

**MATH 135A: PROBABILITY
COURSE SYLLABUS
UC DAVIS, SPRING 2020**

1. SUMMARY

- Course instructor: Dan Romik (contact details [here](#))
- Teaching assistants: Ander Aguirre (section A01), Matthew Litman (section A02), Haolin Chen (section A03) (contact details [here](#))
- Course reader: Olivia Bailey
- Course lectures: MWF 4:10-5
- Discussion section: T 5:10-6 (section A01), T 7:10-8 (section A02), T 5:10-6 (section A03)
- Final exam date: Tuesday, June 9
- Mode of instruction: all course meetings (lectures, discussion sections, office hours) will be held online until further notice. Details will be posted on the [course Canvas page](#).

2. COURSE PREREQUISITES

- MAT21C and one of either MAT108 or MAT25 or MAT127

3. COURSE TEXTBOOK

- The course will be based on the free text *Lecture Notes for Introductory Probability* by Janko Gravner. The text can be downloaded at <https://www.math.ucdavis.edu/~gravner/MAT135A/resources/lecturenotes.pdf>

4. COURSE DESCRIPTION

It can be said that probability is to 21st century mathematics, science and engineering as calculus was to the scientists and engineers of prior centuries: an indispensable tool in any modern technological or scientific discipline. Probabilistic thinking and intuition can also be very useful to ordinary people in their daily lives and can help all of us make better decisions about finance, investing, our professional studies and careers, health care decisions, romantic relationships, and — it does not seem too much of an exaggeration to claim — essentially every other aspect of modern life.

The main goal of this course is to teach you the basics of probability and the probabilistic way of thinking. This will be done through a mathematical approach that emphasizes rigor, precision and generality. We will also use many examples to illustrate the abstract ideas from the mathematical theory of probability in applied situations involving gambling and games of chance, medicine, the law, and more.

A complete list of topics can be found in the mathematics department's [general syllabus for the class](#). We will cover roughly Sections 1–8 in Prof. Gravner's lecture notes; perhaps more, if time allows.

5. GRADING POLICY

The final course grade will be assigned based on a weighted average of the following components:

- **Homework**, to be assigned weekly — **35%** of the grade. The two lowest weekly assignment grades will be dropped in the calculation of the homework component of the grade.
- **Quizzes**, to be assigned every other week — **40%** of the grade. The lowest quiz grade will be dropped in the calculation of the quiz component of the grade.
- **Final exam**. The final exam will be held on Tuesday June 9 (at 1-3 PM nominally according to the official exam schedule; in case of a take-home exam the time window may end up being shifted or extended) — **25%** of the grade.

The weighting described above is the default grading scheme. To allow you more opportunity to do well in the class, a different scheme that may apply is:

- **Final exam turbo-boost**. The final exam score can be given a weight of **35%** instead of 25% in the final grade calculation, with the weighting of the other two grade components being reduced proportionally, if this will result in a higher score compared to the default weighting scheme described above.

Letter grades. At the end of the course, the weighted average of the different grade components calculated according to the schemes described above will result in a numerical score (measured in percentages). The precise translation of this numerical score to a letter grade will be decided at the end of the quarter, but the following lower bounds will apply for the letter grade cutoffs:

A final numerical score of 90% or higher guarantees you a final grade of at least A-; a final numerical score of 80% or higher guarantees you a final grade of at least B-; a final numerical score of 70% or higher guarantees you a final grade of at least C-; a final numerical score of 60% or higher guarantees you a final grade of at least D-.

6. OTHER COURSE POLICIES

- **Late homework.** Late homework will generally not be accepted except under exceptional circumstances. If you need an extension, contact your TA *before* the deadline has passed and provide a detailed explanation of the reason why you cannot submit the homework on time.
- **Missed quizzes and final exam.** Missing a quiz or the final exam will lead to a grade of 0 in the quiz/exam in question except under exceptional circumstances. Make-up quizzes and exams will not be given. If you are unable to submit a quiz or to complete the final exam for any reason, let the course instructor or your TA know immediately and provide a detailed explanation of the situation.
- **Ethics policy.** All assignments you submit for the course must be your own work. For homework assignments, you may work on the homework collaboratively with your friends, but the work that you hand in must be physically written in your own hand (or typed by you) and in your own words. For quizzes and exams, no collaboration or cooperation of any sort is allowed.

Failure to adhere to these guidelines would be considered by me as a violation of the [UC Davis Code of Academic Conduct](#) and warrant, at minimum, a failing grade in the assignment in question and a referral to Student Judicial Affairs.

To put the above in more human terms: don't cheat; treat the course instructor and TA and your fellow students as you would like to be treated. This quarter promises to be an unusual one that none of us will forget soon. We owe one another as much kindness and honesty as possible in this difficult time.

7. STUDENTS WITH DISABILITIES, ACCESSIBILITY NEEDS, SPECIAL SITUATIONS

If you are entitled to some form of accommodation, e.g., based on a documented disability, please let me know as soon as possible so that we can discuss any relevant logistical details.

Note that most forms of accommodation such as extra time on the final exam can only be provided based on explicit prior approval by the campus's [Student Disability Center](#). So make sure to discuss your situation with them in a timely manner.

If you have any accessibility needs related to remote learning or other special difficulties related to the COVID-19 pandemic (time zones, geographical location, difficult living situations, internet access, or anything else that might affect your studying), please contact the instructor to discuss this as soon as possible.

8. CONTACT DETAILS

Here are our email contact details in case you have questions. For minor issues, contact your TA first before contacting the course instructor.

- Dan Romik: `romik@math.ucdavis.edu`

- Ander Aguirre: aaguirre@ucdavis.edu
- Matthew Litman: mclitman@ucdavis.edu
- Haolin Chen: hlnchen@ucdavis.edu