



Syllabus MA 528 WNG/ONC/EPE sections, Spring 2026

Advanced Mathematics for Engineers and Physicists II

Course Information

- **WNG Location & time:** WANG 2599 MWF 2:30 pm-3:20 pm
- **ONC and EPE sections:** Lecture Video on Brightspace
- Lecture notes, homework and schedule table are on a separate webpage:
Remember to refresh this page to see updates every time you open it
<https://www.math.purdue.edu/~zhan1966/teaching/528>

Instructor Contact Information

- **Name of the instructor** [Xiangxiong Zhang](#) (feel free to call me X)
- **Office Location** MATH 406
- **Email** zhan1966@purdue.edu
- **Office hours** 3:30pm-5:30pm on Wed, or other time by appointment.

Textbook & Course Description

Textbook: E. Kreyszig, *Advanced Engineering Mathematics*, 10th ed (2011), Wiley.

This is a graduate level course covering vector calculus (Chapters 9-10 of the textbook) and complex analysis (Chapters 13-18). MA 52700 is not a prerequisite for MA 52800; these courses can be taken independently. Topics in MA 52800 include divergence theorem, Stokes theorem, complex variables, contour integration, calculus of residues and applications, conformal mapping, and potential theory. MA 51000 is recommended.

Learning Outcomes

- Improve knowledge of vector calculus and multivariable integral calculus.
- Know basic theory of functions of a complex variable, including complex integration.
- Improve knowledge of Taylor series, and extend this to Laurent series.
- Know applications of complex analysis, including conformal mapping and potential theory

Learning Resources, Technology & Texts

- Lecture notes and homework problems will be posted on the [schedule table webpage](#).
- Lecture videos will be available on *Brightspace->Content->Lecture Video*.
- Homework should be submitted on *Brightspace->Content->Gradescope*.
- Discussion forum is moderated by TA on *Brightspace->Content->Piazza*.

Exam Time/Location and Rules

Midterm Exam dates: Feb 11 (Midterm I) and Mar 25 (Midterm II). Final exam TBA.

Students in the EPE section attend the exam online within a time window around the same day.

Both WNG and ONC sections must attend exams in classroom.

Midterm I: Wed 02/11 6:30p - 7:30p BHEE 170, covering Lectures 1-11.

Midterm II: Wed 03/25 6:30p - 7:30p BHEE 170, covering Lectures 14-25.

No books/notes/calculators are allowed for exams. Only one page double sided cheat sheet is allowed.

Use of AI in Learning

Feel free to use AI for helping yourself with learning. However, be cautious with possible erroneous “knowledge” from AI. Using AI for writing the homework is prohibited.

Lecture Capture class for Purdue Online

Audio and video are recorded in the Purdue Online Lecture Capture Classroom (WNG 2599) for online students, who are enrolled in the course, to view.

Homework Assignments

1. 12 homework assignments in total will be posted/collected/graded on Gradescope.
2. Most homework will be due on either Wednesday 11pm, except that HW#4 and HW#8 will be due on Tuesday 11pm. Submit as clearly readable PDF files on Gradescope (Brightspace->content->gradescope). If you have handwritten solutions, scan it with your smart phone to convert it to PDF file.
3. **Late homework will not be accepted but lowest two scores will be dropped in the final grading.**
4. OK to discuss it on piazza but you have to write your own solutions. The homework problems are graded mainly on your reasoning. It is your responsibility to make your work easy to understand and follow.

Attendance

For students in WNG section, classroom attendance is expected. See [University Academic Regulations regarding class attendance](#). It is unacceptable to miss classes on a regular basis. For University Excused Absences: Grief, Military (e.g. mandatory military training), Jury Duty, Parenting Leave (e.g. pregnancy, birth, or care), and Medical (e.g. medical emergency), requests of absence must go through [Office of the Dean of Students: Class Absences](#).

Grading Scale

The final grading consists of

20% Homework

25% Midterm I
25% Midterm II
30% Final Exam

There will be no quizzes. The final letter grade be determined as follows:

Students who get at least 90% of the total points in this course are guaranteed an A+, 85% guarantees an A, 80% an A-, 75% a B+, 70% a B, 65% a B-, 60% a C+, 55% a C, an 50% a C-.

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 due to the curving.

Intellectual Property

Lecture notes, videos, practice exam problems, and exam problems are all copyrighted. Uploading any of these to any forum/website is strictly prohibited.

Academic Integrity

Academic integrity is one of the highest values that Purdue University holds. Individuals are encouraged to alert university officials to potential breaches of this value by either emailing integrity@purdue.edu or by calling 765-494-8778. While information may be submitted anonymously, the more information is submitted the greater the opportunity for the university to investigate the concern. More details are available on our course Brightspace table of contents, under University Policies.

Incidents of academic misconduct in this course will be addressed by the course instructor and referred to the Office of Student Rights and Responsibilities (OSRR) for review at the university level. Any violation of course policies as it relates to academic integrity will result minimally in a failing or zero grade for that particular assignment, and at the instructor's discretion may result in a failing grade for the course. In addition, all incidents of academic misconduct will be forwarded to OSRR, where university penalties, including removal from the university, may be considered.

Nondiscrimination Statement

A link to Purdue's Nondiscrimination Policy Statement can be found here:
https://www.purdue.edu/purdue/ea_eou_statement.php

Drop/Add Calendars

For important dates, you can access the Drop/Add calendars by visiting <https://purdue.edu/registrar/calendars>

Accessibility

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 encouraged to contact the Disability Resource Center at: drc@purdue.edu or by phone: 765-494-1247, as soon as possible. If the Disability Resource Center (DRC) has determined reasonable accommodations that you would like to utilize in this class, you must send your Course Accommodation Letter to the instructor. Instructions on sharing your Course Accommodation Letter can be found by visiting: <https://www.purdue.edu/drc/students/course-accommodation-letter.php>. Additionally, you are strongly encouraged to contact the instructor as soon as possible to discuss implementation of your accommodations.

Mental Health/Wellness 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 on the second floor of the Purdue University Student Health Center (PUSH) during business hours.

Emergency Preparation

In the event of a major campus emergency, course requirements, deadlines and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances beyond the instructor's control. Relevant changes to this course will be posted onto the course website or can be obtained by contacting the instructors or TAs via email or phone. You are expected to read your @purdue.edu email on a frequent basis.