Classroom: Virtual
Time: Section 01: Th 9:00am - 10:15am
Section 02: Th 10:30am - 11:45am

Instructor: Jingchen (Monika) Hu
Office: Virtual
Phone: 845-437-7838
Email: *jihu@vassar.edu*
Office hours: Tuesdays 10:00-11:30am & Wednesdays 10:00-11:30am, or by appointment.
Office hour link: click

Course overview: In this course, we will cover probability spaces and random variables, common probability distributions, joint distributions, and properties of expectation; and culminate with the laws of large numbers and a central limit theorem. With adequate understanding of these topics, one can go on to take MATH 341 Statistical Inference, MATH 347 Bayesian Statistics, and MATH 348 Statistical Principles for Research Study Design.

Prerequisite: MATH 126 and MATH 127 (i.e. Calculus II; equivalent to AP Calculus AB & BC)
Textbook: *A First Course in Probability, 9th Edition*, by Sheldon M. Ross, Prentice Hall (earlier or later edition is fine)

Website: Vassar's Moodle. It is your responsibility to check the site for homework, readings, and announcements.
Workload: 6 - 8 hours every week outside of class (i.e., 1 hour every day including weekends.) A few of you will do well with less time than this, and a few of you will need more.

Grading:

Homework	15%
Quizzes	10%
Weekly check-ins and team work solutions	10%
Midterms (20% $\times$ 2)	40%
Final Exam	25%

Cumulative numerical averages of 90 - 100 are guaranteed at least an A-, 80 - 89 at least a B-, 70 - 79 are at least a C-, 60 - 69 are at least a D-.

These ranges may be lowered, but they will not be raised, e.g., if everyone has averages in the 90s, everyone gets at least an A-. The exact ranges for letter grades will be determined after all the course work and exams are graded. The more evidence there is that the class has mastered the material, the more generous the curve will be.

Recorded lecture videos:

Recorded lecture videos will be posted and students are expected to watch the assigned videos before every live session on Thursday. Lecture slides for recorded lecture videos will be posted on Moodle to be used as study material.

Live sessions:

Every Thursday, students work in teams in the live session, where a list of exercises will be posted and shared before the session starts. Each team is responsible to provide solutions to one exercise at the end of the week and post on Moodle. After student solutions are due, solutions provided by me will be posted and shared on Moodle as study material. Every student will receive a participation grade by attending the live sessions and work in teams to provide exercise solutions for submission.

Homework:

These will be assigned approximately once every week. Homework questions will be posted on Moodle. Answer keys to homework will be posted on Moodle after homework is due.

The grader will randomly select a few questions in each assignment to grade. Homework will be graded based on completeness as well as accuracy. In order to receive credit you must show all your work. In order to get regraded, any dispute about the grading has to be filed within one week after they are returned. It is preferred to bring any dispute to my office hour.

You are welcomed, and encouraged, to work with each other on the homework problems, but you must turn in your own work. If you copy someone else's work, both parties will receive a 0 for the homework grade as well as being reported.

Homework is due by Sunday 11:59pm (EST) of the week it is due (see late work policy below). If you cannot make it to class the day homework is due, please email me to make arrangements to drop off your homework earlier.

Quizzes:

Pop quizzes will be assigned in live session about once every other week. Each quiz is about 10 - 15 minutes in length, and is open-book and open-notes. They are designed to help you find any areas that you are having problems, and to help me pace the course. Topics covered in the quiz will be revealed in advance.

Weekly check-ins:

Students are expected to complete a weekly check-in (link on Moodle) by Sunday 11:59pm (EST), each week. These check-ins help me make sure everyone is on track and students can share any questions and comments they might have, from the course material and course logistics. Students earn a participation grade after completing each weekly check-in.

Exams:

There will be two midterm exams and a final exam. The exact date of midterm exam will be announced at least one week in advance. No rescheduling of exams except in extreme situations.

The final comprehensive exam will be some time during the week of May 28 (exact date TBA by Registrar). You must take the final exam in order to pass this class. Exam dates cannot be changed. For the students who have at least 2 other final exams on the same day, notify me at least one month before the final exam day so that I can accommodate your schedule individually.

No make-up exams will be given. Midterms and final exams are open-book open-notes exams.

Late work policy for homework assignments:

- next day: lose 30% of points
- later than next day: lose all points

Attendance:

- You are expected to be regular and punctual in your class attendance.
- If no advance arrangements are made and I am absent, you may leave after a fifteen-minute wait.

Tips for success:

1. Do the homework - start early and make sure you attempt and understand all questions.
2. Read the relevant sections before a new lecture begins, and then review them after the lectures.
3. Be an active participant during lectures.
4. Ask questions - during class or office hours, or by email. Ask me and your fellow students.
5. Give yourself plenty of time to prepare good cheat sheets for exams. This requires going through the material and taking the time to review the concepts that you're not familiar with.
6. Do not procrastinate - don't let a week go by with unanswered questions as it will just make the following week's material even more difficult to follow.

Special needs:

Academic accommodations are available for students registered with the Office for Accessibility and Educational Opportunity (AEO). Students in need of disability (ADA/504) accommodations should schedule an appointment with me early in the semester to discuss any accommodations for this course that have been approved by the Office for Accessibility and Educational Opportunity, as indicated in your AEO accommodation letter. For more information, please go to *the Vassar AEO office website*.