Point Loma Nazarene University

Department of Mathematical, information and Computer Sciences

MTH2013 Fundamentals of Elementary Mathematics I (3 units)

Fall 2024

This is a hybrid class. Meeting times: TR 2:30-3:45 LSCC 203

Instructor: Dr. Maria Zack

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Email: mzack@pointloma.edu

Office: Rohr Science 246

Office hours:

On Google Meet/Zoom - Click here for appointment

These are the times that I work to hold open for appointments. If none of them work you can email me to see if we can find another time. Please note that some sessions are Google Meet/Zoom only and are shown with the statement "Zoom only" after the time. The others can be Zoom or In-Person.

Monday 8:00-9:00 AM and 2:30-3:30 PM Tuesday 9:00-10:00 AM and 11:00 AM - 12:00 PM Wednesday 5:00-6:00 PM (Zoom only) Thursday 12:30-1:30 (Zoom only) Friday 10:30 AM - 12:00 PM starting 9/20

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.

General Education Mission

PLNU provides a foundational course of study in the liberal arts informed by the life, death, and resurrection of Jesus Christ. In keeping with the Wesleyan tradition, the curriculum equips students with a broad range of knowledge and skills within and across disciplines to enrich major study, lifelong learning, and vocational service as Christ-like participants in the world's diverse societies and culture.

WELCOME MESSAGE

I look forward to spending this semester 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. 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.

COURSE DESCRIPTION

Catalog Description:

MTH2013 Fundamentals of Elementary Mathematics I (3 units)

A comprehensive approach to the mathematical knowledge necessary for a California multiple subject teaching credential (K-8). Topics covered in this course include whole numbers, numeration systems, fractions, decimals, ratios, proportions and an introduction to number theory. The integers, rational numbers, irrational numbers and real numbers are studied along with algebraic expressions, inequalities, graphs and polynomials. This class is highly interactive and emphasizes group work and cooperative learning. Not applicable toward a major in Mathematics. Passing an 8th grade mathematics proficiency test is a requirement for the completion of this course.

Prerequisite: MTH 1013 or equivalent.

COURSE LEARNING OUTCOMES

- 1. Students will be able to demonstrate a facility with operations on the integers.
- 2. Students will be able to demonstrate a facility with operations on the rational numbers.
- 3. Students will be able to apply concepts from number theory to solve problems.

GENERAL EDUCATION LEARNING OUTCOMES

GELO 1e. Quantitative Reasoning: Students will be able to solve problems that are quantitative in nature.

This outcome will be assessed via questions on exams.

REQUIRED TEXTS AND RECOMMENDED STUDY RESOURCES

• A non-graphing calculator with square root and exponential keys.

 Billstein, Libeskind, and Lott, A Problem Solving Approach to Mathematics for Elementary School Teachers, 13th Edition

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 fifteen weeks. Specific details about how the class meets the credit hour requirement can be provided upon request. (Based on 37.5 hours of student engagement per credit hour.)

Distribution of Student Learning Hours

Category	Time Expectation in Hours	
Videos	18.75	
Reading Assignments	24	
Written Assignments	48	
Video Notes	15	
Review Sessions	2.5	
Chapter Reviews	1.75	
Exam	1.25	
Final Exam	2.5	
Total Hours	113.75	

ASSESSMENT AND GRADING

Basic Competency Test:

In order to pass MTH2013 you must pass the Basic Competency Test at the 80% level. It will be given the second week of classes and then retakes can be arranged on a one to one basis with the course professor. No more than a total of three attempts are allowed on this test.

Graded Components

- Weekly Class Participation: Attendance at the Tuesday class meetings and a few Thursday class meetings (9/5, 10/17, 10/31 and 12/12) are required. We will also have optional Thursday problem sessions many of the other Thursdays. Please see the class calendar. In these class meetings, we will work on to work on activities and problems. Some classwork may be graded, and some you will get full credit just for attempting.
- **Notes and Videos**: Each section will have videos to watch and you should take notes. Your notes are to be submitted in Canvas by midnight on Monday.
- Warm Up Questions: After you watch the videos and take notes, you will have a small set of warm up questions to do and submit in Canvas. These

