Lecture location: 40 SH

Lecture times: 3:30P - 4:20P MTWF

Instructor: Milan Stehlik
    Office: 205 Schaeffer Hall
    Email: milan-stehlik@uiowa.edu
    Office hours: Tuesday 12:30-14:00 (12:30pm -2:00pm) Friday 10:00am -11.30 am in Schaeffer 205

Grader: Zhang Yikai
    Office: Schaeffer Hall
    Email: yikai-zhang@uiowa.edu

DEO: Dr. Kung-Sik Chan, 241 Schaeffer Hall, 319-335-0712

Prerequisites: Calculus II or equivalent

Course description: We develop the mathematical theory of Probability from first principles—with no assumed background or prior experience. Probabilities are sometimes a challenge to calculate but are almost always easy to interpret: A probability is a number between 0% and 100% inclusive that reflects the percentage chance that an (uncertain) event actually occurs! Probability calculations may directly answer some scientific questions. Probability also measures the accuracy and reliability of scientific inquiry known as Statistical Inference whereby data samples (informative measurements) are generalized to broader conclusions. The fascinating interplay between Probability (deductive reasoning) and Statistical Inference (inductive reasoning) motivates our course!

Specific Topics

- Law of Large Numbers, Central Limit Theorem, Sampling Distributions
- Maximum-Likelihood Estimators
- Confidence Intervals and Sample Size Determination
- Hypothesis Tests and P-Values
- Regression (Statistical Prediction)

There will occasionally be software demonstrations in class, but no computing is required.


Course webpage: ICON (http://icon.uiowa.edu) has course information, notes, assignments, solutions, exam preparation materials, and access to grades.

Assessment: Your final course grade is computed based on the following proportions:

- 10% Quizes
- 20% Homework
- 40% Two in-semester exams
- 30% Final exam
Individual Assessment: Quizzes
Approximately five in-class assignments and/or pop quizzes will be given during the semester. You must be in class to receive credit for an in-class assignment. One in-class assignment grades will be dropped. Additional exemptions for university-excused absences may be granted at the discretion of the instructor. Exemptions for absences not excused by the University will only be granted under extraordinary circumstances. Exemption requests should be made as early as possible and must be made prior to the date of absence. Attendance will be monitored. Quizzes CAN and DO cover ANYTHING discussed in the course such as textbook reading, Notebook worksheets and homework. Quizzes tend to emphasize recent HW. Quizzes are time-sensitive so in place of makeup quizzes and as an explicit allowance for necessary absence (university-sanctioned event, illness, family emergency, etc.) the lowest quiz score is dropped from the course grade calculation.

Homework: Ten-eleven homework assignments will be assigned throughout the semester. Homework is due at the beginning of lecture on the due date. Late homework submissions will not be accepted unless permission to turn in the homework late has been granted by the instructor prior to the due date. Such permission will be given at the discretion of the instructor and will only be given in extraordinary circumstances. The worst homework will be dropped. Homework is to be completed and submitted individually. Group work is encouraged but all answers must be unique to the student. Submission must be in hard copy form (printed + stapled). No electronic homework submissions allowed.

In-semester exams: There will be two in-semester exams, each of the two worth 20% of your final course grade. The tentative dates for these exams are March 4, April 15, but these dates are subject to change. The changes, if any, will be announced at least one week before the exam dates. Each exam is 50 minutes, completed in lecture. There will be no make-up exams.

Final exam: The University has tentatively set the final exam on TBD. The final exam is cumulative and may not be taken early under any circumstances.

Email Etiquette: I will do my best to answer email questions within 24 hours. Here are a few suggestions to ensure I answer your email:

- Check the syllabus/announcements/slides before emailing; try to figure things out yourself first.
- Start your email by addressing me (Dear Dr. Stehlik).
- Be clear and concise.
- Use correct spelling and proper grammar.
- Be polite when making requests - do not make demands.
- End your email with a closing and your name.

Dates of Interest:
January 21: First day of class
March 4 (tentative): Exam 1
April 15: Exam 2
TBD: Final exam

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<tr>
<th>Week</th>
<th>Friday</th>
<th>Team HW Due</th>
<th>Assessment</th>
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<td>1</td>
<td>Jan 21</td>
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<td>2</td>
<td>HW0 (WS1)</td>
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2
3 HW1 Quiz 1
4 HW2
5 HW3 Q2
6 HW4
7 HW5 Exam 1
8 – – – Q3
9 HW6
10 1 HW7 Q4
11 HW8
12 HW9 Exam 2
13 HW10
14 1
15 HW11 Q5
16 – – – – –
Administrative Home The College of Liberal Arts and Sciences (CLAS) is the administrative home of this course and governs its add/drop deadlines, the second-grade-only option, and other policies. These policies vary by college (https://clas.uiowa.edu/students/handbook).

Electronic Communication Students are responsible for official correspondences sent to their UI email address (uiowa.edu) and must use this address for all communication within UI (Operations Manual, III.15.2).

Accommodations for Disabilities UI is committed to an educational experience that is accessible to all students. A student may request academic accommodations for a disability (such as mental health, attention, learning, vision, and physical or health-related condition) by registering with Student Disability Services (SDS). The student should then discuss accommodations with the course instructor (https://sds.studentlife.uiowa.edu/).

Nondiscrimination in the Classroom UI is committed to making the classroom a respectful and inclusive space for all people irrespective of their gender, sexual, racial, religious or other identities. Toward this goal, students are invited to optionally share their preferred names and pronouns with their instructors and classmates. The University of Iowa prohibits discrimination and harassment against individuals on the basis of race, class, gender, sexual orientation, national origin, and other identity categories set forth in the University’s Human Rights policy. For more information, contact the Office of Equal Opportunity and Diversity at diversity@uiowa.edu or diversity.uiowa.edu.

Academic Integrity All undergraduates enrolled in courses offered by CLAS have, in essence, agreed to the College’s Code of Academic Honesty. Misconduct is reported to the College, resulting in suspension or other sanctions, with sanctions communicated with the student through the UI email address.

CLAS Final Examination Policies The final exam schedule for each semester is announced around the fifth week of classes; students are responsible for knowing the date, time, and place of a final exam. Students should not make travel plans until knowing this final exam information. No exams of any kind are allowed the week before finals. (https://clas.uiowa.edu/faculty/teaching-policies-resources-examination-policies.)

Making a Complaint Students with a complaint should first visit with the instructor or course supervisor and then with the departmental executive officer (DEO), also known as the Chair. Students may then bring the concern to CLAS (https://clas.uiowa.edu/students/handbook/student-rights-responsibilities).

Understanding Sexual Harassment Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. All members of the UI community must uphold the UI mission and contribute to a safe environment that enhances learning. Incidents of sexual harassment must be reported immediately. For assistance, definitions, and the full University policy, see https://osmrc.uiowa.edu/.