

MA 30300 411 & 412

Differential Equations and Partial Differential Equations for Engineering & Sciences

Spring 2022

Instructor Information

Instructor: Nikolas Eptaminitakis

Office: MATH 716

Email: neptamin@purdue.edu

Office Hours: TBA

Communication: Please communicate with me by sending a private or public question on **Piazza**. Please follow the link below to enroll:

<https://piazza.com/class/ky4zfm57zin3z>.

You are strongly encouraged to make math related questions public.

Course Information

Course Content and Textbook: This is a second-semester course in differential equations. We will cover linear and nonlinear systems of ordinary differential equations, the Laplace transform for solving linear differential equations, and Fourier series. We will also learn how to solve some partial differential equations using separation of variables and end with an introduction to Sturm-Liouville theory. The course will help you acquire problem solving skills necessary for science and engineering.

We will use parts of the textbook *Differential Equations & Boundary Value Problems*, 5th edition, by Edwards, Penney, and Calvis. It can be accessed through MyLab Math in [Brightspace](#).

Lecture Delivery The lectures will be delivered in person at the following times:

Section 411: M-W-F, 9:30-10:20 AM in University Hall 119.

Section 412: M-W-F, 8:30-9:20 AM in University Hall 119.

You are expected to attend class, though attendance will not count towards your grade. You are expected to read the textbook, and you are strongly encouraged to read the textbook ahead of time. A tentative schedule of the lectures can be found under the [Calendar](#) in the course website.

The 9:30-10.20 section will be recorded and streamed in real time through BoilerCast. The recordings will be available in the [Kaltura Media Gallery in Brightspace](#).

Grading: The grading scheme is as follows:

Online Homework	25%
Written Homework	8%
Midterm 1	17%
Midterm 2	17%
Final Exam	33%
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Total:	100%

Students who get at least 97% of the total points in this course are guaranteed an A+, 93% guarantees an A, 90% an A-, 87% a B+, 83% a B, 80% a B-, 77% a C+, 73% a C, 70% a C-, 67% a D+, 63% a D, and 60% a D-; for each of these grades, it's possible that at the end of the semester a somewhat lower percentage will be enough to get that grade.

Homework: There is online and handwritten homework. The tentative due dates can be found in the course website, and they will be updated if needed. The online homework is in MyLab Math and is accessed through Brightspace. The handwritten homework must be submitted on [Gradescope](#).

The purpose of homework is to help you learn the material and acquire problem solving skills as well as interpersonal skills, through collaboration with your classmates. **Copying solutions to the problems from online resources (such as Chegg) and presenting them as your own work does not facilitate your learning and constitutes academic dishonesty;** it may result in you receiving a score of 0 for the assignment in question and/or being reported to the Office of the Dean of Students. Even though you are strongly encouraged to collaborate with your classmates on homework, **each student must submit their own solutions, in their own words;** penalties as above may be applied to students who submit identical work. Also, to receive credit for the written homework you must submit full solutions; you will not receive credit for submitting only the final answer to the problems.

- The three worst online homework scores will be dropped, and the rest will be equally weighted in the grade calculation. **No extensions will be given for online homework.**
- The lowest handwritten homework score will be dropped, and the rest of the assignments will be equally weighted in the grade calculation. Each student will be allowed **a total of 2 no-questions-asked 24 hours deadline extensions throughout the semester. You do not need to contact me to use those extensions,** you can just submit your homework on Gradescope within 24 hours of the deadline; I will be keeping track of the late submissions. If 2 Handwritten Homework assignments are due on the same day, submitting both of them a day later will count as using one extension. You can combine 2 of your extensions to get a 48 hour extension for one Homework Assignment, but **in this case you will need to contact me ahead of time for permission.**

Midterms and Final Exam: There will be two midterms and a final, all **in person** unless the University directs otherwise later in the semester.

- The midterm exams will take place in the evening. The dates will be announced shortly in the course website. Two classes will be cancelled as per university policy to compensate for the two evening exams.
- The final exam will be during finals week and it will be comprehensive. The exact date will be announced as soon as it becomes known to the instructor.
- For all exams you will be allowed to have one sheet of **hand-written** notes (8.5×11 inches, double sided). The notes will be collected at the end of the exam and returned at a later time. Calculators will not be allowed, or needed.
- Academic dishonesty will not be tolerated. For the University policies regarding academic integrity please visit the [Brightspace section on University policies](#).

