MATH 235 – Mathematical Models and Their Analysis
Spring 2013

Class website: http://www.cems.uvm.edu/~tlakoba/AppliedUGMath
Textbook: None. Use lecture notes posted on the class website.
Class Meets: 254 Votey, MWF 12:50 – 1:40 p.m.
Instructor: Dr. Taras I. Lakoba
Mathematics & Statistics Bldg. (16 Colchester Ave.), Room 405
656-2610, tlakoba@uvm.edu
Office Hours: M & W: 2:00 – 3:00 p.m., Th: 1:30 – 3:30 p.m., and by appointment.
Important deadlines: Add/Drop and Pass/no Pass: Monday, January 28; Class withdrawal: Friday, March 29.

Class objectives: You will learn how the material from undergraduate Calculus and Linear Algebra is used by scientists and engineers in their research related to applied mathematics. You will also practice giving presentations to the audience of your peers.

Computer work: You are encouraged (and expected) to use Mathematica for some of your calculations. Some assignments will require running Matlab codes; however, no prior experience with Matlab is expected.

Projects: There will be two projects, a midterm and a final. The midterm project (whose exact date will be announced at least two weeks in advance) will be mostly based on a review paper about basic mathematics behind Google’s search engine, but may also include additional material. This will be a class project in that the presentation material will be divided among the students, and each student will have to present only his or her part. However, each student will be required to coordinate his or her presentation with those of the other students. You will be graded on both the content and the style of your presentation.

For your final project, you will be required to find and read a paper, either of your own choice or from the list of journals suggested by the instructor, and make a presentation about it to the class. (In some cases, I may allow two students to give presentation on different parts of the same paper.) The paper has to be related in some way to applied mathematics. Your goal will be to convey the main results of the paper and demonstrate that you were able to follow its calculations.

The official date for the final presentation is Friday, May 10, at 10:30 a.m. – 1:15 p.m. in 254 Votey, but we may have to spread it over more than one day to accommodate all the speakers.

Practicing your presentations: An important objective of this course is to teach you to give presentations. Therefore, you will be required to rehearse each of your two talks in front of me. This way you can incorporate my feedback to improve your presentation. If you fail to meet with me for a rehearsal, I will automatically lower your final grade by one level (e.g., from B to B-) per occasion. This will occur irrespective of the grade that you will receive for your presentation.

Grading Policy: Homework: 45%, Midterm project: 25%, Final project: 30%.

Academic integrity: You are expected to read and understand the UVM Academic Honesty policy, found at http://www.uvm.edu/~uvmppg/ppg/student/acadintegrity.pdf .

You are always encouraged to ask me for help outside of class. You may also work with other students on homework problems within the limitations described on the course website (you should read that document before you do your very first homework). Briefly speaking, you may figure out the idea of the solution to a problem together. However, the details of the solution that you submit must be written entirely on your own without consulting any outside source. Violations of this rule will be considered academic cheating and dealt with accordingly.

Special accommodation: Students with disabilities who require special accommodation must notify the instructor of their needs within the first two weeks of the semester. They must also provide a formal letter from the Office of Specialized Student Services.