

UNIVERSITY OF IOWA
Tippie College of Business Department of Economics
6E:71 Statistics for Strategy Problems Spring 2012

Course Information and Tools

Purpose This course extends the single-population concepts and techniques learned in a first Business Statistics course to multiple statistical populations. We apply Chi-Square Tests, Analysis of Variance, Regression and Time Series methods to strategic problems in Accounting, Marketing, Management, Economics, and Finance.

Lecture MWF 11:30-12:20 (Morning A) in W151 and 1:30-2:20 (Afternoon B) in W10 PBB

Tutor Lab/Help Session Friday 2:30-3:30 in C207 PBB (except on exam days)

Instructor Blake Whitten

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Office Hours: **Mon** 10:00-11:00 & **Mon evening** 7:00-8:00 & **Wed** 10:00-11:00

Head TA Caleb Floyd W383 PBB 335-3797 caleb-floyd@uiowa.edu

Course Website <http://www.stat.uiowa.edu/~blake/e71>

Required Materials

- **Course Notes Packets** from Zephyr Copies, 124 E. Washington, (319) 351-3500
- **Textbook:** *The Practice of Business Statistics, 2nd Edition* 2008 by Moore et al.
 - * \$83.05 used from UI Bookstore (Old Capitol Mall), ISBN 9781429221504
- **Calculator:** You need a calculator which calculates both *one-variable statistics* (standard deviation) and *two-variable statistics* (correlation and regression coefficients.)
 - * Please check your calculator's functionality using the Calculator Help link from the 6E:71 website.
 - * Recommended calculators if you need to purchase one: TI 83 Plus, TI 86, TI 30XIIS, TI 36X, TI 36XII. (Some of these are more-expensive graphing calculators, others are simpler but will do a fine job.)
 - * The following calculators will not do the job (no two-variable statistics) and should not be purchased: TI 30STAT, TI 30X, TI 30Xa.
- **MINITAB 16 Statistical Software**

Two options for use:

 - * From a personal computer (Mac or PC) through the university's Virtual Desktop (free to UI students):
<http://virtualdesktop.uiowa.edu>
 - * Available at most campus computing centers (ITC), including Tippie College ITC

Course Features

Course Notes

Students purchase *partial* course notes from Zephyr Copies (124 E. Washington) for the cost of printing and binding only. Students *complete* notes during lecture. **Important: Students are responsible for class notes. If absent, students must obtain missed notes from other students. (Use this opportunity to “network” with other students.)**

Homework

- Completing Stats homework is essential. Homework is assigned weekly and due the following week. Homework is not collected. Instead:

Students work through problems, compare answers to online solutions, then work to overcome incorrect answers or other difficulties.

Strongly recommended: Print assignment directions. Check off questions which you solve correctly and circle those you miss. (Get help for those!) Then re-try missed questions a day or two later.

Discussions

- **Homework Quiz** over the most recently-due assignment.
- Help with next week’s HW assignment.
- Discuss pre-exam Practice Questions, review returned exams.

Quizzes and Exams

- Homework Quizzes are time-sensitive so makeup quizzes are not practical and are not used. Instead, as an explicit allowance for necessary absence (university-sanctioned events, illness, family emergency, etc.), the lowest two quiz scores are *dropped* from the calculation of the Quiz Percentage for the purpose of the course grade.
- Exams are multiple-choice and closed-book. Three 50-minute Midterm Exams are given during class time (see Course Schedule), in addition to a Final Exam.
- Students enrolled in morning Section A must take exams in the morning time slot (not afternoon.) Students enrolled in afternoon Section B must similarly take exams in the afternoon. **Exam credit is not awarded for switching between sections.**
- If a student’s Final Exam percentage score exceeds one of the Midterm Exam percentage scores, the single lowest Midterm score is replaced by the Final Exam score (at most one replacement) in the calculation of the course grade.
- **Makeup exams may be requested only by submitting verifiable written documentation of a university-sponsored event in advance and in person to Head TA.**

