ACMS 20750, Introduction to Applied Mathematical Methods II,
Fall 2018

Course Information


- **Class time and place:** MWF 10:30am - 11:20am, DBRT129.

- **Lecture Instructor:** Yongtao Zhang (yzhang10@nd.edu)
  - **Office location:** Hurley Hall 176
  - **Office phone:** (574) 631-6079
  - **Office hours:** Fridays 1:30pm – 3:00pm, or by appointment.

- **Teaching Assistants:** Ernie Tsybulnik (etsybuln@nd.edu), Kevin Manley (kmanley1@nd.edu)

- **Tutorial session I:** Tuesdays 11:00am - 11:50am, DBRT 242; or **Tutorial session II:** Tuesdays 12:30pm - 1:20pm, Hayes Healy 229; or **Tutorial session III:** Tuesdays 2:00pm – 2:50pm, O’Shaughnessy Hall 115. You are required to attend the tutorial session you signed-up for.

- **Class website:** [https://www.nd.edu/~yzhang10/ACMS20750.html](https://www.nd.edu/~yzhang10/ACMS20750.html)

- **Homework Assignments:** Homework problems will be assigned in every class and are in general due during the tutorial on Tuesdays of the following week. Homework assignments should be submitted by the due time. Questions regarding homework grading should be addressed to your tutorial instructor. You are encouraged to work on homework problems in groups, but the assignments must be turned in individually. Remember that you will not learn anything by simply copying another student's work. The main purpose of homework assignments is to help you learn the material. Experience shows that students who take their homework seriously do very well in the course because they have a better understanding of the material.

- **Exams:** There will be two midterm exams and the final exam. Midterm exams will be the in-class exams on **Friday, Oct 5,** and on **Monday, Nov 19.** The final exam will be on **Wednesday, Dec 12, from 4:15pm – 6:15pm.** A student who misses an examination will receive **zero points** for that exam unless he or she has written permission from the Vice president for residential life. If you have a valid excuse (illness, excused athletic absence etc) for missing an exam, please see me ASAP (before the exam) and a makeup exam will be scheduled.

- **Grades:** homework 100 points, midterm exams I-II 2 @ 100 = 200 points, final
exam 150 points. The total course points are 450. The numerical break points for letter grades (A, A-, B+, B, …) will be based only on your total score out of 450.

- **Honor Code:** Both examinations and homework assignments are conducted under the honor code. While cooperation in small groups in doing homework is permitted (and strongly encouraged), copying is not. Exams are to be done completely by yourself with no help from others.

- **We will follow the textbook and cover materials starting from the Chapter 8:**
  - Definition of differential equations; Separable equations;
  - Linear first order differential equations;
  - Bernoulli equations;
  - Second order linear differential equations;
  - Laplace transform method; Convolution;
  - Special functions;
  - Series solutions of differential equations;
  - Legendre’s equations; Leibniz’s rule;
  - Legendre polynomials; Legendre series;
  - The method of Frobenius;
  - Bessel’s equation; Bessel function solutions for differential equations;
  - Linear partial differential equations; Laplace’s equation; Diffusion equation.
  - Functions of a complex variable.