POINT 1902 LOMA
NAZARENE UNIVERSITY

Mathematical, Information and Computer Sciences

School of STEM

MTH4092 Special Topics in Mathematics

2 Units

Fall 2025

Meeting days/times TR 10:00-10:50 am

Meeting location: Rohr Science (RS) 395

Final Exam: Tuesday December 16, 2025 10:30 am – 1:00 pm

Instructor Title and Name: Dr. Maria Zack
Phone: 619-849-2458
Email: mzack@pointloma.edu
Office Location and Office Hours:
Below are the times that I work to hold open for office hours. If none of them work you can email me to see if we can find another time. I offer both in person (office RS246) and Google Meet options for office hours . Use this link to book an appointment if you want a time reserved for you or if you want to use Google Meet. You can also just stop by my office.

Mon 1:30-3:30
Tues 8:30-9:30
Tues 4:00-5:00
Wed 5:00-6:00
Thurs 8:00-9:00
Fri 10:30-12:00

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 4092 Special **Topics in Mathematics (2 Units)**

Study of an area of mathematics not otherwise included in the curriculum. The needs and interests of students and faculty involved determine the topics. May be repeated up to a total of six (6) units. Letter grade.

Prerequisite(s): Consent of instructor.

Program and Course Learning Outcomes

- Students will be able to apply their mathematical knowledge and critical thinking to solve problems. (CC: CT)
- Students will be able to speak about their work with precision, clarity and organization. (CC: OC)
- Students will be able to write about their work with precision, clarity and organization. (CC: WC)
- Students will be able to identify, locate, evaluate, and effectively and responsibly use and cite information for the task at hand. (CC: IL)
- Students will collaborate effectively in teams.

Required Texts and Recommended Study Resources

Students are responsible for having the required course textbooks prior to the first day of class.

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.

Viewpoints: Mathematical Perspective and Fractal Geometry in Art by Marc Frantz and Annalisa Crannell. ISBN:978-0691125923. We will start using this in early October. Amazon has tons of used copies for about $15 so order one now.

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 2- unit class delivered over 16 weeks. It is anticipated that students will spend a minimum of 37.5 participation hours per credit hour on their coursework. For this

course, students will spend an estimated 80 total hours meeting the course learning outcomes. The time estimations are provided in the Canvas modules.

Assessment and Grading

Grades will be based on the following:

- **Homework**: Homework will be assigned daily and will be due at the start of class the Thursday of the following week. But do your homework every day or you will end up struggling. Some of the homework will be problems out of the textbook, others will be various kinds of internet research.
- **Construction Presentation:** You will be part of a team that will give a presentation on the mathematics/physics behind what causes an arch to stay up or a cantilever to work. These will be given after some in-class activities experimenting with both types of construction.
- **Field Trips and Independent Assignments:** During the semester you will have a few videos to watch on your own and a few sites to visit and do something related to the class (one church and one museum). For each of these activities, there will be a written assignment
- **Final Project Presentation and Short Paper:** You will be working independently on a final project based on articles produced by members of the Nexus Network: Architecture and Mathematics. There is a journal along with some books of papers. You will be given further instructions about the stages of preparation and the use of NotebookLM for some of your work. You will have some time in November when working on this project will be your only homework. Your presentations will be given, and your papers will be submitted during that final exam which is on Tuesday December 16, 2025, 10:30 AM – 1:00 PM.

Point distribution for the grades:

- 45% Homework
- 9% Construction Project
- 16% Field Trips and Independent Assignments
- 30% Final Project and Presentation (this includes all of the preparation work)

Sample Standard Grade Scale Based on Percentages

A	B	C	D	F
A [92.5-100]	B+ [87.5-90)	C+ [77.5-80)	D+ [67.5-70)	F [0-60)
A- [90-92.5)	B [82.5-87.5)	C [72.5-77.5)	D [62.5-67.5)	
	B- [80-82.5)	C- [70-72.5)	D- [60-62.5)	

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.

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.

Artificial Intelligence (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, problem solutions) 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.

We will be using NotebookLM in some very defined ways for your final project and you will need to document how you are using this AI tool. Any work that utilizes AI-based tools must be clearly identified as such, including the specific tool(s) used. Please use the following sources to guide your citations when using AI.

MLA Style Center: Citing Generative AI
APA Style: How to Cite ChatGPT
Chicago Manual of Style: Citing Content Developed or Generated by AI

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 or 619-849-2533). 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. Professors are able to view a student's approved accommodations through Accommodate.

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 accommodations.

Additional Course Information

Additional PLNU policies and practices that apply to this course can be found at the following link: https://docs.google.com/document/d/11BgAANLOJ9tjt837d24EZ181ukM2qzHF/edit

Assignments At-A-Glance

Date	Details	Due
Thu Sep 11, 2025	Assignment Brunelleschi's Dome Video Assignment (Replaces Tuesday Class)	due by 10am
	Assignment Week 1 Homework	due by 10am
Thu Sep 18, 2025	Assignment Week 2 Homework	due by 10am
Tue Sep 23, 2025	Assignment Presentation Outline	due by 10am
Thu Sep 25, 2025	Assignment Week 3 Homework	due by 10am
Tue Sep 30, 2025	Assignment Presentation Slides	due by 10am
Thu Oct 2, 2025	Assignment Week 4 Homework	due by 10am
Tue Oct 7, 2025	Assignment Notes on Other Presentations	due by 10am
Thu Oct 9, 2025	Assignment The Day the Universe Changed Video Assignment (Replaces Tuesday's Class)	due by 10am

Date	Details	Due
	Assignment Week 5 Homework	due by 10am
Thu Oct 16, 2025	Assignment Week 6 Homework	due by 10am
Thu Oct 23, 2025	Assignment Week 7 Homework	due by 10am
Thu Oct 30, 2025	Assignment Week 8 Homework	due by 10am
Thu Nov 6, 2025	Assignment Week 9 Homework	due by 10am
Tue Nov 11, 2025	Assignment Field Trip: Church Architecture Visit (Replaces Tuesday's Class)	due by 10am
Thu Nov 13, 2025	Assignment Week 10 Homework	due by 10am
Tue Nov 18, 2025	Assignment Research Work	due by 10am
Thu Nov 20, 2025	Assignment Week 11 Homework	due by 10am
Thu Nov 27, 2025	Assignment Week 12 Homework	due by 10am
Tue Dec 2, 2025	Assignment Check-In Meeting	due by 12pm
Thu Dec 4, 2025	Assignment Week 13 Homework	due by 10am
Tue Dec 9, 2025	Assignment Field Trip: Timken Museum of Art (Replaces Thursday's Class)	due by 10am
Thu Dec 11, 2025	Assignment Week 14 Homework	due by 10am
Tue Dec 16, 2025	Assignment Final Paper	due by 10:30am

Date	Details	Due
	Assignment Presentation	due by 10:30am
	Assignment Week 15 Homework	due by 10:30am