

STAT:3120 (22S:120) – PROBABILITY AND STATISTICS, Fall 2013
Syllabus

Instructor: Dr. Erning Li

Office hours: MW 9:30—11:00 am or by appointment

Office: 231 Schaeffer Hall

Phone: 335-0820

Email: *erning-li@uiowa.edu*

Grader: Miss. Li Zhang *li-zhang-4@uiowa.edu*

Class Meeting: MWThF 11:30 am—12:20 pm in E105 AJB

Department Information: Department of Statistics and Actuarial Science, 241 Schaeffer Hall,
Phone 335-2082

Departmental Executive Officer: Professor Luke Tierney, 241 Schaeffer Hall, Phone 335-0712,
Email *luke-tierney@uiowa.edu*

Course Prerequisite: A second semester of calculus, i.e., MATH:1860 (22M:026) or MATH:1560
(22M:032) or equivalent.

Course Description and Objective: Fundamental probability theory, discrete and continuous random variables and their distributions, maximum likelihood estimation, confidence intervals, tests of hypotheses, simple linear regression, and one-way ANOVA.

At the end of the semester, students are expected to acquire a strong foundation in the fundamentals of statistical inference.

Lecture Notes (“Textbook”): My lecture notes will be viewed as our “textbook” and intensively used during class meetings. The notes will be posted on ICON in advance. It is highly recommended that students bring a copy of the lecture notes to class meetings.

Course materials such as syllabus, lecture notes, homework assignments, practice problems, etc. will be posted on ICON. Make sure your email address on ICON class roster is valid, since I use ICON to email the class important announcements.

Reference book: *A Brief Course in Mathematical Statistics*, by Elliot A. Tanis and Robert V. Hogg, 2008, Prentice Hall.

Homework: Homework will be assigned regularly and posted on ICON. Students will have about one week to work on each assignment. An assignment will be due at the beginning of the class on its due date. Unless prior or prompt arrangements are made for reasons judged to be acceptable by Dr. Li, homework turned in after it is due will receive 0 (zero) credit. No soft (electronic) copies of homework will be accepted. Homework should be neat and stapled, with name and assignment number in the top right corner.

Students are encouraged to read the materials before attempting the homework, first do the work on your own, and then discuss with others to work through challenging problems. Everyone must write up his/her own answers in the assignments.

Exams:

- Midterm Exam I tentative date Thursday, October 3, 2013;
50 minutes in class; tentative coverage Chapters 1–2.3.
- Midterm Exam II tentative date Thursday, November 7, 2013;
50 minutes in class; tentative coverage Chapters 2.4–3.
- Final Exam see university final exam schedule;
with emphasis on Chapter 4.

Calculators may be used for exams. You can bring *one* standard size (8.5" × 11") sheet of paper with anything you want written on both sides to the first midterm exam, *two* such sheets of paper to the second midterm exam, and *three* such sheets of paper to the final exam. Other than these, they are all closed-book exams.

Students who miss a midterm exam without documented university-approved excuses will receive 0 (zero) score on that midterm exam. If you have university accepted reasons, *notification and written evidence of the missed midterm exam must be provided to Dr. Li as soon as possible and no later than one week after the midterm exam.* If the absence for a midterm exam is approved, the final exam grade will be used as the grade for the missed midterm exam (there is no make-up midterm). If the final exam is missed, a make-up final will be permitted only when the circumstances of missing the exam satisfy university policies.

Grading: A numerical overall score on a scale of 0 to 100 will be determined according to the following breakdown:

Homework	16%
Midterm I	27%
Midterm II	27%
Final	30%

Conversion of these scores into letter grades will be made according to the following scale:

≥ 98	A+
[90, 98)	A
[88, 90)	A–
[86, 88)	B+
[78, 86)	B
[75, 78)	B–
[72, 75)	C+
[63, 72)	C
[60, 63)	C–
[55, 60)	D+
[50, 55)	D
< 50	F

At the discretion of Dr. Li, depending on overall class performance, these ranges may be adjusted (but only downward - criteria will only become easier, not harder). All grades will be posted on ICON.

Attendance: Attendance is very vital to your success in the class. Regular attendance at lectures is expected. Students who are absent from class without acceptable excuse should not seek help regarding missed lectures during office hours.

UI and CLAS policies and procedures

Administrative Home: The College of Liberal Arts and Sciences is the administrative home of this course and governs matters such as the add/drop deadlines, the second-grade-only option, and other related issues. Different colleges may have different policies. Questions may be addressed to 120 Schaeffer Hall, or see the CLAS Student Academic Handbook (www.clas.uiowa.edu/students/academic_handbook/index.shtml).

Electronic Communication: University policy specifies that students are responsible for all official correspondences sent to their University of Iowa email address (@uiowa.edu). Faculty and students should use this account for correspondences. (Operations Manual, III.15.2. Scroll down to k.11.)

Accommodations for Disabilities: A student seeking academic accommodations should first register with Student Disability Services and then meet privately with the course instructor to make particular arrangements. See www.uiowa.edu/~sds/ for more information. I would like to hear from anyone who has a disability that may require some modification of seating, testing, or other class requirements so that appropriate arrangements can be made. Please see me about this as soon as possible.

Academic Honesty: The College of Liberal Arts and Sciences expects all students to do their own work, as stated in the CLAS Code of Academic Honesty. Instructors fail any assignment that shows evidence of plagiarism or other forms of cheating, also reporting the student's name to the College. A student reported to the College for cheating is placed on disciplinary probation; a student reported twice is suspended or expelled. All forms of plagiarism and any other activities that result in a student presenting work that is not his or her own are academic fraud. All academic fraud is reported first to the departmental DEO and then to the Associate Dean for Academic Programs and Services. See the CLAS Student Academic Handbook for the complete policy.

CLAS Final Examination Policies: Final exams may be offered only during finals week. No exams of any kind are allowed during the last week of classes. Students should not ask their instructor to reschedule a final exam since the College does not permit rescheduling of a final exam once the semester has begun. Questions should be addressed to the Associate Dean for Undergraduate Programs and Curriculum.

Making a Suggestion or a Complaint: Students with a suggestion or complaint should first visit the instructor, and then the departmental DEO. Complaints must be made as soon as possible within six months of the incident. See the CLAS Student Academic Handbook.

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 have a responsibility to uphold this mission and to contribute to a safe environment that enhances learning. Incidents of sexual harassment should be reported immediately. See the UI Comprehensive Guide on Sexual Harassment for assistance, definitions, and the full University policy (<http://www.sexualharassment.uiowa.edu/>).

Reacting Safely to Severe Weather: In severe weather, class members should seek appropriate shelter immediately, leaving the classroom if necessary. The class will continue if possible when the event is over. For more information on Hawk Alert and the siren warning system, visit the Public Safety web site.

More reference books:

- Introduction to Mathematical Statistics and Its Applications, by Richard J. Larsen and Morris L. Marx
- Probability and Statistics for Engineering and the Sciences, Enhanced Review Edition by Jay L. Devore
- Statistics for Engineers and Scientists, by William Navidi
- A Modern Introduction to Probability and Statistics: Understanding Why and How, by F.M. Dekking, C. Kraaikamp, H.P. Lopuhaa and L.E. Meester
- Probability and Statistics with Applications: A Problem Solving Text, by Leonard A. Asimow
- A Course in Probability, by Neil A. Weiss