UNIVERSITY OF IOWA
Department of Statistics and Actuarial Science
STAT 1030 Statistics for Business Spring 2017

Course Information

Overview We develop statistical methods of *inductive* reasoning to make the best-possible business decisions based on available partial (sample) information. We rely on *deductive* (mathematical) reasoning through Probability as a vital tool to help us achieve that goal.

STAT 1030 provides general education credit for *quantitative and formal reasoning* and is prerequisite for ECON 2800 Statistics for Strategy Problems.

Lecture 3:30–4:45 MW in Macbride Hall Auditorium

Stats Course Website (supplements ICON) `http://www.stat.uiowa.edu/~blake/stat1030`

Instructor Blake Whitten Office: 261 Schaeffer Hall (319) 335-0647 blake-whitten@uiowa.edu

Prof. Whitten's Office Hours: **Mon** 5:00–6:30 PM , **Wed** 6:30–8:00 PM

Required Materials

- **Course Packet** from Zephyr Copies, 125 S. Dubuque St., (319) 351-3500
  ($35.00 for two-Notebook bundle)
- **Textbook:** *The Practice of Statistics for Business and Economics, 3nd Edition* 2011 by Moore. ISBN 978-1429-2425-30, UI Bookstore & Beat The Bookstore (Old Capitol Mall)
- **Calculator:** Any calculator is acceptable if it can produce *one-variable statistics* (sample mean and standard deviation) from a set of numbers input as raw data.
  - The Calculator Help link on the Main Stats Website supports the following models:

    TI-83, TI-84, TI-89 Titanium, TI-30X II S, TI-BA II Plus, Casio FX-300 MS Plus, HP-50g.

  - Many other calculator models work great too, but you may need to google your calculator's directions for "standard deviation" if not listed above.
  - The TI-83, TI-84 and TI-89 are graphing calculators but graphing capability is not used in Business Stats. Many Casio and other TI calculators work fine and are less expensive.
- **MINITAB 17 Statistical Software:** Available in 41 Schaefer Hall and other computing locations on campus

Course Features

Course Notes Are Key!

- Buy Course Notebooks from Zephyr Printing, 125 S. Dubuque St. (in the downtown Ped Mall near Weatherdance Fountain.)
- Students *complete* Notebook Examples (together with Prof. Whitten and TAs) in Macbride.
- If you miss class, get that day's notes from any TA/Professor office hour or from a classmate.

Stats Homework

- **Use the "Accounting Method" described in the STATS GUIDE for success!**
- Homework is not collected. Instead, homework answers are posted on the Stats Website so you can check answers and work through challenges/incorrect answers. (This requires discipline.) **Students take homework quizzes in Discussion instead of graded homework.**

Stats Assistance (Personalize your study routine with help from three sources)

- **Stats Dept. Tutor Lab (graduate student tutors)**
  - Location: 1113 Red LIB (Main Library Learning Commons)
  - Weekly tutoring schedule: `http://www.stat.uiowa.edu/resources/tutoring`
- **Tippie College Peer-To-Peer Tutoring (undergrad student tutors)**
  - Location: Tippie Business Library (third floor PBB)
  - Schedule: 5–7 PM Monday, Tuesday, and Thursday nights
- **Shared TA Office Hours – See *any* TA, not just your own!** (see Stats Website link)

Discussions

- **Weekly Quizzes** Quizzes may cover any current or previous HW assignments as well as anything discussed in lectures/Discussions in the course to date.
- **Topic Worksheets** (included in Notebooks), a boost for the *next* HW challenge!
- Help with **MINITAB statistical software**

Quizzes

- Quizzes may cover any previous or current HW assignments as well as anything discussed in lectures/Discussions in the course to date (provides the best-possible exam preparation!)
- Discussion Quizzes are time-sensitive so as a practical matter makeup quizzes are not given. Instead, and as an explicit allowance for necessary absence (university-sanctioned events, illness, family emergency, etc.) the lowest 2 quiz scores are *dropped* from the calculation of the course grade.

(See more about quizzes next page)

- If you *do* miss a quiz, we recommend that you pick up an extra copy from your TA to work as practice for the next exam. **Your TA will email your quiz version's solution to you each week after the quiz has been graded.**

- We'll also use Practice Quizzes (not for credit) in Macbride lectures to help prep for exams.

