



Advanced Calculus

MA 471G–001

Fall Semester 2013

Classroom: 341 Whitehall Classroom Building

Time: MWF 9:00–9:50 AM

Professor: Dr. David Royster

Office: Patterson Office Tower 759

Office Hours: MWF 10:00–12:00 or by appointment

Office Phone: 859–257–1258

email: david.royster@uky.edu

URL: <http://www.msc.uky.edu/droyster>

Class Homepage:

<http://www.msc.uky.edu/droyster/courses/fall13/MA471> and

on Blackboard <http://elearning.uky.edu>

Text: *Understanding Analysis, 2ed*, Stephen Abbott, Springer, ISBN: 978-1441928665.

Prerequisites: Consent of the Department

Objective: We are going to study the mathematics behind the tool of Calculus. Why does it work the way it does? What could go wrong? How do we keep things from going wrong? We will provide rigorous proofs of many of the results from Calculus and look at many examples of why rigorous proofs are necessary for us mathematicians.

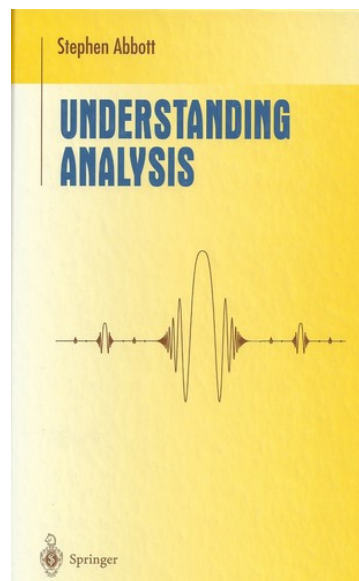
Tests: We will have homework and 4 exams. The schedule indicates that the time for the Final Exam is Tuesday, Dec 17 from 08:00 AM – 10:00 AM. We are required to meet during this time by University policy.

Grades: You will be able to obtain a maximum of 500 points in this class, divided as follows:

Four hour exams @ 100 points each	400 points
Homework	200 points
Total	600 points

Your grade will be based on the number of points you earned according to the following scheme:

Total Points	540–600	480–539	420–479	360–419	0–359
Final Grade	A	B	C	D	E



Mid-term Grades: Mid-term grades will be posted in myUK by the deadline established in the Academic Calendar (<http://www.uky.edu/Registrar/AcademicCalendar.htm>)

Purpose: The purpose of this course is twofold. First, in this course you are introduced, or re-introduced, to the method of *Mathematical Proof*. We will be working with the badly behaved set of real numbers. The purpose here is for you to learn how to prove theorems and develop examples and counterexamples in the real of the functions of one real variable.

Class Policies: There are several policies to which you must pay heed.

- i) Attendance is extremely important in a class of this level. If you feel that you do not need to attend this class, you are in the wrong classroom—go find a course in which you will be challenged and in which you will learn something new.
- ii) You are allowed one unexcused absence and one excused absence in this course. Any absences beyond this will have an impact on your grade for the course.
- iii) You have been given a day-by-day course syllabus. You NOW KNOW when we have class and when we do not have class. I expect you to be here on all days that we have class.
- iv) I will not accept late homework. If for some reason you miss a class and it is excusable, see me as soon as possible to discuss the situation.
- v) Academic dishonesty will be punished severely. Be cognizant of Article II of the *Student Code of Conduct*.
- vi) Be on time to class and remain until dismissed. Do not leave in the middle of class.

Inclement Weather Policy: The University of Kentucky Severe Weather Policy can be found at http://www.uky.edu/PR/News/severe_weather.htm. The UK Infoline at (859) 257-5684, UK TV Cable Channel 16 and 19, or the UK Web site at www.uky.edu are the best places to find the most up-to-date situation. In the event that we have *inclement weather*¹ but the University does not close or cancel classes, and I have to cancel the class, a message to that effect will be left on my voicemail (859–257–1258) and I will email every member of the class (if I have access to email).

If you feel that travel during *inclement weather* would be hazardous, then try to inform me as soon as safely possible. You will be given the opportunity to make up any work missed or due on that day. As always, each student is responsible for any work missed and will be expected to get the notes from another student or from the web.

Excused Absences: Students need to notify the professor of absences prior to class when possible. **Senate Rule 5.2.4.2** defines the following as acceptable reasons for excused absences: (a) serious illness, (b) illness or death of family member, (c) University-related trips, (d) major religious holidays, and (e) other circumstances found to fit “reasonable cause for nonattendance” by the professor.

Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of

¹ Snow, ice storm, high and dangerous winds – not heavy frost.

such holidays no later than the last day in the semester to add a class. Information regarding dates of major religious holidays may be obtained through the religious liaison, Mr. Jake Karnes (859-257-2754).

Students are expected to withdraw from the class if more than 20% of the classes scheduled for the semester are missed (excused or unexcused) per university policy.

Verification of Absences: Students may be asked to verify their absences in order for them to be considered excused. *Senate Rule 5.2.4.2* states that faculty have the right to request “appropriate verification” when students claim an excused absence because of illness or death in the family. Appropriate notification of absences due to university-related trips is required prior to the absence.

Accommodations due to disability: If you have a documented disability that requires academic accommodations, please see me as soon as possible during scheduled office hours. In order to receive accommodations in this course, you must provide me with a Letter of Accommodation from the Disability Resource Center (Room 2, Alumni Gym, 257-2754, email address: jkarnes@email.uky.edu) for coordination of campus disability services available to students with disabilities.