- problems will help me to identify the areas where students are struggling before we meet for class on Tuesday.
- Written Homework: The homework is designed to allow you to grasp the concepts; it is not an end in itself. The homework problems will be taken from the Textbook and will be submitted handwritten on paper at the start of class on Tuesday. There may also be other activities that are completed as homework. Each homework set will usually be due one week from when it is assigned. Please see the schedule below. Late homework will not be accepted without prior consent or a well-documented emergency beyond your control. I will drop one homework score. Written homework that is submitted late without prior consent will be recorded with a score of zero. The lowest homework score will be dropped prior to computing the final course grade.
- Mid-Term Examination and the Final Examination. Both examinations will include problems and questions over material assigned in the text, readings and handouts, as well as material presented in class. No examination shall be missed without prior consent or a well-documented emergency beyond your control. A score of zero will be assigned for an examination that is missed without prior consent or a well-documented emergency beyond your control. The examination schedule is included in the daily schedule. This instructor does not intend to accept excuses such as poor communication with parents, benefactors, surf team sponsors and/or travel agents.
- Mid-Semester Examination and the Final Examination: There will be one Mid-Semester Examination and a comprehensive Final Examination. The Mid-Semester Examination and the Final Examination will include problems and questions over material assigned in the text, readings and handouts, as well as material presented in class. The examination schedule is included in the daily schedule. No examination shall be missed without prior consent or a well-documented emergency beyond your control. In such cases, all make-up exams will occur at 8:30 am on the Saturday between classes and the Final Exam week. A score of zero will be assigned for an examination that is missed without prior consent or a well-documented emergency beyond your control.

Final Exam: Scheduled on Tuesday December 17, 2024 from 4:30-7:00PM in our classroom. Successful completion of this class requires taking the final examination on its scheduled day. The final examination schedule is posted on the <u>Class Schedules</u> 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 <u>one</u> 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.

Point Distribution

Grading Distribution	Percent
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Mid-Semester Examination	25
Final Exam	35
Warm Up Questions	5
Videos and Notes	5
Participation	5
Written Homework	25
Total	100

Grading Scale

Grades are based on the number of points accumulated throughout the course with the following exception. A student must pass at least one of the Mid-Semester Examination or the Final Examination in order to pass the class. That is, a score of 60% must be achieved on one of the Examinations, or else the final grade will be an F regardless of all other point totals. Approximate minimal percentages required to obtain a given grade are:

Grading Scale

Standard Grade Scale Based on Percentages					
	Α	В	С	D	F
+		[87.5-90.0)	[77.5-80.0)	[67.5-70.0)	
	[92.5 -100]	[82.5-87.5)	[72.5-77.5)	[62.5 -67.5)	[0.0-60.0)
_	[90.0-92.5)	[80.0-82.5)	[70.0-72.5)	[60.0-62.5)	

INCOMPLETES 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. Incompletes will only be assigned in extremely unusual circumstances.

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.

SPRITUAL 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 your professor or the <u>Office of Spiritual Life and Formation</u>.

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 <u>Academic PoliciesLinks to an external site.</u> for definitions of kinds of academic dishonesty and for further policy information.

ARTIFICIAL INTELLIGENCE (AI) POLICY

You are not allowed to use Artificial Intelligence (AI) tools (e.g., ChatGPT, Gemini Pro 1.5, GrammarlyGo, Perplexity, etc) to generate content (text, video, audio, images, problem solutions, etc.) 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 ACCOMODATIONS 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 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 AND 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/Biasfree 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.

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. 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 or find a list of campus pastors at 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

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.

PLNU Course Modality Definitions

- 1. Online Courses: These are courses with class meetings where all instruction and interaction is fully online.
 - Synchronous Courses: At least one class meeting takes place at a designated time.
 - Asynchronous Courses: All class meetings are asynchronous.
- 2. Hybrid Courses: These are courses with class meetings that take place both in the classroom and online synchronously and/or asynchronously.
- 3. In-Person Courses: These are courses that meet in person with the instructor and students in a physical classroom setting. With approval by the area dean, this may include up to 25% of qualified class interactions through a Learning Management System (such as Canvas).

This class is defined as a hybrid class because some of the material is covered online.

In some courses, a portion of the credit hour content will be delivered asynchronously and attendance will be determined by submitting the assignments by the posted due dates. See <u>Academic Policies</u>. in the Undergraduate Academic Catalog.

ASYNCHRONOUS ATTENDANCE/PARTICIPATION DEFINITION

A day of attendance in asynchronous content is determined as contributing a substantive note, assignment, discussion, or submission by the posted due date. Failure to meet these standards will result in an absence for that day. Instructors will determine how many asynchronous attendance days are required each week.