Makeup exams are not available for non-university-approved absence. (But in this case the missing Midterm Exam score of 0 is automatically replaced with the Final Exam score. See replacement policy in previous paragraph.) **Non-approved absences include club competitions and personal events such as weddings and graduations. For consistency, there are no individual exceptions. Please plan accordingly.**

Office Hours and Friday Tutor Lab/Help Session

- TA office hours are interchangeable: Attend *any* TA's office hours, as convenient. (You are not limited to office hour help from just your particular TA. Ask any TA for help during his office hours.) Check the Stats website for office hour schedule and locations.
- **Friday Afternoon Statistics Tutor Lab/Help Session:** Staffed by TAs from **2:30–3:30 in computer lab C207** immediately following the afternoon lecture (except on exam days.) Attend for extra help and free individual tutoring! Or just come to work on Homework in a supportive environment where you can ask questions as needed.

Email

Professor Whitten occasionally sends emails to the class containing important messages. Please keep your UI email account clear (under quota) and check email daily for such messages.

ICON

Check your quiz and exam scores on ICON. (There is a link from the course website.) For each exam, ICON also shows a list of questions answered incorrectly, together with the actual (incorrect) answers. ICON also shows your Discussion syllabus and quiz solutions.

Course Grades

Grades in 6E:71 are earned based on individual performance as described below. (Grades are not assigned based on arbitrarily preset percentages.)

- Weights for Course Percentage:

15%	Homework Quizzes
17%	Exam 1
17%	Exam 2
17%	Exam 3
34%	Final Exam
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100%	

- Calculate your own Course Percentage as follows:

1. Drop your two lowest Homework Quiz scores before calculating your Quiz Percentage.
2. Replace your lowest Midterm Exam score with your Final Exam score only if such replacement improves your score (at most one such replacement.)
3. Now calculate as follows:

$$\text{Course \%} = (0.15)(\text{Quiz}) + (0.17)(\text{Exam 1}) + (0.17)(\text{Exam 2}) + (0.17)(\text{Exam 3}) + (0.34)(\text{Final Exam})$$

- Course grades are earned 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 87.9999% earns a grade of B in 6E:71. (All students earn grades on the same scale, no individual exceptions.)

Important Dates

(tentative and subject to change)

Week	Day	Date	Description
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Part 1: Transition/Review of Business Stats – A Single Statistical Population & Comparing Two Proportions

- Topic 1: Basic Concepts
- Topic 2: Confidence Intervals & Hypothesis Tests
- Topic 3: Comparing Two Proportions

Wk 1	Mon	Jan. 16	MLK Holiday (no classes)
	Wed	Jan. 18	Begin review of Topic 1 and Topic 2 (See page 21 in Notebook for Textbook Reading to Review Business Stats)
	Fri	Jan. 20	

Makeup Discussions for Monday Sections due to MLK holiday (required):

- * **Section A01** (9:30 Mon)Makeup time is 2:30 Friday Jan. 20 in C207
- * **Section A03** (12:30 Mon)Makeup time is 2:30 Friday Jan. 20 in C231
- * **Section B21** (2:30 Mon)Makeup time is 3:30 Friday Jan. 20 in C207
- * **Section B22** (2:30 Mon)Makeup time is 3:30 Friday Jan. 20 in C231

For Friday Jan. 20 only the Tutor Lab/Help Session changes time and location to 2:30-4:00 in C220D (located within Computing Lab C220)

Wk 2	Mon	Jan. 23	Begin review of Topic 3
	Wed	Jan. 25	
	Fri	Jan. 27	Introduction/Motivation for Stats for Strategy

Wk 3	Mon	Jan. 30	Begin Topic 4: Chi-Square Tests (Textbook Reading: pages 536–545, 548–555)
	Wed	Feb. 1	Finish Topic 4
	Fri	Feb. 3	In-Class Practice Questions for Exam 1

Part 2: Comparing Means and Proportions in Several Populations

- Topic 4: Chi-Square Tests: Multiple Proportions in Categorical Data
- Topic 5: Comparing Two Means
- Topic 6: Analysis of Variance (ANOVA): Multiple Means from Numerical Data

