Instructor: Bo Dong
Email: bdong@math.drexel.edu
Office: Korman Center 267
Phone: (215) 895-1849
Office Hours: 2:00-3:00pm M W, or by appointment

Course website: http://www.math.drexel.edu/~bdong/math301.htm


Course description: The primary goal of this course is to highlight the essential concepts in numerical methods: convergence, stability, and efficiency. The main topics include numerical solution of initial value problems and boundary value problems for ordinary differential equations, and approximation theory. MATLAB programming will be integrated throughout the course, and students will be required to do assignments using MATLAB.

Prerequisites: MATH 300 Minimum Grade: D.
Programming experience is required, and knowledge of MATLAB is preferred.

Learning objectives:

- Being able to state the main results and fully understand the derivation of the numerical methods.
- Being able to gain an understanding of what constitutes mathematical thinking and produce clear and rigorous mathematical arguments.
- Being able to efficiently implement the numerical methods using programming languages.
- Being able to apply numerical methods to mathematical problems and demonstrate problem-solving skills.

Grading: The grades will be based on weekly homework, one midterm exam and one final exam. Here is how these items will be weighted:

- Homework ................................................................. 35%
• Midterm Exam (Feb 7, Tuesday)............................................. 30%
• Final Exam (finals week) .................................................. 35%

A: 90-100  B: 80-89  C: 70-79  D: 60-69  F: 0-59

Course Policy:

• Homework assignments are due at the beginning of the class on the due date. Late homework will lose 20% for each late day, and homework late for more than two days will not be accepted. You may discuss homework together, however, you should write your codes and solutions independently. You are encouraged to come to my office hours to obtain some help on particular questions, provided that you made a genuine attempt to solve them. Extra assistance is available in the Math Resource Center (Korman 247), which is open Monday through Thursday 10am-7pm and Friday 10am-4pm.
• Make-up exams will be given only in exceptional circumstances such as illness and injury, and documentation will be required.
• Class attendance is expected and recorded, and students are responsible for all material and announcements given in class.

Important Dates:

• Jan 20: last day to add/drop a course with Academic Advisor assistance
• Jan 22: last day to add/drop a course via DrexelOne by 11:00pm
• Feb 7: midterm exam
• Feb 17: last day to withdraw from a course
• March 15: last lecture
• March 20-24: final exam week

Important University Policy:

• http://www.drexel.edu/provost/policies/academic_dishonesty.asp
• http://www.drexel.edu/studentlife/judicial/honesty.html
• http://www.drexel.edu/oed/disabilityResources/students/
• http://www.drexel.edu/provost/policies/course_drop.asp

Changes to syllabus: In the unlikely event there will be a change to the syllabus, it will be communicated in class and via email.