MA 52800, Spring 2018

Advanced Mathematics for Engineers and Physicists II:

Vector calculus: line integrals, surface integrals, divergence and Stokes theorems.
Complex variables: Cauchy theory, power series, residues, conformal mappings, potential theory.

Instructor: Prof. Andrei Gabrielov, MATH 648, gabrielov@purdue.edu, 1-765-494-7911
Note: MA 52700 is NOT a prerequisite for enrolling in MA 52800.

In the spring semester of 2018 there are three sections; **all three sections will receive exactly the same course content and will always have the option to watch the lectures online anytime after the lectures have been given**:

- 12320: one on-campus section (WNG) with 75 seats that meets in the WANG 2599 studio room MWF 10:30-11:20 as part of the live lecture
- 17571: one "on campus distance learning" section (ONC) that has access to the streaming videos. The ONC section is for on-campus Purdue students who are taking the course as a distance course. They will view the lectures online whenever they want (starting about two hours after the lectures have been given). There is also an overflow room (WANG 2563) with 24 seats available to distance learning students where they can view the lectures live as they happen. After the first week of classes, there may be extra free seats available in WANG 2599 for ONC students, because some of the WNG students will find they prefer to watch the lecture online.
- 15977: one true distance learning section (EPE) administered by Purdue Engineering Professional Education with students from all over the country and the world. The EP1 section can only view the lectures online after they have taken place. Students must be registered as distance students with proed.purdue.edu to enroll in this section (different tuition structure).

The WNG and ONC students can access the online video stream by logging in to ProEd at Purdue with an ID and a password that will be posted on Blackboard. The EPE students should access the online video stream by logging in to their student portal at ProEd Current Student.

Text: Advanced Engineering Mathematics, 10th edition, Erwin Kreyszig Note that we will use the 10th edition. If you have any other edition (including 'International 10th edition') you need to be sure that the homework problems you do are the ones from the US 10th edition. It is available in three forms:

- Wiley E-Text, ISBN: 9780470913611
- Loose-leaf, ISBN: 9780470917671
- Hardcover, ISBN: 9780470458365

Content: 9.6 - 9.9, 10.1-10.9, 13.1-13.7, 14.1-14.4, 15.1-15.4, 16.1-16.4, 17.1-17.4, 18.1-18.5
Homework exercises from the textbook will be collected weekly.
Two Midterm Exams will be given as common evening exams for all on-campus students (WNG and ONC).

The **Final Exam** will be given as a common final exam for all on-campus students (WNG and ONC).
The off-campus distance learning students (EPE) will take all the exams remotely with a proctor.

Grades will be based on 2 midterms, a final, and regular homework. Each midterm exam will be worth 100 points, the final exam 150 points and the homework 100 points for a total of 450 points.

Syllabus: Tentative Course Syllabus