



School of STEM: Department of Mathematical, Information and Computer Sciences

## **MTH 3033—Differential Equations**

3 Units

*Spring 2025*

**TR 8:00am – 9:15am**

**Rohr Science 395**

**Final Exam: Tuesday, 5/6, 7:30am – 10:00 am**

INFORMATION	SPECIFICS FOR THE COURSE
<b>Instructor title and name:</b>	Dr. Carlson Triebold
<b>Phone:</b>	(619) 849-2968
<b>Email:</b>	<a href="mailto:ctriebol@pointloma.edu">ctriebol@pointloma.edu</a>
<b>Office location and hours:</b>	Rohr Science 228, times posted on Canvas

### **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.

### **Course Description**

Ordinary differential equations, solutions by analytical and numerical methods in the context of real-world applications. A brief introduction to partial differential equations and Fourier series.

### **Program and Course Learning Outcomes**

1. Students will be able to apply their mathematical knowledge and critical thinking to solve problems.
2. Students will be able to apply their technical knowledge to solve problems.

The PLOs assessed in this class are:

1. An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics (CC: CT). The Signature Assignment for assessing this PLO is: Questions on the Final Exam.

### 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.

1. Graphing calculator (TI-84+ recommended, CAS calculators are not allowed)
2. *Fundamentals of Differential Equations*, 9<sup>th</sup> edition by Nagle, Saff & Snider
3. Access to MyLab Math, available through the online access key

### Assessment and Grading

Grading Distribution	Percent
Two Exams (at 20% each)	40
Final Exam	30
Online Homework	12.5
Written Homework	12.5
Attendance and Participation	5
Total	100

Grades will be based on the following:

- **Online Homework:** This homework is completed in MyLab Math, available through the online access key. You will have multiple attempts to complete each problem. Each section covered in class will have associated problems assigned online. Late homework will not be accepted. Your lowest two online homework scores will be dropped.
- **Written Homework:** Homework problems will be assigned regularly and posted on Canvas. Please check regularly to ensure that you are keeping up with the homework. Late homework will not be accepted. Your lowest two written homework scores will be dropped.
- **Exams and the Final Exam:** Exams and the Final Exam will include problems and questions over material assigned in the text, readings and handouts, as well as material presented in class. No

exam shall be missed without a well-documented emergency beyond your control. A score of zero will be assigned for an exam that is missed without a well-documented emergency beyond your control.

- **Late work will not be accepted.** Homework assignments that are submitted late will be recorded with a score of zero. During the course, you may find that you are unable to submit homework on time due to a personal situation (for example, a personal or family illness, accident, business trip, etc.). For this reason, your lowest two online and written homework scores will be dropped. There are no exceptions to this policy, so please use your dropped assignments wisely.

Grades are based on the number of points accumulated throughout the course with the following exception. A student must pass at least one of Exam 1, Exam 2, or the Final Exam to pass the class. That is, a score of 60% must be achieved on one of the Exams, or else the final grade will be an F regardless of all other point totals.

#### 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) 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.

## **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/18i1pUoY0iCfB8w7JKxVvACQW309X-JRB/edit?usp=sharing&oid=116164865489739533893&rtpof=true&sd=true>

Spring 2025

MTH 3033 Calendar

Week		Tuesday	Thursday
January	1	14 Calculus Review	16 Sections 1.1, 1.2 & 1.3
	2	21 Sections 1.4 & 2.2	23 Sections 2.3 & 2.4
	3	28 Sections 2.6 & 3.2	30 Section 3.4
February	4	4 Section 3.6	6 Sections 4.1 & 4.2
	5	11 Sections 4.3 & 4.4	13 Review for Exam I
	6	18 Exam I	20 Section 4.6
	7	25 Section 4.7	27 Sections 5.1 & 5.2
March	8	4 Section 5.4	6 Section 5.5
	9	11 Spring Break	13
	10	18 Sections 7.1 & 7.2	20 Sections 7.3 & 7.4
	11	25 Sections 7.5 & 7.6	27 Section 7.7
April	12	1 Section 7.8	3 Review for Exam II
	13	8 Exam II	10 Sections 8.1 & 8.2
	14	15 Section 8.3 & 8.5	17 Easter Break
	15	22 Sections 10.1 & 10.2	24 Section 10.3
	16	29 Sections 10.4 & 10.5	1 Final Exam Review
May	17	6 Final Exam 7:30-10:00am	8