Wk 4	Mon	Feb. 6	Exam 1 over Topics 1–3 in W10 during scheduled lecture period
	Wed	Feb. 8	Begin Topic 5: Comparing Two Means (Text Reading: pages 434–436, 449–459)
	Fri	Feb. 10	Begin Topic 6: ANOVA (Text Reading: pages 792–811, 819–821)

Wk 5	Mon	Feb. 13	Topic 6, continued.
	Wed	Feb. 15	
	Fri	Feb. 17	

Wk 6	Mon	Feb. 20	In-Class Practice Questions for Exam 2
	Wed	Feb. 22	Q/A session for Exam 2 with TAs and Prof. Whitten
	Fri	Feb. 24	Exam 2 over Topics 4–6 in W10 during scheduled lecture period

Wk 7	Mon	Feb. 27	Topic 7: Correlated Business Variables (Text Reading: pages 94–103, 110–115, 140–145)
	Wed	Feb. 29	Begin Topic 8: Single-Variable (Simple) Regression (Text Reading: pages 118–130, 570–587, 594–598)
	Fri	Mar. 2	

Important Dates, Continued

(tentative and subject to change)

Week	Day	Date	Description
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Part 3: Relationships Between Business Variables – Correlation and Regression

- Topic 7: Correlated Business Variables
- Topic 8: Single-Variable (Simple) Regression
- Topic 9: Multiple Regression

Wk 8	Mon	Mar. 5	Topic 8, continued.	
	Wed	Mar. 7		
	Fri	Mar. 9	Makeup Exams 1 and 2, 2:30-3:20 PM. Taken only by pre-registered students with university-approved absence. See syllabus for details.	
Wk 9	Mon	Mar. 12	Spring Break (no classes all week)	
	Wed	Mar. 14		
	Fri	Mar. 16		
Wk 10	Mon	Mar. 19	Begin Topic 9: Multiple Regression (Text Reading: pages 618–634, 636–650, 654–669)	
	Wed	Mar. 21		
	Fri	Mar. 23		
Wk 11	Mon	Mar. 26	Topic 9, continued.	
	Wed	Mar. 28		
	Fri	Mar. 30		
Wk 12	Mon	Apr. 2	In-Class Practice Questions for Exam 3	
	Wed	Apr. 4		Q/A session for Exam 3 with TAs and Prof. Whitten
	Fri	Apr. 6		Exam 3 over Topics 7–9 in W10 during scheduled lecture period

Part 4: Logistic Regression and Time Series

- Topic 10: Logistic Regression
- Topic 11: Time Series

Wk 13	Mon	Apr. 9	Begin Topic 10: Logistic Regression (Text Reading: pages 17-1 through 17-11)	
	Wed	Apr. 11		
	Fri	Apr. 13		
Wk 14	Mon	Apr. 16	Begin Topic 11: Time Series (Text Reading: pages 749–764, 768–779)	
	Wed	Apr. 18		
	Fri	Apr. 20		Makeup Exam 3, 2:30-3:20 PM. Taken only by pre-registered students with university-approved absence. See syllabus for details.
Wk 15	Mon	Apr. 23	Topic 11, continued.	
	Wed	Apr. 25		
	Fri	Apr. 27		
Wk 16	Mon	Apr. 30	In-Class Practice Questions for Topics 10 and 11. Study suggestions for Final Exam.	
	Wed	May 2		Q/A session for Final Exam (Ask questions about Topics 10–11 HW and Practice Questions)
	Fri	May 4		Q/A session (Ask questions about Exams 1–3, Practice Questions, Notes, Homework)
Wk 17			Final Exam (The university will publish day and time by fifth week in the semester.)	

