STEPHEN F. AUSTIN STATE UNIVERSITY
Department of Economics and Finance
ECO 339-500 — Applied Statistical Analysis
Spring 2016

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Office Hours: Mon/Wed 9:00-12:00, 4:00-5:00, Tue/Thu 9:00-1:00 (online)
and by appointment

Course Description and Objectives
The application of statistical and quantitative methods. Topics that we will address include: hypothesis
testing, analysis of variance (ANOVA) and linear regression. Students successfully completing this
course should be able to:

1. Use quantitative, abstract, and logical reasoning;
2. Obtain basic knowledge in mathematics and statistics;
3. Acquire skills in the use of contemporary information resources and technology;
4. Utilize analytical thinking, critical analysis, logic, creativity, and integrative problem solving;
5. Work with descriptive statistics in a sampling situation;
6. Perform a variety of statistical tests and make inferences;
7. Compute and interpret regression equations using raw data;
8. Use standard tables for the normal distribution, f-distribution and chi-square distribution.

You may have heard from your friends that Statistics is boring and difficult. Your friends are right, but
that doesn’t mean that you can’t have fun learning this very important subject.

Prerequisites
MTH 220

Class Meetings
There will be no on-campus class meetings; the class is entirely online. While I am available on campus
during my office hours, I would prefer that everyone asks questions through the Discussions tool on
Desire2Learn for two reasons: 1) to make it fair for everybody, including those who do not live nearby;
2) to let everyone else see the discussion and/or the answer, so the same questions don’t need to be
answered multiple times.

Text and Other Materials
The textbook we will use is Introduction to Business Statistics, 7th Edition by R.M. Weiers, 2011, South-
Western, Cengage Learning. The book has an online supplement called “CengageNow.”
Access to CengageNOW is required for this course; that is where you will complete all of the homework
assignments. You have several purchasing options here:
1. Purchase Instant Access to CengageNOW for $98. This includes the ebook and is the most affordable option. The link is here: http://www.cengagebrain.com/course/1113566.

2. Purchase a printed CengageNOW access code card at the bookstore on campus. I don’t know the exact price, but it is likely more expensive than the option above. This also includes the ebook. This option may be more convenient for some with scholarships and/or financial aid.

While the above options should satisfy most of you, someone may decide they want a hard copy of the textbook. (Note that the ebook allows printing, so the hard copy is strictly optional). If so, you have the following two options:

3. Purchase a used copy at the bookstore (or anywhere else on- or off-line if you like). This will be in addition to the CengageNOW access fee.

4. Purchase a bundle of the “textbook + CengageNOW access” directly from here: http://www.cengagebrain.com/shop/isbn/978-1-305-60418-6. This will be very expensive, but there are some renting options.

Obviously, the last option is the most expensive, and I don’t recommend it...

You should take care of buying access to CengageNOW ASAP. If you run into technical difficulties, contact their technical support, they are very good about responding quickly. But don’t delay this; there are assignments due early on in the term, and they will count.

We will also use Excel rather extensively, so you should make sure you are familiar with its basic functions.

Grading

Your course grade will be computed as follows:

<table>
<thead>
<tr>
<th>Four Exams (15% each)</th>
<th>60%</th>
</tr>
</thead>
<tbody>
<tr>
<td>D2L Quizzes</td>
<td>20</td>
</tr>
<tr>
<td>Homework Assignments (CengageNOW)</td>
<td>20</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Letter grades will be assigned according to the following scale:

<table>
<thead>
<tr>
<th>90%-100%</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>80% - 89%</td>
<td>B</td>
</tr>
<tr>
<td>70% - 79%</td>
<td>C</td>
</tr>
<tr>
<td>60% - 69%</td>
<td>D</td>
</tr>
<tr>
<td>&lt; 60%</td>
<td>F</td>
</tr>
</tbody>
</table>
Your overall course average will be rounded up to the nearest integer, but no other curving will be done. In other words, a 88.3 average will be rounded up to a 89 and correspond to a B.

Exams
There will be four equally-weighted noncumulative exams. See the Calendar on the main course page for details on dates and coverage of each exam. The exams will each be available for 24 hours – with the exception of Exam 4, which will be available for 48 hours during Final Exam week – and you will have 2 hours to complete the exam once you’ve started it. Exams will consist of multiple choice questions (75 percent) and problems (25 percent). The multiple choice questions will come from the quizzes (see the next item), while the problems will be similar to examples in the textbook, homework and in the lecture notes.

Exam 4 – the last exam held during Finals Week – will be proctored. You have the option to take the exam in the Computer Lab in the McGee Business building any time during its hours of operation or take the exam from anywhere else using ProctorU, an online proctoring system. There is no cost to you to use either option. Complete description and instructions on using ProctorU can be found here and will also be communicated by email prior to Finals week.

