MATH 241  
Summer 2011, session II

**Instructor:** Eric O. Korman  
Office: DRL 3N2A (this is near the mathematics library)  
ekorman@math.upenn.edu  
http://www.math.upenn.edu/~ekorman/

**Office hours:** TBD

**Text:** Zill and Cullen, *Advanced Engineering Mathematics, 3rd Edition*

**Material:** Sturm-Liouville problems, orthogonal functions, Fourier series, and partial differential equations including solutions of the wave, heat and Laplace equations, Fourier transforms, introduction to complex analysis.

**Grading:**  
Midterm (July 14): 25%  
Final (August 11): 25%  
Project: 25%  
Homework: 15%  
Participation/attendance: 10%

**Project:** The material covered in this course has important applications to nearly every branch of science and engineering, to mathematics itself, and even less scientific disciplines (e.g. music theory). The project will be a presentation or paper (your choice) on an application of the material we cover to a topic of your interest. Later in the course I will provide some example topics (though you are encouraged to come up with your own or talk to people in your department).
Written projects will be due on Monday August 8. Presentations will be at the last 15 minutes of class starting on week three (or later depending on how many people want to give presentations). I will pass around a sheet during the second week to sign up for a slot.

**Structure:** There will be homework assignments due every Tuesday in lecture. Monday's class time will be split between lectures and a recitation session where I will answer questions regarding the homework that is due the next day. Occasionally there will be in-class group work. There is a calendar on my website that is a tentative schedule for the material covered in lecture.

**Homework:** The homework due on Tuesday will be all of the core problems from all of the sections covered the previous week, except those that require Maple (unless I say otherwise). You are allowed to work with others on the homework but you must write up your own solutions.

**Participation/attendance:** The participation part of this grade comes from the group assignments as well as being active in lectures. If you come to class almost every day, ask a few questions during lecture/recitation, participate in the group work, and don’t fall asleep, you will get full credit for this part of your grade.

**Makeup policy:** Absolutely no late homeworks or projects will be accepted unless you talk to me about it beforehand. Similarly, there will be no makeup exams unless you get my permission in advance.

**How to succeed in this course:** This is a very demanding and challenging course. However, the steps to succeed are straightforward: participate actively in lectures, attempt every homework problem before Monday, bring up any problems you had during the recitation time, come to office hours when confused, and do not try to cram before the homework assignments or exams. I strongly encourage you to do problems in the text book in addition to the ones assigned for homework. In six weeks we will be covering what is normally covered in an entire semester. Therefore it will be very difficult to get caught up if you fall behind.