Exams

- Exams are multiple-choice and closed-book. Three 90-minute midterm exams are given 8:45–10:15 Thursday evenings (see Course Schedule), in addition to a (comprehensive) final exam.

- You may use **one standard sheet of paper** (8.5″ by 11″), front and back, of handwritten or word-processed formulas and notes on each midterm exam.

  - Please make your own formula sheets. (Doing it yourself provides study benefits!)
  - **Use of more than one sheet (even two sheets taped or stapled together) is a violation of the Stats Honor Code and is considered cheating.**
  - Keep your midterm-exam formula sheets to re-use on the (comprehensive) final exam.
  - For the final exam you may use four standard sheets of paper, front and back (one sheet for *new* topics covered after Exam 3; one sheet for each of three midterms.)

- **Midterm Exam Assigned Desks:** Use your assigned desk and room to earn exam credit.

Exam Rooms	**(See Your Assigned Room/Desk on Stats Website Exams Page)**
◦ 107 EPB	
◦ AUD MH	**You must attend your exam location to earn grading credit.**
◦ C20 PC	**(See classroom maps on Exams Page to find your desk!)**

- **Midterm Exam Score Replacement Policy:**

  - If the final exam percentage score exceeds at least one of the midterm exam percentage scores, then the single lowest midterm score is replaced by the final exam score (at most one replacement) in the calculation of the course grade.
  - Since the final exam is comprehensive, you have a second chance to score higher if a particular exam doesn't go well.

- **Makeup Exam Policy**

  - **Experience shows that staying on schedule is vital to Stats success!**
  - So students are required to take exams as scheduled **except in cases of officially university-approved absence** such as class conflict with official exam time, illness, religious observance, and NCAA athletic competition.
  - **Makeup exams are not available for other reasons, including student org field trips, club competitions and personal events. You still may choose to miss an exam for personal reasons, in which case the exam score of 0 is automatically replaced by the final exam score, as described by the Midterm Exam Score Replacement Policy.**

MINITAB Reports

- Students complete MINITAB assignments (and submit reports) during the semester. (These are independent of weekly HW assignments.) Frequency and due dates to be announced.

- MINITAB greatly simplifies some statistical calculations and graphs. Students who become business majors in the Tippie College and take the subsequent course ECON 2800 (Statistics for Strategy) enjoy a competitive advantage: ECON 2800 uses MINITAB extensively.

Course Grades

- Weights for Course Percentage:

5%	Discussion
5%	Minitab
15%	Quizzes
15%	Exam 1
15%	Exam 2
15%	Exam 3
30%	Final Exam
100%	

- Calculate your own Course Percentage, as follows:

  1. Drop your two lowest Quiz scores. Then calculate a Quiz Percentage from the remaining scores.
  2. Calculate a MINITAB Percentage by averaging MINITAB Report scores.
  3. Replace your lowest Midterm Exam score with your Final Exam score only if such replacement improves your score (at most one such replacement.)
  4. Now use the following formula:

$$\begin{aligned}\text{Course \%} = {} & (0.05)(\text{Discussion}) + (0.05)(\text{Minitab}) + (0.15)(\text{Quiz}) + (0.15)(\text{Exam 1}) + (0.15)(\text{Exam 2}) \\ & + (0.15)(\text{Exam 3}) + (0.30)(\text{Final Exam})\end{aligned}$$

- 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 example, a course percentage of 87.9999% earns a grade of B in STAT 1030. So that course grades are meaningful, all students earn grades on the same scale, without exception.