Please take note of the following:

If you take your online exam but do not use ProctorU, I will not provide a grade for that exam.

You will be monitored during the exam. Suspected violations will be noted and a report will be sent to the instructor.

Avoid taking the exam in a public place: even though Java Jacks, Starbucks, and McDonald's may all have free WiFi, these are not ideal locations.

Exams are scheduled for the following dates:

<table>
<thead>
<tr>
<th>Exam</th>
<th>Date</th>
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<tbody>
<tr>
<td>Exam 1</td>
<td>Monday, February 8, 2016</td>
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<tr>
<td>Exam 2</td>
<td>Monday, February 29, 2016</td>
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<tr>
<td>Exam 3</td>
<td>Monday, April 4, 2016</td>
</tr>
<tr>
<td>Exam 4</td>
<td>Tuesday-Wednesday, May 10-11, 2016</td>
</tr>
</tbody>
</table>

The complete course timeline can be found here.

Quizzes
Quizzes are to be completed on Desire2Learn. They are the single best way to prepare for the exams. You will have three attempts to complete each quiz, and your highest score will be recorded. The questions on the quiz are randomly chosen from a large database of questions, so repeated attempts will...
not necessarily show the same questions. Some of the quiz questions will provide the basis for exam questions. All quizzes and homework assignments (described below) are due at 11:59 pm on the specified due date. **Quizzes cannot be submitted after this point or made up.**

**Homework Assignments**

There will be one CengageNOW homework assignment for each module. You have three attempts at each assignment before the due date (the same as the due date for the completion of that module). The attempts are not timed, so you can take as long as you want; you can also save your progress on an assignment and come back to it later. Submitting an assignment for grading counts as a “take.” Late submissions will be penalized 20 percent. Each assignment will be available for exactly one week (7 days) past the due date; you can submit the assignment during this period and incur the late penalty. No submissions will be allowed after this one-week period.

**All assignments/quizzes/exams must be completed by May 11 at 11:59 pm (i.e., the end of the semester). No exceptions.**

You will need to register – i.e., create a login and password – for CengageNOW using the access code that you bought. Follow the directions in the attached file, Getting Started with CengageNOW. Then you will need to enroll in this course, Applied Statistical Analysis Spring 2016, using the course key, which is E-TWQN5SPBD4GE7.

More detailed information is [here](#).

**Participation**

Participation in this class requires some interaction with your classmates and the professor. Some of it will take place on the Discussion Boards. I will occasionally post questions that I would want people to answer/react to. Participation is not required, but is expected; it will not be graded.

**There is no extra credit of any kind, so don’t ask. Exams, Quizzes, and Assignments are your only chances to show me what you’ve learned, so take them seriously. No Quizzes or Assignments will be dropped; they all count.**

Click [here](#) for the College of Business Syllabus Addendum detailing important policies.
Rusche College of Business  
Syllabus Addendum

Program Learning Outcomes:

Program learning outcomes define the knowledge, skills, and abilities students are expected to demonstrate upon completion of an academic program. These learning outcomes are regularly assessed to determine student learning and to evaluate overall program effectiveness. You may access the program learning outcomes for your major and particular courses at http://www.sfasu.edu/cob/ug-plo.asp.

General Student Policies:

Academic Integrity (4.1)
Academic integrity is a responsibility of all university faculty and students. Faculty members promote academic integrity in multiple ways including instruction on the components of academic honesty, as well as abiding by university policy on penalties for cheating and plagiarism.

Definition of Academic Dishonesty:
Academic dishonesty includes both cheating and plagiarism. Cheating includes but is not limited to (1) using or attempting to use unauthorized materials to aid in achieving a better grade on a component of a class; (2) the falsification or invention of any information, including citations, on an assigned exercise; and/or (3) helping or attempting to help another in an act of cheating or plagiarism. Plagiarism is presenting the words or ideas of another person as if they were your own. Examples of plagiarism are (1) submitting an assignment as if it were one’s own work when, in fact, it is at least partly the work of another; (2) submitting a work that has been purchased or otherwise obtained from an Internet source or another source; and (3) incorporating the words or ideas of an author into one’s paper without giving the author due credit. Please read the complete policy at http://www.sfasu.edu/policies/academic_integrity.asp.

Withheld Grades Semester Grades Policy (5.5)
Ordinarily, at the discretion of the instructor of record and with the approval of the academic chair/director, a grade of WH will be assigned only if the student cannot complete the course work because of unavoidable circumstances. Students must complete the work within one calendar year from the end of the semester in which they receive a WH, or the grade automatically becomes an F. If students register for the same course in future terms the WH will automatically become an F and will be counted as a repeated course for the purpose of computing the grade point average.