If you have a compelling, verifiable and unavoidable reason to miss a test please contact the instructor as soon as possible **ahead of time**.

Covid-19 Related Policies

Face Mask Policy: As per the Protect Purdue Protocol,

FACE MASKS ARE REQUIRED IN ALL INDOOR SPACES FOR EVERYONE ON THE PURDUE UNIVERSITY CAMPUS REGARDLESS OF VACCINATION STATUS.

For more information on the University's mask policy please follow the links below:

- [Classroom, instructional lab, and experiential course standard operating procedures](#)
- [Required Covid-19 Mask Protocols](#).

Lack of compliance: Students who are not engaging in behaviors established in the standard operating procedures (e.g., properly wearing a mask when required) will be asked to comply and offered any assistance they need in order to comply. If non-compliance continues, possible results include instructors asking students to leave the class, potentially followed by instructors dismissing the whole class. Students who do not comply with the required health and Protect Purdue Pledge behaviors are violating the University Code of Conduct and will be reported to the Dean of Students Office, with sanctions ranging from educational requirements to dismissal from the university. For additional guidance, please see the [Dean of Students guidance on Managing Classroom Behavior and Expectations](#).

In case of illness/isolation/quarantine:

DO NOT COME TO CLASS IF YOU ARE FEELING SICK.

Academic case managers are assigned to undergraduate and Pharmacy professional students who test positive or have to quarantine due to exposure to COVID-19. The role of the academic case manager is to help students as they navigate academic concerns, communication with faculty, as well as providing various resources and strategies to be successful during their time away from in-person course attendance. For more information about academic case managers, contact: acmq@purdue.edu.

For more information on what to expect if you're in quarantine or isolation please visit

<https://protect.purdue.edu/protect-purdue-health-center/quarantine-isolation-resources/>.

Other Policies

Diversity Welcome: Purdue University is committed to maintaining a community which recognizes and values the inherent worth and dignity of every person; fosters tolerance, sensitivity, understanding, and mutual respect among its members; and encourages each individual to strive to reach his or her own potential. In pursuit of its goal of academic excellence, the University seeks to develop and nurture diversity. The University believes that diversity among its many members strengthens the institution, stimulates creativity, promotes the exchange of ideas, and enriches campus life.

Mental Health Statement: If you find yourself beginning to feel some stress, anxiety and/or feeling slightly overwhelmed, try **WellTrack**. Sign in and find information and tools at your fingertips, available to you at any time.

If you need support and information about options and resources, please contact or see the **Office of the Dean of Students**. Call 765-494-1747. Hours of operation are M-F, 8 AM- 5 PM.

If you find yourself struggling to find a healthy balance between academics, social life, stress, etc. sign up for free one-on-one virtual or in-person sessions with a **Purdue Wellness Coach at RecWell**. Student coaches can help you navigate through barriers and challenges toward your goals throughout the semester. Sign up is completely free and can be done on BoilerConnect. If you have any questions, please contact Purdue Wellness at evans240@purdue.edu.

If you're struggling and need mental health services: Purdue University is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of mental health support, services are available. For help, such individuals should contact **Counseling and Psychological Services (CAPS)** at 765-494-6995 during and after hours, on weekends and holidays, or by going to the CAPS office of the second floor of the Purdue University Student Health Center (PUSH) during business hours.

Disability Accommodations: Purdue University strives to make learning experiences accessible to all participants. If you anticipate or experience physical or academic barriers based on disability, you are welcome to let me know so that we can discuss options. You are also encouraged to contact the Disability Resource Center at: drc@purdue.edu or by phone at 765-494-1247.

If you have been certified by the Disability Resource Center (DRC) as eligible for accommodations, you should contact your instructor to discuss your accommodations as soon as possible. Here are instructions for sending your Course Accessibility Letter to your instructor: <https://www.purdue.edu/drc/students/course-accessibility-letter.php>

University Policies: In addition to the policies outlined above, please visit [Brightspace](#) for a list of University policies which are in effect for this course.

Policies in the syllabus are subject to change; any changes will be announced by email.