Math 242: Principles of Analysis  
Fall 2016  
Professor Levandosky

Course Web Page. http://mathcs.holycross.edu/~spl/242/

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Teaching Assistant. Emily Winn. Office Hours: TBA

Class Meetings. MWF 1:00 in Swords 321.

Required Text. An Introduction to Analysis, by Bilodeau, Thie and Keough. We will cover material from chapters 1 through 7.

Course Description. This course is both an introduction to real analysis and an introductory course in proof writing. The main goal of the course is to develop skills in reading and writing mathematical proofs. These skills will be applied in the context of establishing a rigorous development of the theory of single variable calculus. This course is unlike introductory mathematics courses in that there is much less emphasis on calculation. Rather, much of the course will consist of learning how to write proofs. We will begin by looking at the axioms of the real number system that form the basis for all of the results of single-variable calculus. We will then study several topics in calculus in detail: sequences of real numbers and their convergence properties, infinite series, functional limits, derivatives, integrals, power series, and uniform convergence. The purpose of this study is less about what the results of calculus are (because you already learned most of them in your calculus courses), but why they are true.

Homework. There will be weekly homework assignments. Assignments should be handed in at the beginning of class on the due date. Late work will not be accepted. You may discuss the homework problems with each other. However, anything you hand in should be written in your own words. You may not copy answers from each other. Assignments should be neatly written and stapled.

Quizzes. There will be weekly quizzes given on the due date of each homework assignment. The focus of each quiz will be on statements of the main definitions and theorems covered that week.

Exams. There will be three midterm exams and a final exam. The midterm exams will be held from 5:30pm to 7:00pm. Please let me know as soon as possible if you have a conflict with any of the exam times.
  
  Exam 1: Tuesday, September 27, 5:30pm-7:00pm  
  Exam 2: Tuesday, October 25, 5:30pm-7:00pm  
  Exam 3: Tuesday, November 15, 5:30pm-7:00pm  
  Final Exam: Wednesday, December 14, 11:30am to 2:00pm

Grades. Grades will be calculated using the following system. Your lowest midterm score will be worth 15%, the other two midterm scores will each be worth 20% each, homework will be worth 10%, quizzes will be worth a total of 10% and the final exam will be worth 25%.