Mathematics 3320.01
Introduction to Analysis
Fall, 2025
Gasson 303, MWF 12–1
Rob Gross

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Office Hours: Monday, 2–3, Wednesday, 2–5, and by appointment
Electronic mail: gross@bc.edu
Class home page: http://fmwww.bc.edu/gross/MATH3320
Alternative: http://sites.bc.edu/rob-gross/MATH3320
Text: *Elementary Analysis: The Theory of Calculus*, by Kenneth A. Ross, second edition
Prerequisites: Multivariable Calculus (MATH2202) and Introduction to Abstract Mathematics (MATH2216).

This course gives students the theoretical foundations for the topics taught in Calculus. It covers algebraic and order properties of the real numbers, the least upper bound axiom, limits, continuity, differentiation, the Riemann integral, sequences, and series. Definitions and proofs will be stressed throughout the course.

Students may not take both MATH3320 and MATH3321.

Homework

Homework will be assigned and collected weekly, usually on Fridays. If you wish to turn in any homework longer than one page, *you must use a stapler*. Folding the edges of the pages over is unacceptable. Paper clips are also not acceptable. This rule makes grading homework much faster.

You may not work together on homework assignments, and you may not use artificial intelligence to solve homework problems. You should feel free to see me during office hours, or e-mail me for help when you are stuck on problems. Many of the homework problems can require days to solve, so you should not wait until Thursday evening to read the assignment.

All homework submitted in this class must be typeset in some way. Microsoft Office, Google Docs, and similar word processors are acceptable, but not the best way to type mathematics. I strongly suggest that you install some version of LaTeX on your computer and learn how to use it.

Macintosh users can download MacTeX at http://www.tug.org/mactex. Windows users can download MikTeX at http://miktex.org. There is plentiful documentation included in either of those downloads, but it is buried deep in various folders. One helpful guide is *The Not So Short Introduction to LaTeX 2ε*, available at http://tobi.oetiker.ch/lshort/lshort.pdf. The Wikipedia entry for LaTeX has links to many other introductory articles, including an excellent Wikibook at http://en.wikibooks.org/wiki/LaTeX. A graphical interface called LyX is available at http://www.lyx.org.

As you prepare your solutions, I suggest that you store a copy on Google Drive, and also mail a copy to yourself every time you made any changes. Flash drives have been known to fail, and hard drives, particularly on laptops, are also less reliable than you might think.

Grades

There will be three examinations during the semester, tentatively scheduled for Wednesday, September 24; Monday, October 27; and Friday, December 5. The three examinations count for 18%, 20%, and 22% of your grade, respectively. The final examination counts for 30% of your grade. Homework and class participation counts for the remaining 10% of your grade.

The final examination for MATH3320.01 is scheduled for Wednesday, December 17, at 9AM. Note that this time is fixed by the Registrar, and cannot be altered.

Academic Integrity

Any violations of the College's policy on academic integrity will be dealt with severely. For more information, see

`https://www.bc.edu/bc-web/academics/sites/university-catalog/policies-procedures/academic-integrity.html`

Make sure that the work you submit is in accordance with university policies. If you have any questions, please consult with me.

Note: 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 the Disability Services Office, (617-552-3470, `disabsrv@bc.edu`) regarding other types of disabilities, including temporary disabilities. Advance notice and appropriate documentation are required for accommodations.