

Vanderbilt University

Economics 150 Statistics Sections 1 to 8

Mr. Getz, Fall 2007

Wilson 126, MW 9:10 AM AND WILSON 120 FRIDAY @ 8, 9, 10, 11AM, 12, 1, 2, & 3PM

Go to **OAK.vanderbilt.edu** for online information.

Audience

This is a first course in statistics for students interested in economics. Students should have some knowledge of calculus. On occasion, we will use a derivative or talk about the integral of a function. The Department of Economics requires this course of all its majors and minors. Students need have no previous knowledge of a spreadsheet but will learn to use the spreadsheet here.

The class will meet in Wilson 126 twice a week for lectures and once a week, in sections, in the workstation classroom, Wilson Hall 120. Each seat there is equipped with a computer running the Macintosh OS. Students will learn to make effective use of computer-based tools in learning statistics. Undergraduate teaching assistants who have trained for this role will lead the Friday sections. Tests will take place in Wilson 120.

Class

The course develops ideas on many levels simultaneously. Your success depends on knitting together skills with Excel, words, numbers, charts, mathematics, and simulations. Although most ideas are presented in the text and we project figures from the text in class, nevertheless, you will learn to use the ideas more effectively by seeing them used in class, by rehearsing their use for yourself in problems in the text, and by raising your own questions. You should gain a sufficient proficiency that you can apply the methods you learn to original problems in projects and tests. Participating in the class meetings and practice using the methods with your teammate will enhance your performance. The class begins slowly with basic charts so that you become comfortable working in Excel. The pace quickens as we use Excel's power to explore statistics.

At the end of each lecture, students may write brief, anonymous notes to identify the most important idea in the class and to identify a point of confusion or ask a question. Mr. Getz will review the notes and respond to some of the questions by email to the whole class.

Text

Mr. Getz has created a spreadsheet-based text for this course called **e.stat for business and economics** (South-Western College Publishing). It is available in the Vanderbilt Bookstore. Mr. Getz will make a donation to Vanderbilt of royalties on your purchase. *Excel* is available on each machine in Wilson 120 and you may use the classroom after-hours as a lab. You may use **e.stat** on any computer equipped with *Excel*. [It runs under Classic on the Mac. If you have an Intel-based Mac, you may run **e.stat** under Windows.] We will make extensive use of "Tools--Data Analysis". These tools are not always installed with Excel, so you may want to reinstall Excel on your personal computer if the Data Analysis Tools aren't already installed. Installation of the Data Analysis VBA

requires a custom installation of Excel rather than the easy installation. CDs are fragile and will snap. Handle them carefully. For updates and corrections to some of the files in **e.stat**, see <http://www.vanderbilt.edu/Econ/faculty/Getz/e.statextensions/estattop.html>

Teammates

Members of the class will be assigned to teams within their sections. Each team member is responsible for helping his or her teammates learn statistics, prepare for tests, use the computer systems effectively, and develop the computer projects. The best way to learn statistics is to teach it to someone else. The best way to improve the quality of a presentation is to get a critique from a colleague. In this course, your teammates are available as a trial audience. The relationship is reciprocal. Your teammates' evaluation of your success as a teacher and colleague will influence your grade. Teammates will be assigned at the second class meeting. Your first assignment is to take your teammate to lunch, develop study plans, and produce ideas for the first computer project. Projects A and C will be team efforts. Each class member will file a report on the team effort. You can improve your performance with teamwork.

Use of the Computer

Statistics is the art of formal persuasion using observed evidence. As you gain skill in organizing evidence so as to persuade a sophisticated audience (namely your fellow students), you will also better understand what it takes to convince yourself. The first rule of persuasion is to choose an interesting topic. The second rule is to make interesting whatever topic you choose.

Computer software will allow you to create persuasive presentations with relative ease. The same software also invites easy manipulation of data, allowing you to explore and organize your evidence in an understandable manner. The software will allow you to simulate a variety of evidence, and so gain insight into its nature.

Excel is a good tool for learning statistics because it allows easy entry of data, direct computation of a variety of statistics, well-formatted plotting, and creation of blocks of text as part of the presentation.

Students will also be expected to use the campus network, electronic mail, the World Wide Web, and to share documents and data files. Please let your section leader know if you need help in getting started with the computing tools. We will use the version of Blackboard at OAK.Vanderbilt.edu to share files and email. One course on OAK is for your section and another is common to all sections that share the 9 MW lecture.