USE OF TECHNOLOGY

In order to be successful in the online or hybrid environment, you'll need to meet the minimum technology and system requirements; please refer to the <u>Technology and System Requirements</u> information. Additionally, students are required to have headphone speakers, microphone, or webcams compatible with their computer available to use. Please note that any course with online proctored exams requires a computer with a camera (tablets are not compatible nor allowable) to complete exams online.

Problems with technology do not relieve you of the responsibility of participating, turning in your assignments, or completing your class work.

LOMA WRITING CENTER

The Loma Writing Center exists to help all members of the PLNU community cultivate transferable writing skills to engage their academic, professional, personal, and spiritual communities. We work toward this goal by conducting one-on-one consultation sessions, supporting writing education across the PLNU community, and participating in ongoing writing center research.

Getting feedback from the Loma Writing Center while you're in the process of working on an assignment is a great way to improve the quality of your writing and develop as a writer. You are encouraged to talk with a trained writing consultant about getting started on an assignment, organizing your ideas, finding and citing sources, revising, editing for grammar and polishing final drafts, and more. For information about how to make inperson or online appointments, see Loma Writing Center webpage or visit the Loma Writer Center on the first floor of the Ryan Library, room 221.

- Appointment Calendar: https://plnu.mywconline.com/Links to an external site.
- Website: https://www.pointloma.edu/centers-institutes/loma-writing-center
- Email: writingcenter@pointloma.edu

Course Summary

Date	Details	Due
Wed Sep 4, 2024	Page Week 1: Videos, Links and Handouts	to do: 11:59pm
	Assignment Video Notes - Basic Skills	due by 11:59pm
	Assignment Video Notes - 2.2 and 2.3	due by 11:59pm
Mon Sep 9, 2024	Assignment Warm Up Questions - 2.2 and 2.3	due by 11:59pm
Mon Sep 16, 2024	Assignment Video Notes - 3.2 and 3.3	due by 11:59pm
	Assignment Warm Up Questions - 3.2 and 3.3	due by 11:59pm
Tue Sep 17, 2024	Assignment Written Homework - 2.2 and 2.3	due by 2:30pm
Mon Sep 23, 2024	Assignment Video Notes - 3.4 and 3.5	due by 11:59pm
	Assignment Warm Up Questions - 3.4 and 3.5	due by 11:59pm
Tue Sep 24, 2024	Assignment Written Homework - 3.2 and 3.3	due by 2:30pm

Date	Details	Due
Mon Sep 30, 2024	Assignment Video Notes - 4.1, 4.2, and 4.3	due by 11:59pm
	Assignment Warm Up Questions - 4.1, 4.2 and 4.3	due by 11:59pm
Tue Oct 1, 2024	Assignment Written Homework - 3.4 and 3.5	due by 2:30pm
	Assignment Video Notes - 5.1 and 5.2	due by 11:59pm
Mon Oct 7, 2024	Assignment Warm Up Questions - 5.1 and 5.2	due by 11:59pm
Tue Oct 8, 2024	Assignment Written Homework - 4.1, 4.2 and 4.3	due by 2:30pm
Mon Oct 14, 2024	Assignment Video Notes: Test Questions	due by 11:59pm
Tue Oct 15, 2024	Assignment Written Homework - 5.1 and 5.2	due by 2:30pm
Tue Oct 22, 2024	Assignment Mid-Term Exam October 17	due by 2:30pm
	Assignment Video Notes - 6.1 and 6.2	due by 11:59pm
Mon Oct 28, 2024	Assignment Warm Up Questions - 6.1 and 6.2	due by 11:59pm
Mon Nov 4, 2024	Assignment Video Notes - 6.3 and 6.4	due by 11:59pm
	Assignment Warm Up Questions - 6.3 and 6.4	due by 11:59pm
Tue Nov 5, 2024	Assignment Written Homework - 6.1 and 6.2	due by 11:59pm

