

MATH4426, Sections 1 and 2: Probability
Fall, 2023
Rob Gross
Gasson 302, 1PM and 2PM

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OFFICE HOURS: Monday, noon–1; Wednesday and Friday, 3–5; and by appointment

ELECTRONIC MAIL: gross@bc.edu

CLASS HOME PAGE: <http://fmwww.bc.edu/gross/MATH4426>

ALTERNATIVE: <http://sites.bc.edu/rob-gross/MATH4426>

TEXT: *A First Course in Probability*, by Sheldon Ross.

This course provides a general introduction to modern probability theory. Topics include

- Probability spaces.
- Discrete and continuous random variables.
- Joint and conditional distributions.
- Mathematical expectation.
- The Central Limit Theorem.
- The Weak and Strong Laws of Large Numbers.

Prerequisites for this course are a working knowledge of the techniques of both single-variable and multi-variable calculus. Knowledge of the basics of abstract mathematics as taught in MATH2216 is also very helpful.

Academic Integrity

You may share ideas when working on homework assignments, but you should write up your solutions individually. Working together is good; copying someone else's work is plagiarism. Any violations of the College's policy on academic integrity will be dealt with severely. For more information, see

https://www.bc.edu/content/bc-web/academics/sites/university-catalog/policies-procedures.html#tab-academic_integrity_policies

Homework

Homework typically will be assigned and collected weekly. If you wish to turn in any homework longer than one page, **you must use a stapler**. Paper clips are not acceptable. Folding over the corner of the page is not acceptable. I typically will distribute an answer key when homework is due, and cannot give credit for work submitted after the answers are available.

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 Mac \TeX at <http://www.tug.org/mactex>. Windows users can download Mik \TeX 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 2 ϵ* , available at <http://tobi.oetiker.ch/lshort/lshort.pdf>. The Wikipedia entry for \LaTeX has links to many other introductory articles, including an excellent Wiki-book 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.

Examinations

There will be three examinations during the semester, tentatively scheduled for Monday, September 25; Monday, October 30; and Wednesday, December 6. The final examination for MATH4426.01 is scheduled for Wednesday, December 13, at 12:30 PM. The final examination for MATH4426.02 is scheduled for Friday, December 15, at 12:30 PM. Note that the final examination schedule is fixed by the Registrar, and cannot be altered.

Grades

The three examinations count for 18%, 20%, and 22% of your grade. The final examination counts for 30% of your grade. Homework will account for the remainder.

Learning Disabilities

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.