

UNIVERSITY OF IOWA
Department of Statistics and Actuarial Science
22S:008 Statistics for Business Spring 2008

General Information and Tools for the Course

Purpose This course provides a conceptual framework of statistical reasoning by which larger conclusions are drawn from sample evidence. We study the concept and practice of Probability early in the course and then use Probability to facilitate statistical reasoning. Probability and Statistics apply generally to all scientific endeavors, but we emphasize applications to business and economics. This is a general education credit course for quantitative or formal reasoning.

Time and Location 3:30–4:45 MW in Macbride Hall Auditorium

Instructor Blake Whitten

Office: 261 Schaeffer Hall Phone: 335-0647

Office Hours: 11:00-12:00 MW and 1:00-3:00 Tuesday

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Required Materials

- Text: *The Practice of Business Statistics*, 2003, by Moore Available at UI Bookstore.
- Notebook: *Notes for Stat 8* Available from Zephyr Copies, 124 E. Washington, 351-3500.
PURCHASE NOTEBOOK BEFORE NEXT LECTURE AND BRING TO CLASS.
- Calculator: Your calculator must be able to calculate *one-variable statistics* and *two-variable statistics*. (See more information on page 3.)
- Email: Please keep your UI email account under quota to receive occasional course messages.

Course Website www.stat.uiowa.edu/~blake/s08

Find all information for the course at this site. Students view scores and other grade information on ICON (accessed directly or linked from the course website.)

Extra Help The Statistics Tutorial Lab, located in 202 CC, gives free tutorial assistance to students in 22S:8. In addition, several graduate students have volunteered to independently tutor students at mutually-arranged times and fees. Please check the web site www.stat.uiowa.edu/courses/tutoring.html for tutoring details.

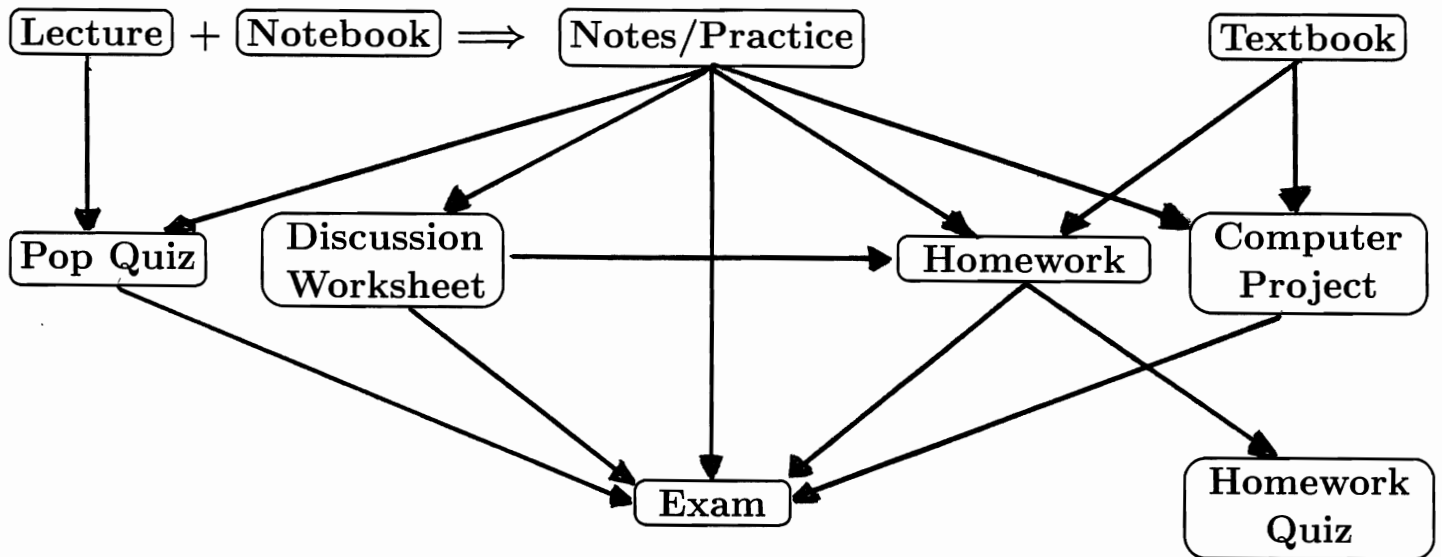
Disabilities Please see me in my office as soon as possible if you have any disabilities which require alternative arrangements for lectures or exams.

