\[ \int_{0}^{1} f(x) \, dx \]

MATH 3321/01 Analysis I (BS track)
Fall 2016 Syllabus
MWF 11:00-11:50, Gasson 208

Instructor: Mark Reeder, Maloney 519, reederma@bc.edu. Office Hours M 2-3, T 3-4, F 2-3, and by appointment. Email is good for quick questions and hints.

Course Assistant: W. Spencer Leslie, Maloney 534, lesliew@bc.edu. Office Hours MTW 9:30-10:30


Course Topics: This is the first semester of a rigorous two semester course in Real Analysis. This semester will cover most of the first three chapters of the text, and parts of chapter four if time permits. The main topics are

- Axiomatic definition and construction of the real numbers
- Cardinality (levels of infinity)
- Topology of the real line and more general metric spaces
- Rigorous proofs of the main theorems of Calculus (Intermediate value, max/min, existence of Riemann integral, Fundamental Theorem)
- Sequences and series of numbers and functions.

Prerequisites: Introductory Calculus of one and several variables is assumed. The most important prerequisite is an introductory course in rigorous proofs, such as MATH2216.

Homework: It will be assigned and collected every week, approximately. HOMEWORK WILL NOT BE ACCEPTED AFTER THE DAY IT IS DUE. Your lowest homework score will not count, so missing one assignment will not harm your grade. You can discuss homework problems with others, but the solutions you type up and hand in should be your own work. Copying directly from someone else will be considered a violation of academic integrity. Your homework must be typed in \LaTeX (see course website).

Exams: We will have two in-class exams on **Wed Oct 5** and **Wed Nov 16**, along with a final exam **Saturday Dec 17 at 12:30 pm**.

Make-up policy Unexcused absence from an exam results in a zero score. If you have a legitimate reason for missing an exam, you must arrange to take the exam before the scheduled day of the exam. If you are sick the day of the exam, or have a family emergency, etc. go to Health Services or your dean’s office; they will provide me with documentation of your illness or emergency.

If you are a student with a documented disability seeking reasonable accommodations in this course, please contact Kathy Duggan, (617) 552-8093, dugganka@bc.edu, at the Connors Family Learning
Center regarding learning disabilities and ADHD, or Paulette Durrett, (617) 552-3470, paulette.durrett@bc.edu, in the Disability Services Office regarding all other types of disabilities, including temporary disabilities. Advance notice and appropriate documentation are required for accommodations.

**Grades:** The scores are weighted as follows.

- Homework: 30%
- Exams: 20% each
- Final: 30%

Thus, at the end of the course you will receive a number $N$, using this formula:

$$N = \left( \frac{3}{10} \times \text{HW \%} \right) + \left( \frac{2}{10} \times \text{Exam 1 \%} \right) + \left( \frac{2}{10} \times \text{Exam 2 \%} \right) + \left( \frac{3}{10} \times \text{Final \%} \right)$$

Your grade will be determined by your value of $N$, based on the following two rules:

1) Any student with the highest $N$ gets an $A$.

2) Students with nearby $N$'s receive nearby grades.