MATH 448/548 (CPT S 430/530) – Numerical Analysis
FALL 2017
T, TH 1:25-2:40, CUE 316

Instructor: Robert Dillon

Office: Neill 324

Office Hours: W 9:00-11:00, and by appointment

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Textbook:
  R. L. Burden, J. D. Faires, and A.M. Faires
  Numerical Analysis, 10th edition, Cengage, 2016.

Optional:
  Kermit Sigmon, *Matlab Primer*, 8th edition, CRC Press, 2011.

Outline: The purpose of this course is to introduce numerical methods for mathematical problems found in science and engineering. The topics include:

1. Review of calculus, computer arithmetic and roundoff errors.

2. Solution of one variable nonlinear equations.

3. Interpolation

4. Numerical integration and differentiation

5. Numerical solution of ordinary differential equations

6. Linear Systems

7. Approximation

8. Introduction to solution of PDEs

Grading: The course grade will be based on:

- Assignments (approximately one per week)– 40 %

- Two In Class Midterm Exams – 17.5 % each

- Final Exam (comprehensive) – 25%

SCALE: A 92, A- 90, B+ 86, B 82, B- 80, C+ 76, C 72, C- 70, D+ 64, D 60. In practice, the cutoffs for the grades may be lower than the above numbers, but they will not be higher.

Midterm 1: TBA
Midterm 2: TBA
Final (comprehensive): Friday, December 15, 1:00–3:00pm, CUE 316

IF YOU ARE ENROLLED IN MATH 548 or CPT S 530: you must complete a special project to be arranged with the instructor.

Students with Disabilities

Reasonable accommodations are available for students with a documented disability. If you have a disability and need accommodations to fully participate in this class, please either visit or call the Access Center (Washington Building 217; 509-335-3417) to schedule an appointment with an Access Advisor. All accommodations MUST be approved through the Access Center.

WSU Safety Measures

Classroom and campus safety are of paramount importance at Washington State University, and are the shared responsibility of the entire campus population. WSU urges students to follow the "Alert, Assess, Act," protocol for all types of emergencies and the "Run, Hide, Fight" response for an active shooter incident (url below). Remain ALERT (through direct observation or emergency notification), ASSESS your specific situation, and ACT in the most appropriate way to assure your own safety (and the safety of others if you are able). Please sign up for emergency alerts on your account at MyWSU. For more information on this subject, campus safety, and related topics, please view the FBIs "Run, Hide, Fight" video (**https://oem.wsu.edu/emergency-procedures/active-shooter/**) and visit the WSU safety portal (**https://oem.wsu.edu/about-us/**).

Academic Integrity

I encourage you to work with classmates on assignments. However, each student must turn in original work. No copying will be accepted. Students who violate WSU s Standards of Conduct for Students will receive an F as a final grade in this course, will not have the option to withdraw from the course and will be reported to the Office of the Dean of Students. Cheating is defined in the Standards for Student Conduct WAC 504-26-010 (3). It is strongly suggested that you read and understand these definitions:

http://www.conduct.wsu.edu/Content/Documents/conduct/09-10