Introduction to Mathematical Statistics I
Fall 2010

Prerequisite: two semesters of calculus

Course policies are governed by the College of Liberal Arts and Sciences.

University policies regarding Student Rights and Responsibilities can be found at http://www.clas.uiowa.edu/students/academic_handbook/

University policies regarding academic misconduct can be found at http://www.clas.uiowa.edu/students/academic_handbook/

Special Arrangements: I would like to hear from anyone who has a disability which may require some modification of seating, testing, or other class requirements so that appropriate arrangements may be made. Please see me about this as soon as possible.

Understanding Sexual Harassment: Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. Visit www.sexualharassment.uiowa.edu/ for definitions, assistance, and the full policy.

Instructor:
Jonathan Rosen, 267 SH, 335-0723, jonathan-rosen@uiowa.edu

Office Hours:
12 – 1:30 Tuesday and Thursday, or by appointment.

Department:
Department Chair – D. Zimmerman, dale-zimmerman@uiowa.edu

Email:
Any emails relating to this course will be sent to you via your email address registered with the University (no exceptions). Check your email at least once per day.

Classes:
12:30 – 1:20 MWF in 106 GILH

Text:
Probability and Statistical Inference, 8th Ed. by Hogg and Tanis

ICON:
This course will make use of ICON (Iowa Courses ON line). Grades will be posted on ICON as well as homework assignments and other information that you may wish to access and print. The web address for ICON is http://icon.uiowa.edu/. You will need to log in using your Hawk ID and password.

Tutors:
A list of independent tutors can be found at http://www.stat.uiowa.edu/courses/tutors.html
Objectives:
This course is intended to provide a good understanding of introductory probability and mathematical statistics. This is the first semester of a two semester sequence. The first semester concentrates on probability and the second on the mathematics of statistical inference. The sequence 22S:130-131 is required of undergraduate statistics majors and undergraduate actuarial majors. The prerequisite is one year of calculus. This course will also help to prepare students for the first professional actuarial exam. If you plan on sitting for Exam P during the semester, see me for SOA problems. We will cover most of chapters 1 through 5.

Attendance:
Attendance is mandatory. I expect students to be on time and attend all classes. Being sick is a legitimate reason to miss class, but just feeling a little under the weather is not. Excessive absences may result in a lowering of your grade or a failing grade.

Homework:
Unless otherwise stated, homework assignments will be collected on Fridays and returned on Mondays. Submit homework on 8.5x11 paper with a cover sheet attached containing just your name and course information. If there is more than one page, staple them together and make sure your name appears on each sheet. Homework is due at the beginning of the class period. You are welcome to work with others on the assignment, but my advice is to attempt the problems on your own at first. Even if you do collaborate with classmates you must hand in your own written assignment. I encourage you to start the assignments early so you have ample time to ask questions during class or office hours before it is due.

Friendly Advice:
Main rule -- do not fall behind! The material is cumulative. Most of you will need a minimum of two to three hours of study after each class (not including class time) to successfully learn the course material. Some of you will need more. If you do not put in the time, you will not learn. Your goal should be to understand rather than to just memorize facts and formulas.

Come to office hours to get your problems sorted out promptly. Study the text carefully and keep up with the lectures. Don't read it like a novel. Do the problems and if you get stuck, look for similar worked examples. Working problems by yourself or in small groups -- both assigned homework problems and others from the text. Working exercises is the major way to assess your understanding and to solidify concepts. You cannot learn how to solve problems by merely watching your teacher do them -- you must solve problems on your own. When you do not understand, ask questions. Be a participant and not just a spectator.

