

Math 492: Special Topics in Mathematics (2.0 units)**Time & Place: 8:30-9:25 WF in RLC 112****Instructor:** Dr. Catherine Crockett**email:** catherinecrockett@pointloma.edu**office phone:** 619-849-2723**Office:** Gym parking lot, Trailer #2 **Office hours:** M 8:30-9:30, MWF 10:45- 12, T TH 9:30-11:30, or by appointment.**Material for the class:** None**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 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.

COURSE DESCRIPTION

Study of an area of mathematics not otherwise included in the curriculum. The needs and interests of students and faculty involved determine the topics.

LEARNING OUTCOMES

This is a course on theoretical mathematics. The learning outcomes are:

- Students will be able to apply their mathematical knowledge to solve problems.
 - Students will be able to use technology to solve problems
 - Students will be able to speak about their work with precision, clarity and organization.
 - Students will be able to write about their work with precision, clarity and organization.
 - Students will collaborate effectively in teams.
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ASSESSMENT AND GRADING

Grades for the course will be based on:

First Draft of Portfolio	25% of the course grade
Class presentation and write-up	35% of the course grade
Portfolio	<u>40% of the course grade</u>
Total:	100%

Grading Scale: Approximate minimal percentages required to obtain a given grade are:

Grades in percentages					
	A	B	C	D	F
+		[87.5,90)	[77.5, 80)	[67.5, 70)	[0,60)
	[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)	

Homework and Late Submission Penalties: The homework is a portfolio that demonstrates your understanding of the topics in the course. The first draft of the portfolio will be submitted on or before Wednesday, October 17, 2018. The completed portfolio will be submitted on or before Friday, December 7, 2018. Late submission of a portfolio will be assessed a $2^{n-1} \times 10\%$ deduction where n = the number of weekdays late. The day counter for late work begins at the start of class on the weekday it is due. For example, a portfolio submitted at 3:30 on the first weekday after the due date will incur a two day late penalty deduction of 20%.

Final Exam: The final is **comprehensive and is given on Friday, December 14 7:30 to 10:00**. 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.

Class presentation and write-up: The grade for this assignment will be based on the presentation, paper about the topic presented and attendance of other student's presentations. In order to pass this course, each student must earn a passing grade on this assignment.

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.

Side Note: Turn off any cell phone, pager or things that make noise while you are in class. Also, do not text or work on other classes while in class -to do so is disrespectful to your classmates and me. You may be asked to leave the class for such behavior, resulting in an absence.

University Policies:

FINAL EXAMINATION POLICY

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.

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.

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 4-unit class delivered over 15 weeks. Specific details about how the class meets the credit hour requirements can be provided upon request.

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. Faculty should follow and students may appeal using the procedure in the university Catalog. See http://catalog.pointloma.edu/content.php?catoid=24&navoid=1581#Academic_Honesty for definitions of kinds of academic dishonesty and for further policy information.

PLNU ACADEMIC ACCOMMODATIONS POLICY

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 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.

PLNU ATTENDANCE AND PARTICIPATION POLICY

Attendance is expected at each class 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 http://catalog.pointloma.edu/content.php?catoid=24&navoid=1581#Class_Attendance in the Undergraduate Academic Catalog.

Course Schedule:

Please note this schedule is **tentative**. Any changes will be announced in class and posted in canvas.

week	Wednesday	Friday
1 8/27-8/31	8/29 Introduction Essay on Art & math	8/31 Tape activity Meet in front of the library
2 9/03-9/07	9/05 Lines & perspective	9/07 Lines & perspective
3 9/10-9/14	9/12 Artistic application of rules for drawing images of parallel lines	9/14 Artistic application of rules for drawing images of parallel lines
4 9/17- 9/21	9/19 Plain views & viewing distances	9/21 Plain views & viewing distances *Field trip to Timken Museum

5 9/24-9/28	9/26 Fractals- Introduction & math behind them	9/28 Fractals- Introduction math behind them
6 10/01- 10/05	10/03 No Class Fractal project *Out of class Assignment	10/05 No class Fractal project *Out of class Assignment
7 10/08- 10/12	10/10 Introduction to symmetry & the mathematics behind	10/12 The mathematics behind symmetry
8 10/15- 10/19	10/17 First draft of portfolio due Symmetry project	10/19 No classes Fall Break Day
9 10/22- 10/26	10/24 Symmetry projects	10/26 Introduction to origami
10 10/29- 11/02	10/31 Origami & math	11/02 Origami & math
11 11/05- 11/09	11/07 Origami project	11/09 Origami projects
12 11/12- 11/16	11/14 Work on student presentations	11/16 Work on student presentations
13 11/19- 11/23	11/21 No Class Thanksgiving Break	11/23 No Class Thanksgiving Break
14 11/26- 11/30	11/28 Student presentations	11/30 Student Presentations
15 12/03- 12/07	12/05 Students Presentations	12/07 Portfolio Due Student presentations
Finals week 12/10- 12/14	12/12	12/14 7:30- 10 Final Exam- student presentations