Homework Schedule

	Assignment	Topics Covered	Due Date
Exam 1	HW1	Topic 1: Basic Concepts, Topic 2: CI & HT	Monday, Jan. 23
	HW2	Topic 3: Two Proportions	Monday, Jan. 30
Exam 2	HW3	Topic 4: Chi-Square, Topic 5: Two Means	Monday, Feb. 13
	HW4	Topic 6: ANOVA	Monday, Feb. 20
Exam 3	HW5	Topic 7: Correlation, Topic 8: Simple Regression	Monday, Mar. 5
	HW6	Topic 8, Part 2	Monday, Mar. 19
	HW7	Topic 9: Multiple Regression	Monday, Mar. 26
	HW8	Topic 9, Part 2	Monday, Apr. 2
Final Exam (comprehensive)	HW9	Topic 10: Logistic Regression	Monday, Apr. 16
	HW10	Topic 11: Time Series	Monday, Apr. 23
	HW11	Topic 11, Part 2	Monday, Apr. 30

Stats Discussions

Week	Dates	Activities	
1	Jan. 17–20	<ul style="list-style-type: none"> • Worksheet: Statistics Using Calculators and MINITAB • Discussion syllabus 	
2	Jan. 23–26	<ul style="list-style-type: none"> • HW1 Quiz • TA Help with HW2 	
3	Jan. 30–Feb. 2	<ul style="list-style-type: none"> • HW2 Quiz • Q/A over Exam 1 Additional Practice Questions 	
Exam 1	4	Feb. 6–9	<ul style="list-style-type: none"> • TA Help with HW3 OR Exam 1 Practice Questions
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5	Feb. 13–16	<ul style="list-style-type: none"> • HW3 Quiz • TA returns and reviews Exam 1 	
Exam 2	6	Feb. 20–23	<ul style="list-style-type: none"> • HW4 Quiz • Q/A over Exam 2 Additional Practice Questions
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7	Feb. 27–Mar. 1	<ul style="list-style-type: none"> • TA returns and reviews Exam 2 • Help with HW5 	
8	Mar. 5–8	<ul style="list-style-type: none"> • HW5 Quiz • Help with HW6 	
9	Mar. 12–15	<ul style="list-style-type: none"> • Spring Break (no Discussions) 	
10	Mar. 19–22	<ul style="list-style-type: none"> • HW6 Quiz • Help with HW7 	
11	Mar. 26–29	<ul style="list-style-type: none"> • HW7 Quiz • Help with HW8 	
Exam 3	12	Apr. 2–5	<ul style="list-style-type: none"> • HW8 Quiz • Q/A over Exam 3 Additional Practice Questions
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13	Apr. 9–12	<ul style="list-style-type: none"> • TA returns and reviews Exam 3 • Help with HW9 	
14	Apr. 16–19	<ul style="list-style-type: none"> • HW9 Quiz • Help with HW10 	
15	Apr. 23–26	<ul style="list-style-type: none"> • HW10 Quiz • Help with HW11 	
16	Apr. 30–May 3	<ul style="list-style-type: none"> • HW11 Quiz • Q/A over Topics 10/11 Practice Questions 	

Administrative Notes

Honor Code Course policies are governed by the Tippie College of Business. The College requires students to affirm and sign the Tippie College Honor Code on each exam. Violation of the Honor Code (i.e., any form of cheating)—including, but not limited to: copying answers or communicating with other students during quizzes or exams, or the unauthorized use of notes or computer files **will result in a failing grade for the course and referral to the appropriate academic committee.**

Students sign and submit an Honor Code form in Discussion before taking quizzes or exams.

Disabilities Please see me as soon as possible (after class or during office hours) if you have any disabilities for which alternative arrangements for lectures or exams should be made. Student Disability Services (located in Burge Hall) directs such arrangements at UI and also welcomes student inquiries.

Sexual Harassment The Tippie College of Business and the University of Iowa are committed to providing students with an environment free from sexual harassment. If you feel that you are being or have been harassed or you are not sure what constitutes sexual harassment, we encourage you to visit the University website, <http://www.sexualharassment.uiowa.edu/index.php>, and to seek assistance from department chairs, the Dean's Office, the University Ombudsperson's Office, or the Office of Equal Opportunity and Diversity.

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