

MATH4426: Probability
Fall, 2020
Rob Gross

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OFFICE HOURS: Monday, Wednesday, and Friday, 1–2, and by appointment, via computer

ELECTRONIC MAIL: gross@bc.edu

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

or

<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, including infinite series and multiple integrals. Knowledge of the basics of abstract mathematics as taught in MATH2216 is also very helpful.

Academic Integrity

You may compare your numerical answer to a homework problem with your friend's answer, to see if your answers agree. Otherwise, you should ask me for help, and you should write up your solutions individually. 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

<http://www.bc.edu/integrity>

Recording

This class will be recorded to assist students enrolled in the class who are in another time zone or who miss class because of illness or technological problems. These recordings are a resource for all students who would like to review the material covered in class. All recordings will be protected by a password and will only be available for viewing by members of this course. Students may not record or stream video or audio, or share portions of any recorded video or audio of the class with anyone outside the class except with the written permission of the instructor and such other permissions as may be required by law or University policies.

Homework

Homework typically will be assigned and collected weekly. All homework submitted in this class must be typeset in some way and submitted as a PDF file. Microsoft Office, Google Docs, or 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 L^AT_EX 2_ε, available at <http://tobi.oetiker.ch/lshort/lshort.pdf>. The Wikipedia entry for L^AT_EX 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>.

Examinations

There will be three take-home examinations during the semester, tentatively scheduled to be distributed on Friday, October 2; Friday, November 6; and Friday, December 4, and due three days later. The take-home final examination for MATH4426 is due on Wednesday, December 16, assuming that there are no changes in the academic calendar.

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.

Wellness

If you are feeling stressed, or having challenges managing your time, sleep, or making choices around alcohol and food, the Office of Health Promotion offers Wellness Coaching appointments to support your health and well-being. Please use the OHP website to schedule a virtual meeting with a staff member or Wellness Coach, and to find health and wellness information. Be Well.