

The University of Iowa  
College of Liberal Arts and Sciences  
**Department of Statistics and Actuarial Science**  
**Probability and Statistics for Engineers, 22S:039:SCA**  
Spring 2009  
6:00-9:00 PM Wednesday, 30 SH  
<http://www.stat.uiowa.edu/~mbognar>

- **General Information**

- *Instructor:* Matt Bognar, 358 SH, 335-0799, [mbognar@stat.uiowa.edu](mailto:mbognar@stat.uiowa.edu)
- *Office Hours:* 12:00-2:00 Monday, 2:00-3:00 Wednesday
- *DEO:* Luke Tierney, 241 SH, 335-0712
- *Textbook:* Montgomery and Runger (2007). *Applied Statistics and Probability for Engineers (4th edition)*, Wiley.

- **Course Objectives**

- In this course we will cover the following topics (in roughly this order):
  1. Data collection, summary statistics, graphical displays
  2. Probability theory
  3. Random variables
  4. Common statistical distributions
  5. Joint probability distributions
  6. Sampling distributions
  7. Confidence intervals
  8. Hypothesis testing
  9. Type I & II errors, statistical power
  10. Regression
  11. Other topics (if time)
- We will learn how to do many of the statistical analyses described in class using the statistical software package *Minitab*. *Minitab* is available in the campus computer labs. There is a free online version as well; go to <http://virtualdesktop.uiowa.edu>. Hand computation will be stressed, however.
- Supplementation to the textbook, when needed, will be provided.
- We will *not* cover all parts of each chapter listed above. Focus your readings on the material that was covered in class.

- **Grading**

- *Exams:* There will be 2 midterms (20% each) and a final exam (25%). All exams will be 2 to 3 hours in length. Exam dates:
  - \* Exam 1: Wednesday, February 18, 6:00-9:00 PM, 30 SH
  - \* Exam 2: Wednesday, April 1, 6:00-9:00 PM, 30 SH
  - \* Final Exam: Wednesday, May 13, 7:00-9:00 PM, 30 SH

Students are expected to be present for the exams at the *scheduled time*. It is your responsibility to make the appropriate arrangements *beforehand*. *Only in extreme circumstances will make-up exams be allowed.*

- *Quizzes:* (20% total) A quiz will be given in lecture each Wednesday. *Make-up quizzes will not be allowed under any circumstances.* The lowest two quiz scores will be dropped. Unannounced quizzes may be given at any time.

- *Homework/Minitab*: (10% total) Homework (and Minitab labs) will be due each Wednesday at the beginning of lecture. Because the TA's will *not* have enough time to grade each problem, a subset of the assigned problems will be graded. *Late homework will not be accepted under any circumstances.* The lowest two homework scores will be dropped. Homework must be stapled, defuzzed, be neatly written in *pencil*, and look professional (points will be deducted for failing to do so). Excessively sloppy homework will receive a score of 0. Print your name in the upper right corner of your homework before handing-in.
- *Mini-Quizzes*: (5% total) An unannounced mini-quiz will periodically be administered in lecture. *Make-up mini-quizzes will not be allowed under any circumstances.* The lowest mini-quiz score will be dropped.
- Your attendance, participation, preparedness, work ethic, etc. may affect your grade as well.
- This course uses the +/– grading system (i.e. grades such as A–, B+, and B will be assigned).
- Students will receive grades according to the usual 90, 80, 70, 60 breakdown.

- **Notes**

- Please turn off (or silence) cell phones and pagers during lecture.
- Success in this class requires a large time commitment. A *minimum* of 10 to 15 hours per week is expected. Review/study numerous times throughout the week.
- Please attend lectures and discussions in their entirety.
- If you are absent from discussion or lecture (without giving prior notice), do not ask for hand-outs/notes from myself.
- I reserve the right to give bonus points at any time. The bonus points may be applied to any part of your grade.
- This class is not “curved”.

- **Extra Help**

- *Statistics Tutorial Lab*: There is a *free* statistics tutorial lab in room 202 Communications Center. During available times, a knowledgeable person will be present to assist students. Hours for the lab can be found at

<http://www.stat.uiowa.edu/courses/tutorial-lab.html>

- A list of *non-free* tutors can be found at <http://www.stat.uiowa.edu/courses/tutors.html>

- **The College of Liberal Arts and Sciences Policy and Procedures**

- *Governance*: Course policies are governed by the College of Liberal Arts and Sciences
- *Academic Fraud*: Plagiarism and any other activities that result in a student presenting work that is not his or her own are academic fraud. Academic fraud is reported to the departmental DEO and then to the Associate Dean for Academic Programs and Services in the College of Liberal Arts and Sciences. [http://www.clas.uiowa.edu/students/academic\\_handbook/ix.shtml](http://www.clas.uiowa.edu/students/academic_handbook/ix.shtml)
- *Making a Suggestion or a Complaint*: Students have the right to make suggestions or complaints and should first visit with the instructor, then with the course supervisor if appropriate, and next with the departmental DEO. All complaints must be made within six months of the incident. [http://www.clas.uiowa.edu/students/academic\\_handbook/ix.shtml#5](http://www.clas.uiowa.edu/students/academic_handbook/ix.shtml#5)
- *Accommodations for Disabilities*: A student seeking academic accommodations first must register with Student Disability Services and then meet with a SDS counselor who determines eligibility for services. A student approved for accommodations should meet privately with the course instructor to arrange particular accommodations. <http://www.uiowa.edu/~sds>
- *Understanding Sexual Harassment*: Sexual harassment subverts the mission of the University and threatens the well-being of students, faculty, and staff. Visit <http://www.sexualharassment.uiowa.edu> for definitions, assistance, and the full policy.

- *Reacting Safely to Severe Weather:* The University of Iowa Operations Manual section 16.14 outlines appropriate responses to a tornado (i) or to a similar crisis. If a tornado or other severe weather is indicated by the UI outdoor warning system, members of the class should seek shelter in rooms and corridors in the innermost part of a building at the lowest level, staying clear of windows, corridors with windows, or large free-standing expanses such as auditoriums and cafeterias. The class will resume, if possible, after the UI outdoor warning system announces that the severe weather threat has ended.
- *Administrative Home of the Course:* The administrative home of this course is the College of Liberal Arts and Sciences, which governs academic matters relating to the course such as the add / drop deadlines, the second-grade-only option, issues concerning academic fraud or academic probation, and how credits are applied for various CLAS requirements. Please keep in mind that different colleges might have different policies. If you have questions about these or other CLAS policies, visit your academic adviser or 120 Schaeffer Hall and speak with the staff. The CLAS Academic Handbook is another useful source of information on CLAS academic policy:  

[http://www.clas.uiowa.edu/students/academic\\_handbook/index.shtml](http://www.clas.uiowa.edu/students/academic_handbook/index.shtml)
- *Missed Exam Policy:* University policy requires that students be permitted to make up examinations missed because of illness, mandatory religious obligations, certain University activities, or unavoidable circumstances. Excused absence forms are required and are available on the Registrar web site. [www.registrar.uiowa.edu/forms/absence.pdf](http://www.registrar.uiowa.edu/forms/absence.pdf)
- *Final Examinations:* An undergraduate student who has two final examinations scheduled for the same period or more than three examinations scheduled for the same day may file a request for a change of schedule before the published deadline at the Registrar’s Service Center, 17 Calvin Hall, 8-4 M-F, (384-4300).