Exams:
Exams will be closed book. Do not wear caps or hats during the exams. There will be two exams plus a final. Exam dates and locations are as follows:

<table>
<thead>
<tr>
<th>Exam</th>
<th>Date</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exam 1</td>
<td>Wednesday, September 29</td>
<td>12:30 to 1:20</td>
<td>106 GILH</td>
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<tr>
<td>Exam 2</td>
<td>Wednesday, November 3</td>
<td>12:30 to 1:20</td>
<td>106 GILH</td>
</tr>
<tr>
<td>Final Exam</td>
<td>Friday, December 17</td>
<td>9:45 to 11:45</td>
<td>TBA</td>
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Calculators:
No programmable calculators are allowed on the exams. Actuarial science majors will be served best by buying a financial calculator and/or a scientific calculator that is allowed on the professional exams sponsored by the Casualty Actuarial Society and the Society of Actuaries. The financial calculators are Texas Instruments BA II Plus or the BA II Plus Professional. These calculators are the only ones allowed on CAS/SOA exams that do interest calculations. The II Plus costs about $30, and the II Plus Professional costs about $50. The scientific calculators are TI-30Xa (about $10) and the TI-30X II (S - solar, B - battery) (about $13). If you want to use a calculator other than one of these, get it approved by me well before the first exam. You are advised to do your homework problems using the calculator you plan to use on exams. The more familiar you are with the calculator, the less time you will waste during an exam trying to figure out how to use a particular function.
Cell phone use:
Cell phone use during lecture, including texting, will not be tolerated. If there is a situation that requires you to be accessible by phone, such a hospitalized family member or a sick child, please let me know prior to lecture, and if you must answer your phone quietly go into the hall to do so. Otherwise, please turn your phone off or set your ringer to vibrate prior to lecture.

Laptop use:
Some students prefer to take notes on laptop computers. While you are free to do so, it is not recommended for this course. There is a considerable amount of notation used in statistics that would be difficult to reproduce using a common word processing program. If you do use a laptop, please make sure the volume is off and refrain from using the computer for activities other than taking notes.

Class participation:
Class participation is very strongly encouraged. Participation can be in the form of asking questions or volunteering to answer questions. Obviously you cannot participate in class if you are not in attendance, so absences will definitely affect this portion of your grade.

Grades:
Grades will be based on the percent of points earned on exams, homework, and class participation. In determining your grade, each exam will count 25%, the final will count 35%, homework will count 10%, and class participation will count 5%. If $E_i$ is the percent of points earned on exam $i$, $F$ is the percent of points earned on the final, $H$ is the percent of points earned on homework and $P$ is the percent of points earned for class participation, your grade will be based on the following score:

$$0.25(E_1 + E_2) + 0.35F + 0.10H + 0.05P$$

Your grade for this course will be assigned according to the following approximate scale:

<table>
<thead>
<tr>
<th>Undergraduate Students</th>
<th>Graduate Students</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>90 to 100</td>
<td>90 to 100</td>
<td>A</td>
</tr>
<tr>
<td>75 to 89</td>
<td>80 to 89</td>
<td>B</td>
</tr>
<tr>
<td>60 to 74</td>
<td>70 to 79</td>
<td>C</td>
</tr>
<tr>
<td>50 to 59</td>
<td>60 to 69</td>
<td>D</td>
</tr>
<tr>
<td>0 to 49</td>
<td>0 to 59</td>
<td>F</td>
</tr>
</tbody>
</table>

This is not an absolute scale. The cutoff points may vary depending on the difficulty of the exams. Also, borderline cases may receive a + or – grade (note, I do not assign a grade of D-), and grades may be lowered due to attendance.

You must obtain a grade of B- or better in the course to be eligible to take 22S:180
College of Liberal Arts and Sciences: 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.

Electronic Communication
University policy specifies that students are responsible for all official correspondences sent to their University of Iowa e-mail 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.

Academic Fraud
Plagiarism and any other activities when students present work that is not their own are academic fraud. Academic fraud is a serious matter and is reported to the departmental DEO and to the Associate Dean for Undergraduate Programs and Curriculum. Instructors and DEOs decide on appropriate consequences at the departmental level while the Associate Dean enforces additional consequences at the collegiate level. See the CLAS Academic Fraud section of the Student Academic Handbook.

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, then the course supervisor, and then the departmental DEO. Complaints must be made 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.

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.

*These CLAS policy and procedural statements have been summarized from the web pages http://www.clas.uiowa.edu/of the College of Liberal Arts and Sciences and The University of Iowa Operations Manual.