Students with Disabilities
To obtain disability related accommodations, alternate formats and/or auxiliary aids, students with disabilities must contact the Office of Disability Services (ODS), Human Services Building, and Room 325, 468-3004 / 468-1004 (TDD) as early as possible in the semester. Once verified, ODS will notify the course instructor and outline the accommodation and/or auxiliary aids to be provided. Failure to request services in a timely manner may delay your accommodations. For additional information, go to http://www.sfasu.edu/disabilityservices/.

Acceptable Student Behavior
Classroom behavior should not interfere with the instructor's ability to conduct the class or the ability of other students to learn from the instructional program (see the Student Conduct Code, policy 10-4). Unacceptable or disruptive behavior will not be tolerated. Students who disrupt the learning environment may be asked to leave class and may be subject to judicial, academic, or other penalties. This prohibition applies to all instructional forums, including electronic, classroom, labs, discussion groups, field trips, etc. The instructor shall have full discretion over what behavior is appropriate/inappropriate in the classroom. Students who do not attend class regularly or who perform poorly on class projects/exams may be referred to the Early Alert Program. This program provides students with recommendations for resources or other assistance that is available to help SFA students succeed.
ProctorU, an online proctoring service using live proctors, allows you to take an online exam while being proctored by a live person at a remote location. Taking an exam through ProctorU requires that you have a functioning webcam and microphone. In addition, you will need a reflective surface, such as a hand mirror, CD, or DVD to make sure there is no material (such as sticky notes) on the monitor. You will also need access to a desktop or laptop computer. Tablets, smart phones, Chromebooks, and other mobile devices are not supported at this time.

- **It is your responsibility** to schedule your exam(s) and abide by all rules for bringing only appropriate materials into your testing area. You will need to provide photo identification to your proctor prior to taking your exam. Appropriate identification includes: driver’s license, SFA student ID, passport, or other government-issued photo identification.
- **You must schedule your exam** at least four (4) or more days in advance, or you will be required to pay an additional fee. If you schedule your exam four (4) or more days in, you will not need to pay anything!
- When you schedule your exam, be sure to take into account that verifying your identity and validating the integrity of your testing area will take a few minutes.
- Before scheduling your exam, you need to ensure your computer is compatible with ProctorU’s software.

- In the weeks/months before your exam, follow these steps to learn how ProctorU works and how to schedule an exam.
  2. Go to Test My Computer to test out your computer to see if everything such as your webcam, microphone, bandwidth, etc., meet the requirements for ProctorU.

You can also visit Technical Specifications for Using ProctorU to see required specifications.

**Note:** Google Chrome is the best browser to use when taking an exam with ProctorU!
# Syllabus

## ECO 339 - Applied Statistical Analysis
### Spring 2016 Course Timeline

Note: all assignments and quizzes are due at the end of the specified day, i.e. by 11:59 pm.

<table>
<thead>
<tr>
<th>Module and Topics</th>
<th>Assignments</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>Normal Distribution Assignment on CengageNOW</td>
<td>February 1, 2016</td>
</tr>
<tr>
<td></td>
<td>Normal Distribution Quiz</td>
<td></td>
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<tr>
<td>Normal Distribution</td>
<td>Sampling Distribution of $\bar{x}$ Assignment on CengageNOW</td>
<td>February 1, 2016</td>
</tr>
<tr>
<td></td>
<td>Sampling Distribution of $\bar{x}$ Quiz</td>
<td></td>
</tr>
<tr>
<td>Sampling Distribution of the Sample Mean</td>
<td>Hypothesis Testing About the Population Mean Assignment on CengageNOW</td>
<td>February 7, 2016</td>
</tr>
<tr>
<td></td>
<td>Hypothesis Testing - One Sample Quiz</td>
<td></td>
</tr>
<tr>
<td>One-Sample Hypothesis Testing</td>
<td>EXAM 1</td>
<td>February 8, 2016</td>
</tr>
<tr>
<td>Two-Sample Hypothesis Testing</td>
<td>Hypothesis Testing for Two Independent Samples Assignment on CengageNOW</td>
<td>February 17, 2016</td>
</tr>
<tr>
<td></td>
<td>Hypothesis Testing - Two Samples Quiz</td>
<td></td>
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<tr>
<td>Analysis of Variance</td>
<td>ANOVA Assignment on CengageNOW</td>
<td>February 28, 2016</td>
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<tr>
<td></td>
<td>ANOVA Quiz</td>
<td></td>
</tr>
<tr>
<td></td>
<td>EXAM 2</td>
<td>February 29, 2016</td>
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</tbody>
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