Course Policies Course policies are governed by the College of Liberal Arts and Sciences. Detailed CLAS policies concerning

- administrative procedures
- academic fraud
- accommodations for disabilities
- sexual harassment
- severe weather
- students suggestions and complaints

are found here: http://www.clas.uiowa.edu/faculty/teaching/new_policytemplate.shtml

Relationships Among Course Components:



Main Features of the Course:

Lectures

- Notes/Practice
- Pop Quizzes

Discussions

- Worksheets (help with current HW assignment)
- HW Quizzes (test your understanding of due HW assignment)

Homework

- Assignments have important due dates.
- Assignments are not collected.
- Self-study method: Check course website, work to overcome incorrect answers.
- Completion by due date requires self-discipline; the *linchpin* of success in Stat 8.

Homework Help

- Primary source: Notes/Practice
- Discussion worksheets
- Study partners (very helpful in Statistics courses)
- Prof. Whitten's and TA office hours
- Statistics Dept. Tutor Lab (check website on first page of syllabus for weekly schedule)

Discussion Worksheets

- Use Lecture Notes as a springboard to work these problems with your TA in Discussion as further practice for the current HW assignment.

Computer Projects

- Two self-contained projects, one near the beginning of the course, one near the end.
- Use the MINITAB software package available at all campus ITC's.

Pop Quizzes

- Based on recent Lecture Notes/Practice (including the current lecture.)
- These quizzes are generally not announced beforehand.

Homework Quizzes

- Given in Discussion, quiz questions are similar to exercises from the HW assignment which is due (or to similar problems from notes or worksheets.)

Textbook

- No need to bring text to Lecture or Discussion.
- Use text for recommended supplemental reading, Homework, and Computer Projects.
- This text is often used in the required second Business Statistics course Econ 71 (6E:71.)

Calculator

- Your calculator in Stat 8 must be able to calculate *one-variable statistics* (standard deviation) and *two-variable statistics* (simple regression.) Use the Calculator Help link on the Stat 8 website to check whether your calculator will do the job.
- Some calculators which are recommended by TA's: TI 83 Plus, TI 86, TI 30XIIS, TI 36X, TI 36XII. (Some of these have more elaborate spreadsheet-type displays, some do not, some are more expensive than others.)
- TA's do not recommend the TI 89 — It does the job but is considered too complicated.
- The following calculators will not do the job (no two-variable statistics) and should not be purchased: TI 30STAT, TI 30X, TI 30Xa.

Student Responsibility for Lecture and Discussion Notes

- You are responsible for getting your own notes from Lecture. If you miss a lecture, you are responsible for getting the notes you missed from a study partner (another student.) Please treat this responsibility seriously.
- You are responsible for writing your own solutions to Worksheet problems in Discussion. If you miss a discussion, you are responsible for getting the notes you missed from a study partner. Please treat this responsibility seriously.

Exams

- Two midterm exams and a (comprehensive) final exam
- Multiple-choice format, closed book
- For Midterm Exam 1 and Midterm Exam 2, students may use **one standard sheet** of paper (8.5" by 11"), front and back, of handwritten or word-processed formulas and notes.
- For the Final Exam, students may use **three standard sheets** of paper, front and back, for formulas and notes.
- Practice exams are available on the website which show the general exam *style*. But the content of new exams will be different!

Good Study Sources for Exam Content

- Notes/Practice • Homework • Pop Quizzes • Worksheets • Computer Projects

* **Midterm Exam Policy:** Approximately 50% of midterm exam questions will be very similar (with some details or numbers possibly changed) to examples, exercises, or problems seen previously in Notes, Homework, Pop Quizzes, Worksheets and Computer Projects.

General Comments and Suggestions

1. Stat 8 is designed as a “well-tuned machine” (see diagram on page 2.) You maximize your opportunity to succeed if you respect the due dates and participate fully in Lecture and Discussion.
2. It is highly unlikely that you will succeed in this course by a “cookbook approach” in which you try to memorize the right formula for a word problem. Instead, *thinking* things through from the beginning of the course will pay big dividends for you by the end of the semester.
3. Statistics is often thought of as a *math* course, but actually *English* is at least as important as math in Stat 8. We’ll use English to *interpret* the meanings of the numbers (statistics) which we calculate.
4. Don’t worry if you had difficulty with “word problems” in previous math courses. We build the concepts we need from the very beginning of the course.
5. It has been Dr. Whitten’s experience that students who work together with a *study partner* or in a *study group* tend to have a competitive advantage relative to students who work alone in Statistics courses. (Although don’t use a study group as a crutch to avoid doing the homework problems yourself!)

Grades

- There are no makeup quizzes but as an allowance for necessary absence (university-sanctioned events, illness, family emergency, etc.), the two lowest Pop Quiz scores and the two lowest Homework Quiz scores are *dropped* from the calculation of the course grade.
- If your Final Exam score exceeds either the Midterm Exam 1 score or the Midterm Exam 2 score, the *smaller* of the two midterm scores is replaced with the Final Exam score in the calculation of the course grade. (At most one midterm score is replaced.)
- Here are the weights for the Course Percentage:

10% Pop Quizzes
10% Homework Quizzes
10% Computer Projects
22% Midterm Exam 1
22% Midterm Exam 2
26% Final Exam

- Course grades are then assigned according to the following minimum Course Percentage:

A	92%	A–	90%	B+	88%
B	82%	B–	80%	C+	78%
C	72%	C–	70%	D+	68%
D	62%	D–	60%		
F	Below 60%				

For instance, a course percentage of 87.99% earns a grade of B in Stat 8.

