

# STAT 341 -- Introduction to Probability and Statistics, Spring 2021

## Contact information

- Instructor: Cory Palmer
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- Office hours: TBA

## Course description

Probability, probability models and simulation, random variables, density functions, special distributions, and a brief survey of estimation and hypothesis testing. Computer use integrated throughout.

## Learning outcomes

1. To understand basic probability, counting and combinatorial methods, and Bayes' Theorem.
2. To understand and use the Law of Large Numbers and the Central Limit Theorem.
3. To learn about models for discrete and continuous random phenomena and to apply these models to real problems.
4. To learn to simulate random phenomena in R or other computer language.

## Class schedule

MWF: 2:00-2:50 PM. Lectures will be broadcast synchronously via zoom (link in email) and will be recorded and posted to Moodle. Some of you may have quick turnaround between in-person and remote courses. The university has set up remote learning spaces on campus. More information should be posted here: [https://www.umn.edu/umonline/keep\\_on\\_learning/default.php](https://www.umn.edu/umonline/keep_on_learning/default.php).

Here are some tips for taking an online course and making it a successful experience:

<https://www.northeastern.edu/graduate/blog/tips-for-taking-online-classes/>

## Textbook

*A First Course in Probability*, by Sheldon Ross. Any edition/format is fine.

## Homework

Homework will be assigned (roughly) every week. You may work in groups on the homework, but be sure to write up your own answers. Late homework will only be given partial credit and may not be given feedback. As a courtesy for unforeseen circumstances one homework grade will be dropped. Homework missed due to illness, etc (with proper documentation) will also be dropped. Homework will be graded both on correctness and clearness of arguments. Work that is too difficult to follow may be marked off. Homework will be submitted online through: <https://gradescope.com> (entry code in email).

## Simulation

A number of the homework exercises will require some simulation. You are **strongly** recommended to use the language R for this purpose as it is especially suited for statistical computing and used in later statistics courses. You can find R here: [r-project.org](http://r-project.org). In-class simulation will be done in R.

## Exams

There will be three exams (one of which will serve as the final exam). These exams are open book and open notes, but with no outside help from other sources or individuals (online or otherwise).

## Final exam

The final exam is scheduled for 3:20-5:20 PM, Monday, April 26.

## Grading

Your grade will be composed of: 30% homework and 70% from the three exams. Letter grades and +/-s will be assigned according to the standard scale.

## Class website

Homework assignments will be posted to gradescope. Recorded lectures and assigned readings will be posted to Moodle.

## Accommodations

The University of Montana assures equal access to instruction through collaboration between students with disabilities, instructors, and Disability Services for Students. If you think you may have a disability adversely affecting your academic performance, and you have not already registered with Disability Services, please contact Disability Services in Lommasson Center 154 or 406.243.2243. I will work with you and Disability Services to provide an appropriate modification.

## Academic honesty

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or a disciplinary sanction by the University. All students need to be familiar with the [Student Conduct Code](http://life.umt.edu/vpsa/student_conduct.php) ([http://life.umt.edu/vpsa/student\\_conduct.php](http://life.umt.edu/vpsa/student_conduct.php)).

## Registration deadlines

Full registration deadlines can be found online on the [registrar calendar](http://www.umt.edu/registrar/calendar.php) (<http://www.umt.edu/registrar/calendar.php>).