Computer Projects

Each student will complete five projects during the course. Each project is described below. Each project must be original. It is an honor code violation to copy any part of a project from someone else. Each project should persuade. The choice of topic matters, make it interesting and choose something topical and original. The quality of the presentation matters, treat it as though you were giving it to your new employer—clean, clear, and documented. Let your teammate critique your project before you hand it in. You may revise your project in light of your teammate's critique before submitting it.

Give a helpful critique of your teammate's project. That is the best way to improve his or her project and to achieve success in your role as teammate. Your effort in critiquing your teammate's work will help you understand statistics as well.

Tests

All tests are open book and open notes with strict time limits. Students must demonstrate proficiency at solving problems. Students should work enough problems in **e,stat** not only to understand them but to do them with reasonable speed. Because the tests emphasize problem solving, students should plan to work problems before each class meeting so as to keep pace. The best preparation for each test will then be a good night's sleep.

Students will use the computers in the classroom with **e.stat** during tests. There will be three tests during the semester and a final examination. There will be no make-up tests. For a student with an approved absence, the other tests will be reweighted.

Formal Requirements	Three tests	36 points
	Five Computer Projects (E counts double)	30 points
	Final Examination	30 points
	Teammate and citizenship score	4 points

Honor Code

Each member of the class should collaborate with other members of the class and anyone else he or she can interest in the subject in all aspects of the course except during the taking of examinations. (Please affirm non-collaboration during each examination by signing the honor pledge on the examination. Please include a statement in each project affirming that the work is original.) Collaboration is formalized in the assignment of teams. Class members will critique each other's work and the helpfulness of their teammates. Each class member is to complete an individual project for B, D, and E. Each team will complete projects A & C and receive a common grade for each (unless there is a clear shirker). Individuals and teams should not submit work completed by others as though it were their own. Such will be taken to be a violation of the honor code. Enter an honor pledge on each project with the names of the authors to indicate that the work presented is that of the authors.

Instructor, Malcolm Getz

I have taught statistics since 1970. I earned my BA. at Williams College in 1967 and my Ph.D. in economics at Yale University in 1973 and have been at Vanderbilt since. My dissertation examined Atlanta's transit system; I wrote books about fire departments, public libraries, and *Veterinary Medicine in Economic Transition* [Iowa State University Press, 1997]. My latest book, *Investing in College, A Guide for the Perplexed* (Harvard University Press, 2007) is for parents and students who are choosing a college. Each book made extensive use of statistics. My office is Calhoun 406, call 322-3425. I am available in my office at 10:10 on MW. My home telephone number is 356-5601. Please call before 10 PM or after 6:30 AM. My electronic mail address is Malcolm.Getz@Vanderbilt.edu and I welcome your electronic mail messages at anytime. Web to <http://www.vanderbilt.edu/Econ/faculty/Getz/MGetz.html>.

Recitation Sections

On Fridays, we will meet in small groups in Wilson 120 for hands-on work with Excel. The section leaders have been working to be ready. They will grade the projects and tests. We also have walk-in hours in Wilson 120 with Steve Dyott to answer questions on Wednesday and Thursday evenings.

Friday Time	Leader	@vanderbilt.edu	Final Exam
8:10 AM	Michael Sponseller	m.sponseller	9 AM Dec 15
9:10 AM	Jed Goldberg	jed.goldberg	9 AM Dec 20
10:10 AM	Chris Skene	chris.skene	9 AM Dec 21
11:10 PM	Alicia Meade	alicia.meade	9 AM Dec 18
12:10 PM	Kristen Hendricks	kristen.l.hendricks	3 PM Dec 18
1:10 PM	Elissa Philip	anne.elissa.philip	9 AM Dec 22
2:10 pm	Tripper Dickson	markham.a.dickson	9 AM Dec 19
3:10 pm	Reed Staub	patrick.r.staub	3 9M Dec 21
Wed&Th evening	Steve Dyott	stephen.m.dyott	Wilson 120

The Friday sections will often involve working problems for practice. The sections will use Study Guides to review the concepts. Some Friday section meetings will introduce new ideas. We will form teams within the sections and your teammates will help you polish your projects and prepare for tests.

On test Fridays, it is important not to discuss the test with anyone until after four PM. Although the tests given to each of the sections will differ somewhat, there may be enough similarity that knowledge given, even inadvertently, might matter. It will be a violation of the honor code to reveal any information to anyone about the tests before 4 PM. Similarly during the final exam period, do not discuss the exam until after December 15. Do not consult the video tutorials during tests. No printing, use of email, or cell phones is allowed during tests.