26 2.3: Writing the Equations of Lines 2.4: Linear Inequalities in Two Variables 2.5: Introduction to Relations and Functions Due: Homework #3
5	10/1 2.5: Introduction to Relations and Functions 2.6: Function Notation and Linear Functions	10/3 3.1: Systems of linear Equations in Two Variables Review for Exam #1
6	10/8 Exam #1 Due: Homework #4	10/10 4.1: Integer Exponents 4.2: Scientific Notation 4.3: Adding and Subtracting Polynomials
7	10/15 4.4: Polynomial Functions, Graphs and Composition 4.5: Multiplying Polynomials	10/17 4.6: Dividing Polynomials 5.1: Greatest Common Factors and Factoring by Grouping Due: Homework #5
8	10/22 5.2: Factoring Trinomials 5.3: Special Factoring 5.4: A General Approach to Factoring	10/24 No class Fall Break
9	10/29 5.4: A General Approach to Factoring 5.5: Solving Quadratic Equations Using the Zero-Factor Property	10/31 6.1: Rational Expressions and Functions- Multiplying and Dividing 6.2: Adding and Subtracting Rational Expressions Due: Homework #6
10	11/5 6.3: Complex Fractions 6.4: Equations with Rational Expressions and Graphs	11/7 7.1: Radical Expressions and Graphs 7.2: Rational Exponents Due: Homework #7
11	11/12 7.3: Simplifying Radicals, the Distance Formula and Circles 7.4: Adding and Subtracting Radical Expressions	11/14 7.5: Multiplying and Dividing Radical Expressions Review for Exam #2

12	11/19 Exam #2 Due: Homework #8	11/21 8.1: The Square Root Property and Completing the Square 8.2: The Quadratic Formula
13	11/26 8.3: Equations the Lead to Quadratic Methods 8.4: Formulas and Further Applications 8.5: Graphs of Quadratic Functions	11/28 No class Thanksgiving
14	12/3 9.1: Inverse Functions 9.2: Exponential Functions 9.3: Logarithmic Functions	12/5 9.3: Logarithmic Functions 9.4: Properties of Logarithms 9.5: Common and Natural Logarithms Due: Homework #9
15	12/10 9.5: Common and Natural Logarithms 9.6: Exponential and Logarithmic Equations	12/12 Review for the final Exam
Finals	12/17	12/19 Final Exam 1:30 - 4:00 Due: Homework #10