Date	te Details	
	Assignment Video Notes - 7.1 and 7.2	due by 11:59pi
Mon Nov 11, 2024	Assignment Warm Up Questions - 7.1 and 7.2	due by 11:59p
Tue Nov 12, 2024	Assignment Written Homework - 6.3 and 6.4	due by 2:30p
	Assignment Video Notes - 7.3 and 7.4	due by 11:59p
Mon Nov 18, 2024	Assignment Warm Up Questions - 7.3 and 7.4	due by 11:59p
Tue Nov 19, 2024	Assignment Written Homework - 7.1 and 7.2	due by 11:59p
Mon Nov 25, 2024	Assignment Video Notes - 7.5	due by 11:59p
	Assignment Warm Up Questions - 7.5	due by 11:59p
Tue Nov 26, 2024	Assignment Written Homework - 7.3 and 7.4	due by 2:30p
	Assignment Basic Skills Tests	due by 11:59p
Mon Dec 2, 2024	Assignment Video Notes - 8.1, 8.2 and 8.3	due by 11:59p
	Assignment Warm Up Questions - 8.1, 8.2 and 8.3	due by 11:59p
Tue Dec 3, 2024	Assignment Written Homework 7.5	due by 2:30p
Mon Dec 9, 2024	Assignment Video Notes - 8.4	due by 11:59p
	Assignment Warm Up Questions - 8.4	due by 11:59p

Date	Details	Due
Tue Dec 10, 2024	Assignment Written Homework - 8.1, 8.2, and 8.3	due by 2:30pm
Wed Dec 11, 2024	Assignment <u>Video Notes: Exam Prep</u> <u>Questions</u>	due by 11:59pm
	Assignment Participation	due by 3:45pm
Tue Dec 17, 2024	Assignment <u>Final Exam</u>	due by 4:30pm
	Assignment Written Homework - 8.4	due by 4:30pm

Monday	Tuesday	Wednesday	Thursday	Friday
2-Sep	3-Sep	4-Sep	5-Sep	6-Sep
	Introduction		Basic Skills Test	
9-Sep	10-Sep	11-Sep	12-Sep	13-Sep
	2.2 Describing Sets	1	Question Session	
	2.3 Other Set Operations			
16-Sep	17-Sep	18-Sep	19-Sep	20-Sep
	3.2 Addition of Whole Numbers		Question Session	
	3.3 Subtraction of Whole Numbers			
23-Sep	24-Sep	25-Sep	26-Sep	27-Sep
	3.4 Multiplication of Whole Numbers		Question Session	
	3.5 Division of Whole Numbers			
30-Sep	1-Oct	2-0ct	3-Oct	4-Oct
	4.1 Divisibility		Ouestion Session	
	4.2 Prime and Composite		Qu-011011 0-101011	
	4.3 GCD and LCM			
7-0ct	8-Oct	9-Oct	10-Oct	11-Oct
, ,	5.1 Addition and Subtraction of Integers	5 000	Question Session	11000
	5.2 Multiplication and Division of Integers		Question occasion	
14-Oct	15-Oct	16-Oct	17-Oct	18-Oct
24 000	Mid-Term Exam Review	10 000	Mid-Term Exam	20 001
	Pilo-Telli Exalli Neview		Pilo-Teriii Cadiii	
21-0ct	22-Oct	23-0ct	24-Oct	25-Oct
	No Class - See Video		Fall Break	
	Dr. Zack is gone			
28-Oct	29-0ct	30-Oct	31-0ct	1-Nov
	No Class		6.1 Rational Numbers	
	Meeting on Thursday		6.2 Addition and Subtraction of Rational Numbers	
4-Nov	5-Nov	6-Nov	7-Nov	8-Nov
	6.3 Multiplication and Division of Rational Numbers		Question Session	
	6.4 Proportonal Reasoning			
11-Nov	12-Nov	13-Nov	14-Nov	15-Nov
	7.1 Terminating Decimals		Question Session	
	7.2 Operations on Decimals			
18-Nov	19-Nov	20-Nov	21-Nov	22-Nov
	7.3 Repeating Decimals		Ouestion Session	
	7.4 Percents			
25-Nov	26-Nov	27-Nov	28-Nov	29-Nov
	7.5 Real numbers		Thanksgiving	
2-Dec	3-Dec	4-Dec	5-Dec	6-Dec
	8.1 Variables		Question Session	
	8.2 Equals Relations and Equations			
	8.3 Functions			
9-Dec	10-Dec	11-Dec	12-Dec	13-Dec
	8.4 Cartesian Coordinate System		Final Exam Review	
	Exam Review Questions			
16-Dec	17-Dec	18-Dec	19-Dec	20-Dec
	Final Exam 4:30-7:00 PM			
				1