Macbride Hall Semester Schedule

Week	Lecture	Day	Date	Subject
1	–	Mon	Jan. 16	
	1	Wed	Jan. 18	**Topic 1: Six Steps of Inference**
2	2	Mon	Jan. 23	**Topic 1**
	3	Wed	Jan. 25	**Topic 2: Describing Sample Data**
3	4	Mon	Jan. 30	**Topic 2 & Topic 3: Probability**
	5	Wed	Feb. 1	**Topic 3**
4	6	Mon	Feb. 6	**Topic 3**
	7	Wed	Feb. 8	**Topic 3**
5	8	Mon	Feb. 13	**Exam 1 Practice Questions**
	9	Wed	Feb. 15	**Topic 4: Random Variables**
Midterm Exam 1: Thursday, Feb. 16 8:45 - 10:15 p.m. (Covers Topics 1–3)				
6	10	Mon	Feb. 20	**Topic 4**
	11	Wed	Feb. 22	**Topic 5: Continuous Distributions**
7	12	Mon	Feb. 27	**Topic 5**
	13	Wed	Mar. 1	**Topic 6: Sampling Distributions**
8	14	Mon	Mar. 6	**Topic 6**
	15	Wed	Mar. 8	**Topic 6**
9	–	Mon	Mar. 13	**(Spring Break)**
	–	Wed	Mar. 15	
10	16	Mon	Mar. 20	**Exam 2 Prep Worksheet**
	17	Wed	Mar. 22	**Exam 2 Practice Questions**
Midterm Exam 2: Thursday, March 23 8:45 - 10:15 p.m. (Covers Topics 4–6)				
11	18	Mon	Mar. 27	**Topic 7: Confidence Intervals**
	19	Wed	Mar. 29	**Topic 7, Topic 8: Hypothesis Testing**
12	20	Mon	Apr. 3	**Topic 8**
	21	Wed	Apr. 5	**Topic 8**
13	22	Mon	Apr. 10	**Exam 3 Practice Questions**
	23	Wed	Apr. 12	**Topic 9: Comparing Two Proportions**
Midterm Exam 3: Thursday, April 13 8:45 - 10:15 p.m. (Covers Topics 7–8)				
14	24	Mon	Apr. 17	**Topic 10: Correlation, Regression, and Stock Portfolios**
	25	Wed	Apr. 19	**Topic 10**
15	26	Mon	Apr. 24	**Topic 10**
	27	Wed	Apr. 26	**Topic 10**
16	28	Mon	May 1	**Course Overview, Final Exam Practice Sheet**
	29	Wed	May 3	**Final Exam Q/A Session**

Final Exam (Date and location TBA)

Homework Scheduler & Monday/Tuesday Discussion Due Dates

Homework Assignment	Discussion Due Dates	Topics Covered	Comments
1	Jan. 23/24	Topic 1: Six Steps of Inference	Write and think carefully! Refer to Six Steps and Notebook 1 diagrams pages 21–23
2	Jan. 30/31	Topic 1, Topic 2: Describing Data	Use Stats calculator functions in Discussion
3	Feb. 6/7	Topic 3: Probability	Features ... Laws of Probability
4	Feb. 13/14	Topic 3	Features ... Conditional Probability
		(Exam 1 Thursday, Feb. 16)	
5	Feb. 20/21	Topic 4: Discrete Random Variables	Includes ... Mean/Expected Value
6	Feb. 27/28	Topic 4	Variance, Standard Deviation, Binomial RV's
7	March 6/7	Topic 5: Continuous Distributions	Uniform and Normal Random Variables
8	March 20/21	Topic 6: Sampling Distributions	Tough homework! Do it before Spring Break!
		(Exam 2 Thursday, March 23)	
9	April 3/4	Topic 7: Confidence Intervals	Long assignment, start early!
10	April 10/11	Topic 8: Hypothesis Tests	Long assignment, start early!
		(Exam 3 Thursday, April 13)	
11	April 24/25	Topic 10: Correlation and Regression	First regression assignment, start early!
12	May 1/2	Topic 10	Second regression assignment, start early!

Administrative Notes

Honor Code Course policies are governed by the College of Liberal Arts and Sciences. Cheating in STAT 1030 is unethical and unfairly punishes honest students. Cheating includes, but is not limited to, copying or communicating with other students during quizzes or exams, and unauthorized use of notes, computer files, or other study aids. **Cheating can result in score of 0 on quiz, exam or project, loss of midterm-exam score replacement privilege, loss of one course letter grade, and failing the course. All cheating cases are referred to the College for further action.**

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 College of Liberal Arts and Sciences 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, visit the University website http://www.sexualharassment.uiowa.edu/index.php, to seek assistance from department chairs, the Dean's Office, the University Ombuds Office, or the Office of Equal Opportunity and Diversity.

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