MATH 5486
Introduction to Numerical Methods II

Spring 2018 — Lecture 1

Lecture: Mo, We, Fr 1:25 – 2:15, Vincent Hall 1

Lecturer: Matthias Maier
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Website: http://www.math.umn.edu/~msmaier/math548x.shtml

Textbooks: The course will be primarily based on lecture notes (available via Moodle).
(Optional) Burden and Faires, Numerical Analysis, 10th edition
(Optional) Ascher, First Course In Numerical Methods
Electronic version: http://epubs.siam.org/doi/book/10.1137/9780898719987

Prerequisites: Grade of at least C- in Math 2243, 2373 or 2573.

Overview: Math 5485-6, is an introductory two-semester course about numerical methods. We will learn about basic mathematical principles for devising and analysing of numerical methods. In particular, we will cover approximation theory of functions, numerical integration, systems of nonliner equations, numerical methods for ordinary differential equations and elliptic partial differential equations.

Course assessment:

- There will be two midterm exams (in lecture), to be held on **Friday Feb 23, Friday April 6**.
- The final exam is scheduled for **Tuesday May 8**, 10:30am – 12:30pm, Vincent Hall 1.
- There will be seven homework projects due at the beginning of class on Friday: Feb 2, 16, Mar 2, 23, April 6, 20, May 4.

Exams: One sheet of handwritten notes (letter page, front and back) can be brought to each exam. Calculators may be needed. Exam absences, due to recognized University-related activities, religious holidays, verifiable illness, and family/medical emergencies will be dealt with on an individual basis. Students must make arrangements *in advance* (the sooner the better) if they will miss an exam.

Homework: Homework can be worked on and turned in in teams of two. The lowest homework grade will be dropped. Homework must be turned in by the beginning of class at the due date. Late homework will not be accepted.

Grading: The final grade will be determined from the following weightings (whichever is favorable):

- 30% homework, 20% Midterm I, 20% Midterm II, 30% Final,
- 30% homework, 20% Best Midterm, 50% Final.

Other policies: A link to other general policy statements—including statements about equal opportunity, disability accommodations, and mental health resources—appears on the course website above.