

**22S:130**  
**Introduction to Mathematical Statistics I**  
**Fall 2007**

**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/](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/](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/](http://www.sexualharassment.uiowa.edu/) for definitions, assistance, and the full policy.

**Instructor:**

J. Broffitt, 231 SH, 335-0820, james-broffitt@uiowa.edu

**Office Hours:**

9:30 - 10:20 TR, 2:30 - 3:20 MW or by appointment.

**Department:**

Statistics & Actuarial Science, 241 SH, 335-0712.

Department Chair - L. Tierney, [luke-tierney@uiowa.edu](mailto:luke-tierney@uiowa.edu), 5-0712.

**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:**

1:30 MWF in 112 MH

**Text:**

*Introduction to Probability and Statistics for Engineers and Scientists, 3<sup>rd</sup> Ed.*, by Sheldon Ross.

**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. We will begin in Chapter 3. Read Chapter 1 on your own. Topics from Chapter 2 will be covered when needed. In the first semester, we will cover as much of Chapters 3 through 6 as time permits.

**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. **If there is more than one page, staple them together.** Homework is due at the beginning of the class period. I do not mind if you work with others on homework problems, and I encourage you to come to me for hints if you are stuck. However, you should first attempt to do the problems on your own, and you are to write the solutions on your own rather than copying the work of others. Do not merely write down answers, but clearly show how you got your results. Homework may be submitted one class period late, but there will be a 25% penalty. Late homework creates additional burdens on the grader. The penalty is to encourage you to be on time with your homework, and thus make life a bit easier for the grader.

**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. Work 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:

Exam 1:	Monday, October 1	1:30 to 2:20	112 MH or S307 PBB
Exam 2:	Monday, November 5	1:30 to 2:20	112 MH or S307 PBB
Final Exam:	Tuesday, December 18	9:45 to 11:45 AM	Room to be announced

**Room assignment for exams 1 and 2:**

If your last name begins with A through L, go to room S307 PBB.

If your last name begins with M through Z, go to room 112 MH.

**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 \$11) and the TI-30X II (S - solar, B - battery) (about \$15).

**Grades:**

Grades will be based on the percent of points earned on exams and homework. In determining your grade, each exam will count 22%, the final will count 44%, and homework will count 12%. If  $E_i$  is the percent of points earned on exam  $i$ ,  $F$  is the percent of points earned on the final, and  $H$  is the percent of points earned on homework, your grade will be based on the following score:

$$0.22 [E_1 + E_2] + 0.44F + 0.12H.$$

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

Undergraduate Students	Graduate Students	Grade
90 to 100	90 to 100	A
75 to 89	80 to 89	B
60 to 74	70 to 79	C
50 to 59	60 to 69	D
0 to 49	0 to 59	F

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 -, and grades may be adjusted due to attendance.