Advanced Calculus I – Fall Semester 2016
Syllabus

MWF 10:30–11:20 MSCS 422

Instructor:	Dr. Anthony Kable
Office:	MSCS 521
Office Hours:	M 3:30 – 5:00, W 2:00 – 3:00 in MSCS 521
MLSC Hours:	R 2:00 – 4:00 in the North Tutoring Room
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The textbook is *Real Mathematical Analysis* by Charles Chapman Pugh. We will use the 2015 edition, which is available for <u>free download</u> from the OSU library as a pdf. I suggest you use it in this form, although you can order a printed-on-demand paper copy if you wish. The material that properly belongs to Advanced Calculus begins in Chapter 2 of the book, but it may prove necessary to review parts of Chapter 1. Ideally, we would cover much of Chapters 2 – 4, as well as some additional material.

The course focuses on some of the basic structures and methods of analysis. This material is fundamental both for those who intend to proceed to further study of mathematics and those who will make serious use of mathematical analysis in applications. The presentation will follow the standard mode that is used in modern mathematics and will, at times, be abstract and axiomatic. Some facility with handling systems of axioms and writing quasi-formal proofs will be assumed.

One goal of the course is to help you to develop your skill at mathematical problem-solving. Successfully solving the assigned problems is the single most important activity related to the course. It will demand a large and unpredictable commitment of time each week. You should begin to think about each assigned problem as soon as possible, since insight and creativity cannot be rushed. I recommend that you work on the problems alone, in order to maximize the benefit that you derive from solving them. Your solutions will be graded for clarity, simplicity, and appropriateness of expression, as well as for correctness.

There will be regular homework assignments, worth 50% of the grade in total, and two preliminary exams, worth 25% of the grade each. The preliminary exams are likely to have both an in-class and an out-of-class component. In prefinals week, I shall report your grade based on this work. A final exam will be offered on request to anyone who wishes to improve this grade. The grade on the final exam will replace the previously-earned grade if it is higher; otherwise, it will make no difference. If necessary, the final exam will be held in MSCS 422 on Monday, December 5, from 10:00–11:50. I will follow the 90%/80%/70%/60% system for assigning letter grades, with discretion for close cases.