Lecture Schedule

Week	Lecture	Day	Date	Subject
1	–	Mon	Jan. 21	
	1	Wed	Jan. 23	Course Introduction, Topic 1: Six Steps of Inference
2	2	Mon	Jan. 28	Topic 1
	3	Wed	Jan. 30	Topic 2: Describing Data
3	4	Mon	Feb. 4	Topic 2, Computer Project 1
	5	Wed	Feb. 6	Topic 3: Probability
4	6	Mon	Feb. 11	Topic 3
	7	Wed	Feb. 13	Topic 3
5	8	Mon	Feb. 18	Topic 4: Random Variables
	9	Wed	Feb. 20	Topic 4
6	10	Mon	Feb. 25	Exam 1 Practice Sheet
	11	Wed	Feb. 27	Exam 1 Q/A Session

Midterm Exam 1: Thursday, Feb. 28 5:30 - 7:30 p.m. (Covers Topics 1–4)

7	12	Mon	March 3	Topic 5: Continuous Distributions
	13	Wed	March 5	Topic 5
8	14	Mon	March 10	Topic 5, Topic 6: Sampling Distributions
	15	Wed	March 12	Topic 6
9	–	Mon	March 17	(Spring Break)
	–	Wed	March 19	
10	16	Mon	March 24	Topic 6
	17	Wed	March 26	Topic 7: Confidence Intervals
11	18	Mon	March 31	Topic 7
	19	Wed	April 2	Topic 7
12	20	Mon	April 7	Exam 2 Practice Sheet
	21	Wed	April 9	Exam 2 Q/A Session

Midterm Exam 2: Thursday, April 10 5:30 - 7:30 p.m. (Covers Topics 5–7)

13	22	Mon	April 14	Topic 8: Hypothesis Testing
	23	Wed	April 16	Topic 8
14	24	Mon	April 21	Topic 8, Computer Project 2
	25	Wed	April 23	Topic 9: Regression
15	26	Mon	April 28	Topic 9
	27	Wed	April 30	Topic 9
16	28	Mon	May 5	Course Overview, Final Exam Practice Sheet
	29	Wed	May 7	Final Exam Q/A Session

Final Exam: Tuesday, May 13 12:00 - 2:00 p.m. (Locations to be announced.)

Homework Due Dates

Topic	Due Date
1	Monday, Feb. 4
2	Monday, Feb. 11
3	Monday, Feb. 18
4	Monday, Feb. 25
Exam 1 Feb. 28	
5	Monday, March 24
6	Monday, March 31
7	Monday, April 7
Exam 2 April 10	
8	Monday, April 28
9	Monday, May 5

Discussion Schedule

Week	Monday's Date	HW Quiz	Worksheet	Other
1	Jan. 21	none	Topic 1	TA/Student Introduction
2	Jan. 28	none	Topic 2	Get calculator help for standard deviation.
3	Feb. 4	HW Quiz 1	Topic 3	
4	Feb. 11	HW Quiz 2	Topic 3	
5	Feb. 18	HW Quiz 3	Topic 4	
6	Feb. 25	HW Quiz 4	none	Student/TA Question Session to prepare for Exam 1
Exam 1 Feb. 28				
7	Mar. 3	none	Topic 5	Student/TA Question Session to review Exam 1
8	Mar. 10	none	Topics 5 & 6	
9	Mar. 17	Spring Break		
10	Mar. 24	HW Quiz 5	Topic 6	
11	Mar. 31	HW Quiz 6	Topic 7	
12	April 7	HW Quiz 7	none	Student/TA Question Session to prepare for Exam 2
Exam 2 April 10				
13	April 14	none	Topic 8	Student/TA Question Session to review Exam 2
14	April 21	none	Topics 8 & 9	
15	April 28	HW Quiz 8	Topic 9	
16	May 5	HW Quiz 9	none	Student/TA Question Session to prepare for Final Exam

Computer Project Due Dates

Project	Distribution date (download from website)	Due Date (in Discussion)
1	Monday, Feb. 4	Thursday, Feb. 14
2	Monday, April 21	Thursday, May 1

Midterm Exam Locations: TBA

Alternate Midterm Exam Time and Location: Available only with special permission due to a time conflict with another evening exam or an evening course. Only students who document their request and are pre-approved by Prof. Whitten before the exam date may use the alternative exam time and location: TBA.