Math 420: Advanced Calculus  
Spring 2009

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Section 1  
MWF 10–10:50 AM  
304 Koch Center  
http://faculty.evansville.edu/ct55

Course Description. From the catalog: “Provides more formal treatment of topics in elementary calculus, including limits, continuity, differentiability, integrability and infinite series, with emphasis on precise definitions and proofs of theorems.” Our goal will be to rigorously establish the Fundamental Theorem of Calculus. If time allows, we will examine power series and Taylor polynomials. Prerequisite: Mathematics 323.

Course Objectives. The goals of the course are to help students deepen conceptual understanding of calculus; expand the ability to read and understand mathematical writing; develop critical thinking and problem solving skills; and communicate mathematics, both in written proof and oral presentation.

Required Text. Patrick M. Fitzpatrick, Advanced Calculus, 2nd edition, Thomson, Brooks/Cole, 2006. We will cover most of chapters 1–4 and 6 (plus selections from chapters 8 and 9, as time allows). Reading assignments, as well as exercises, will be given from the text. You are expected to read the text regularly and to read sections before they are covered in class.

Office Hours. I will be in my office Monday, Wednesday and Friday from 3–5 PM and Tuesday from 10–noon and 1–3 PM; additional times can be arranged by appointment.

Exams. There will be three in-class exams, worth 70 points each. Dates will be announced at least two weeks in advance. A cumulative final, worth 90 points, is scheduled for Tuesday, May 5 at 12:30 PM.

Homework. Homework problems will make up a considerable portion of the course. Problems will be assigned regularly from the text. There will be five written assignments worth 50 points each. Handwritten solutions are acceptable, but if you foresee a lot of technical writing in your future, you may wish to learn to use LaTeX, a free mathematical typesetting software package. Supplementing the written assignments, students will regularly be asked to present solutions to exercises at the board. The presentations will be worth a total of 50 points. While not every problem will be submitted for a grade or presented in class, completion of the assigned problems is essential to success in the course. You will see these problems on the exams.
Attendance. Regular attendance is expected. You are responsible for any information (including announcements) that you miss. The course website will have up-to-date information. Arriving late or leaving early, reading the newspaper, text-messaging, etc., disrupts the class and is rude and unprofessional.

Computer Use. The computers in the classroom are only to be used during class when students are instructed to do so, and only the application students are instructed to use should be opened. There is to be absolutely no web-browsing, instant messaging, e-mailing, working on computer assignments for other courses, or other use of the computers during class. Each unauthorized use of the computer during class time will result in a 5 point deduction from the next exam; this is your first and only warning. Using the computers at inappropriate times distracts both your classmates and your instructor.

Course Grades. Your grade in the course will be based on the 600 points described above. The class will be graded on a ten point scale; pluses and minuses will be influenced by such factors as attendance and participation.

Make-up Policy. An opportunity to make up missed work will only be granted in the event of a documented emergency or illness. A make-up will not be granted, if I am not contacted prior to the exam. If you anticipate a conflict with an announced exam, speak with me before the scheduled date.

Extra Credit. There will be no extra credit assignments.

Academic Honesty. Cheating will not be tolerated. We will follow the University’s honor code, which reads “I will neither give nor receive unauthorized aid, nor will I tolerate an environment which condones the use of unauthorized aid.” Collaboration on homework assignments and projects is encouraged; note that work to be submitted for a grade should be your own and not copied from a fellow student.

Students with Disabilities. It is the policy and practice of the University to make reasonable accommodations for students with properly documented disabilities. Written notification to faculty from the Office of Counseling and Health Education is required for any academic accommodations. If you are eligible to receive an accommodation and would like to request it for this course, please discuss it with me and allow two weeks notice. If you have questions about services for students with disabilities or procedures for requesting services, you may contact the Office of Counseling and Health Education at 488-2663.

Disclaimer. I reserve the right to change the dates and policies outlined above at my discretion. Any changes will be announced well in advance.