

## Boston College

Ec155.02 Honors Statistics  
Spring 1998  
T-Th 12:00-1:15 p.m.  
Fulton 110

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Office hours: W 5:00-6:30 p.m.

By now most of you realize that statistical data and the underlying random processes that produce such data are an important part of everyday life, well beyond the domain of business and economics. This course will begin to construct a framework for understanding random events and for learning what conclusions are reasonable from sets of statistical data.

We begin with a brief tour of descriptive statistics. You will be expected to use data analysis software such as StataQuest, tutorials will be offered early in the semester to introduce this software. Elementary probability theory will form a major part of the beginning of the course and is fundamental to the main concern of the course, statistical inference. Towards the end of the semester we will learn about linear regression models, perhaps one of the most useful of all techniques for teasing meaning from large sets of economic, business, and other data.

As with much of what we learn experience proves to be the best teacher. You will need to be able to read the text on your own and this should always be done with pencil in hand. Of paramount importance is your attention to problems. This course, like many others, is best addressed as a craft first; that is, learn the concepts by practice. There is no way that the material can be learned without doing problems, many problems. You should also come to class having already encountered the topics for the day through reading and problem solving. Time is too scarce and you are too accomplished to waste class time on material that can be easily grasped with some preparation. This will also permit us to accomplish far more during the semester. So come to the class prepared, expect to work hard each week for the material is very hierarchical, and expect to learn much.

### Textbooks

1. Introductory Statistics for Business and Economics - Thomas Wonnacut and Ronald Wonnacut. John Wiley & Sons (4th edition).
2. StataQuest - a software program from Duxbury/ITP which is available in the bookstore and in the Student Learning and Support Center (O'Neill 250) in both IBM/Windows and Macintosh versions.

The course meets twice a week for lectures and discussions. There will also be optional review sessions on Thursdays from 4:15 to 5:15 p.m. and on several Saturday mornings during the semester. We will try to keep in sequence with

Section 1 of the course; you might expect several common experiences with this section. In addition to myself, Kevin Cahill, the teaching assistant for Professor Quinn's section, will also be available to answer your questions on Mondays 3:00-4:00 p.m. and Thursdays 5:30-6:30 p.m. in McGuinn 523. There will be two in-class exams, a final exam, and a group project in addition to unannounced (random, of course!) in-class quizzes, and eight required problem sets. The dates for these are shown on the syllabus and since there are no make-up exams or quizzes you should pay attention to these dates.

The problem sets will be collected but not graded so only submission counts since you will also be given solution sets. In addition, you are encouraged to work in groups on these problem sets. If you wish, formal group assignments will be made in the first week of class.

Academic integrity is very important. You should never submit anything with your name on it which you have not done yourself. We will discuss in class how this pertains to group work.

Date	Topic	Chapter	Problem Sets		
			Out	Due	Back
1/13	Introduction	1			
1/15	Descriptive statistics	2	PS1		
1/20	Descriptive statistics	2			
1/22	Probability	3	PS2	PS1	
1/27	Probability	3			PS1
1/29	Probability	3			
2/3	Discrete random variables	4(1-3)	PS3	PS2	
2/5	Discrete random variables	4(1-3)			
2/10	Discrete random variables	4(1-3)			PS2
2/12	Continuous random variables	4(4-6)	PS4	PS3	
2/17	Two random variables	5			PS3
2/19	Exam 1	[1-4]			

Date	Topic	Chapter	Problem Sets		
			Out	Due	Back
2/24	Sampling	6			
2/26	Sampling	6	PS5	PS4	
3/10	Point Estimation	7			PS4
3/12	Confidence Intervals	8		PS5	
3/17	Confidence Intervals	8	PS6		PS5
3/19	Confidence Intervals	8			
3/24	Hypothesis testing	9			
3/26	Hypothesis testing	9	PS7	PS6	
3/31	Hypothesis testing	9			PS6
4/2	Exam II	[5-8]			
4/7	Linear regression	11(1-2)			
4/14	Linear regression	12	PS8	PS7	
4/16	Linear regression	13(1-4)			
4/21	Regression extensions	14(1-3)			PS7
4/23	Project presentations			PS8	
4/28	Project presentations and review				PS8
5/9	Final Exam Saturday, May 9, 9:00 a.m.	[all]			