

ECON 378
Statistics for Economists
Winter 2007, Sections 1 & 2

GENERAL INFORMATION

Instructor: Heather Howard
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Office: 134 FOB
Campus Phone: 801-422-3182
Office Hours: Wednesdays, 10-11:00 AM, or by appointment.

TAs: Kasey Clemans (section 1) Travis Howe (section 2)
Email: kclemans@gmail.com Email: thowe@byu.net

Both TAs are available to help all students, regardless of the section.
Lab hours will be posted on Blackboard the second week of class.

Website: Grades, deadlines, solutions guides, announcements, and assignments will be managed through the course website on <https://blackboard.byu.edu>.

Textbooks: Wackerly, D, W. Mendenhall, and R. L. Scheaffer. 2002. *Mathematical Statistics with Applications, 6th Edition*. New York: Duxbury Press.
(Required)

Caffo, B. and G. Jones. 2002. *Student Solutions Manual for Wackerly/Mendenhall/Scheaffer's Mathematical Statistics with Applications, 6th Edition*. Duxbury Press. (Optional but highly recommended; 2 copies available through HBL Course Reserve)

Description: This course serves as an introduction to probability, mathematical statistics, hypothesis testing, and matrix algebra. Important topics include random variables, probability density functions, expected values, parameter estimation, the Central Limit Theorem, and hypothesis testing.

Prerequisites: **Calculus is both the official and an actual prerequisite for this course. Regardless of what you may have heard from another source, all students must be comfortable and up to date on taking derivatives and finding integrals (and solving functions at the level of college algebra, including summations and natural logs).**

Grading: Individual grades will be based on multiple evaluation tools, as follows.

<u>Evaluation Tool</u>	<u>Weight</u>
Homework Readings & Exercises	15%
Applied Statistics Mini-projects	10%
Midterm Exam	30%
Final Exam	45%

EXPLANATION OF EVALUATION TOOLS

Homework Readings & Exercises

Homework will be due in class on all Tuesdays and most Thursdays. Homework will consist primarily of practice exercises from the textbook (generally word problems). Occasional readings will come from both the textbook and the web. Solutions to odd-numbered exercises from the textbook will be available through the Student Solution Guide. Solutions to all other exercises will be posted to Blackboard. Homework will be scored on a 4-point scale according to demonstrated effort and understanding.

<u>Demonstrated Effort and Understanding</u>	<u>Score</u>
Complete all readings & properly set-up all exercises	4
Complete all readings & attempt all exercises with many errors OR properly set-up all exercises but incomplete readings	3
Complete some readings & attempt most exercises OR complete all readings	2
Complete some readings OR attempt few exercises	1
Fail to submit homework	0

Homework may be submitted up to seven days late for 50% credit. Homework more than one week late may not be submitted for credit. You may drop one assignment.

I strongly encourage you to work on the homework together with other students in the class. Your peers are excellent resources for answering your questions, and you will learn from answering theirs. Each person must submit a handwritten copy for grading.

Tentative deadlines are posted on Blackboard to aid in future planning. Changes to the schedule will be posted to the schedule and announced on Blackboard, so be sure to review the website regularly.

Applied Statistics Mini-Projects

Applied Statistics Mini-Projects help bridge the gap between theory and application. They range in focus from statistical literacy to original data analysis. The mini-projects are designed to be interesting and enjoyable, and often have an element of group collaboration. Late assignments may be submitted within fourteen calendar days for 50% credit. Mini-projects more than two weeks late will not receive any credit.

Midterm Exam

A midterm examination will be administered in the testing center, as indicated on the schedule (last page this packet). An unexcused missed midterm will receive a zero.

Final Exam

The final exam will be administered in the classroom, as dictated by the University schedule. The final exam will be comprehensive, including all material discussed in the course. The final exam is mandatory to pass the class.

Excused Absences

An excused absence may be obtained for university business or a legitimate emergency. For exams, I require notification two weeks in advance of the absence. In case of an unforeseen emergency, contact me as soon as is reasonably possible. In all cases you will be required to provide written documentation of the absence.

Honor Code Standards

It is the university's expectation, and my own expectation in class, that each student will abide by all Honor Code standards, including standards for academic honesty, respect for others, and dress and grooming. Please call the Honor Code Office at 422-2847 if you have questions about those standards.

Preventing Sexual Discrimination or Harassment

Sexual discrimination or harassment (including student-to-student harassment) is prohibited both by the law and by Brigham Young University policy. If you feel you are being subjected to sexual discrimination or harassment, please bring your concerns to the professor. Alternatively, you may lodge a complaint with the Equal Employment Office (D-240C ASB) or with the Honor Code Office (4440 WILK).

Students with Disabilities

If you have a disability that may affect your performance in this course, contact the office of Services for Students with Disabilities (1520 WSC). This office can evaluate your disability and assist in arranging for reasonable accommodations.

Student Learning Outcomes

Each program at BYU has developed a set of expected student learning outcomes. These will help you understand the objectives of the curriculum in the program, including this class. To learn the expected student outcomes for the programs in this department and college go to <http://learningoutcomes.byu.edu> and click on the College of Family, Home and Social Sciences and then this department. We welcome feedback on the expected student learning outcomes. Any comments or suggestions you have can be sent to FHSS@byu.edu.

TENTATIVE SCHEDULE

Date	Topic	Chapter in Wackerly
9 Jan	Introduction	1
11 Jan	Probability	2
16 Jan	Probability	2
18 Jan	Discrete Random Variables	3
23 Jan	Discrete Random Variables	3
25 Jan	Continuous Random Variables	4
30 Jan	Continuous Random Variables	4
1 Feb	Continuous Random Variables	4
6 Feb	Multivariate Distributions	5
8 Feb	Multivariate Distributions	5
13 Feb	Multivariate Distributions	5
15 Feb	Multivariate Distributions	5
20 Feb	<i>No Class—Monday Instruction</i>	
21-22 Feb	Midterm on Chapters 1-5 (Exam available in Testing Center from noon on Wednesday to closing time on Thursday)	
27 Feb	Sampling from a Population	Supplement
<i>Special Note: Professor Arden Pope, BYU Economics, will deliver the Maeser Distinguished Faculty Lecture at the forum assembly (11 AM, 27 Feb, Marriott Center)</i>		
1 Mar	Parameter Estimation	9
6 Mar	Parameter Estimation	9
8 Mar	Sampling Distributions	7
13 Mar	Sampling Distributions	7
15 Mar	Sampling Distributions	7
20 Mar	Interval Estimation	8
22 Mar	Interval Estimation	8
27 Mar	Interval Estimation	8
29 Mar	Hypothesis Testing	10
3 Apr	Hypothesis Testing	10
5 Apr	Hypothesis Testing	10
10 Apr	Matrix Algebra	Appendix 1
12 Apr	Matrix Algebra	Appendix 1
17 Apr	Matrix Algebra	Appendix 1
Comprehensive Final Exam (3 hour time limit, no graphing calculators allowed)		
Section 1: Friday, 20 Apr, 7:00 AM to 10:00 AM, C285 ESC		Section 2: Monday, 23 Apr, 11:00 AM to 2:00 PM, B060 JFSB