Math 1070

Numerical Mathematical Analysis

Fall 2015

Lecture: MWF 10:00am-10:50am, Bendum G36

Instructor: Dr. Michael Neilan, Assistant Professor of Mathematics
Office: 605 Thackeray Hall
Office Hours: MW 12:00pm–1:00pm and by appointment
Email: neilan@pitt.edu
Textbook: Elementary Numerical Analysis (3rd edition), Atkinson & Han.
Course Webpage: http://www.pitt.edu/∼neilan/Neilan/M1070_Fall15.html

Course Content: Some of the topics and the corresponding chapters that will be covered are

- Error and computer arithmetic (Chapter 2)
- Taylor polynomials (Chapter 1)
- Root finding (Chapter 3)
- Interpolation and approximation (Chapter 4)
- Numerical integration and differentiation (Chapter 5)
- Numerical ordinary differential equations (Chapter 8).

Exams: There will be a total of three exams: two midterms and a comprehensive final. They will be equally spaced throughout the semester and will be announced at least one week before the exam takes place.

Homework: Homework will be assigned periodically during the semester. There will be 7–8 assignments taken from the textbook, and they will be due at the beginning of class on the listed due date. I do not accept late homework.

Computational Projects: All projects are based on Matlab, a mathematical software package with an extensive library of mathematical and scientific function calls entirely built-in. One may obtain a free copy of the Matlab software package onto their personal computers through the University. To download a version, go to http://technology.pitt.edu/software/acquire-purchase.html and select the "Software Download Service at My Pitt" link. After entering your username and password, click on the "Software Download Service Login" link in the upper-right hand side of the webpage. Then find the appropriate version (Windows, Mac, or Linux) to download.

Alternatively, the University of Pittsburgh has a full-featured version of Matlab available for students to install on their personal computers for $5. One may pick up a copy in person at Software Licensing Services (SLS), 204 Bellefield Hall. Matlab is also accessible at any of the University computer labs.

Grading Policy:

Midterm exam:	35% (17.5% each)
Final exam:	25%
Homework:	20%
Projects:	20%

Academic Integrity: All students are expected to adhere to the standards of academic honesty. Any student engaged in cheating, plagiarism, or other acts of academic dishonesty will be subject to disciplinary action. Any student suspected of violating this obligation for any reason during the semester will be required to participate in the procedural process, initiated at the instructor level, as outlined in the University Guidelines on Academic Integrity http://www.provost.pitt.edu/info/ai1.html. This may include, but is not limited to the confiscation of the examination of any individual suspected of violating the University Policy.

Disability Services: If you have a disability, contact both your instructor and the Office of Disability Resources and Services (DRS), 216 William Pitt Union, 412-648-7890/412-383-7355 (TTY) as early as possible in the term. DRS will verify your disability and determine reasonable accommodations for this course.

Statement of Classroom Recording: To ensure the free and open discussion of ideas, students may not record classroom lectures, discussion and/or activities without the advance written permission of the instructor, and any such recording property approved in advance can be used solely for the student's own private use.