

THE UNIVERSITY OF AKRON  
DEPARTMENT OF ECONOMICS  
3250:626-001

Fall 2009

3:15 p.m. – 4:30 p.m. MW CAS 443

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**STATISTICS FOR ECONOMETRICS** Dr. Steven Myers

Office: CAS 445

(330) 972-7421 office

First instructional day: Monday August 24, 2009

Last instructional day: Wednesday December 2, 2009

Final examination: TBA

This course will use DyKnow Vision on Tablet PCs as assigned by the department of economics. You must bring the Tablet PC to class each day. Remember you are responsible for them so treat the Tablets well.

Email to [myers@uakron.edu](mailto:myers@uakron.edu) is acceptable and preferred for all correspondence.

This course will present statistical foundations for analytical methods currently in use in economics. Statistics and econometrics as a discipline will provide you, the student, with tools that are rewarded highly in the job market. You will learn techniques of statistics from a theorematic approach and will apply your knowledge to real and simulated problems in the economy. These techniques can only be applied as you gain familiarity with a computer system.

The required text is by Kmenta. As he states in the preface, "**This book is still intended for economists rather than for econometric specialists.... the prerequisites are ... basic economic theory, college algebra, basic calculus, and some descriptive statistics.... However, the prospective reader should be warned that the book represents a serious and reasonably thorough approach to the subject and is not suitable for audiences desiring only superficial acquaintance with econometric methods. (p. vi).**" I think you will find that the book is quite excellent, although it is often very difficult. Some students complain (and properly so) that the text does not have a sufficient amount of solved problems. To this end you will want to purchase something like the outline written by Salvatore or an alternate. However, let me caution you now, that there is no one book that can do justice to every aspect of statistics. You are advised to explore the library's holdings for alternative references to assist you as you proceed through this course. Start your search around Library of Congress record numbers from HB137 to HB141, also for math stat help go to QA276.

This course proceeds in three parts. The first of these is a study of **Basic Statistical Theory** and corresponds to the first four chapters of Kmenta. The first section is necessary, but not sufficient for an understanding of the discipline. Much of the foundation for additional study is laid in part one, and its importance is not likely to be recognized until rather late in the course. For this reason it is imperative that you strive to excel in the early chapters of Kmenta. These will not be easy.

The second part of the semester study concerns **Statistical Inference**, chapters 5 and 6 of Kmenta. The study of inference has to do with the proper estimation of unknown parameters and the "testing" of the statistical significance of the finding. In short, the attainment of measures of validity is sought in order that we can have confidence in our statistics. The understanding of the role of inference will separate those practitioners of econometric methods into those who know what they are doing and those who labor under the false assumption that they do. By the end of Chapter 6 you will be well on the way to understanding the role of inference in econometrics.

The third and final part of this course will begin to examine in some detail **Basic Econometric Theory** (Kmenta chapters and sections: 7-1 to 7-4, 8-2, 8-3, 10-1 to 10-4, and 11-1). We will study the role of single-equation, linear regression analysis in the field of economics. It is a goal of the course to begin this section before the twelfth week of the semester. All students are highly advised to take Econometrics due the nature of the discipline in which we expect to work.

## Policy:

We will closely follow the text and class notes. You are advised to attend all class sessions due to the rigor of the material. Lectures are designed to assist you in your study of Statistics, not to substitute for careful reading and study. The lectures will follow a theoremtic approach. Chronic absence is grounds for dismissal from the course.

Problems may be assigned daily and will be due the next class period unless otherwise stated. In some cases, homework will cover material not yet discussed in class. Homework will be either graded in the traditional sense or just checked to see if completed. Time does not permit a thorough working of the problems in class, but student questions will be answered as time allows. Students having difficulty should talk to the professor often. Some private tutoring may be available from the second year graduate students on a private contract basis.

Unexcused late work will not be accepted. All late work is subject to a rather high penalty. The problem sets will be graded selectively, in total, or in part, and returned as soon as possible. Nevertheless, it will not be possible to guarantee that all homework will be graded before an examination.

**Important: Students must attempt all assigned problems and should hand in all of their work on each problem to maximize the amount of credit received.** This is necessary even if you can not derive a satisfactory answer. Note well, that how one arrives at an answer is often more important than the answer itself.

**Please: *Take care to turn in homework that is orderly, neat and readable.*** Pencil should not be too light, pen should not be too scribbled. Do not unnecessarily conserve on paper (whether real or virtual) and do leave room on your pages for grading comments, maintaining at least a one-inch margin on all sides. Also the paper you use must be 8-1/2" x 11" white, either unlined or lined. Spiral (torn loose) paper is not acceptable. Please write only on one side of the paper and DO NOT staple the worked problems in order. Each assignment must be clearly labeled with your name, the date and an appropriate designation for the homework assignment.

Additionally, some problems will be assigned in DyKnow Vision, some in a particular software such as Windows Journal, SAS or MS Word and others on paper. Some of your assignments will need to be submitted in PDF format. PDFs are written from all Microsoft Office products and using ODS you can direct your SAS to print in PDF>

Students are encouraged to get to know each other and to form study groups. While these groups are helpful to the successful completion of the course, make sure that each member of the group does a fair share and that the work you hand in is your own. Some assignments will require group work.

## Assessment:

- There will be three scheduled examinations: one following chapter 4, a second following chapter 6, and a non-comprehensive final.
- Unannounced written and oral quizzes may be used to judge the progress of the class as the need warrants.
- The homework will consist of problems from the text and as assigned in class. Some of the exercises will require use of lab personal computers and SAS 9.2.
- The final problem / project will be weighted relatively high as compared to other homework assignments.
- Daily learning assessments are required in a format to be announced in class.

Academic dishonesty in any form is not tolerated. If you have any doubt whether it is academically dishonest then don't do it.
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## **Econometrics Laboratory, CAS 443**

SAS is the preferred econometric software. It is installed on your Tablets and in CAS 443.

Printing to the HP4100 (or whatever the current printer in CAS 443 happens to be) – use in moderation and print both sides. This is an option in the print setup screen.

General – The lab is not a ‘hangout.’ Do not discourage others use of the lab by dominating the space. Your office is where all of your ‘stuff’ belongs. This lab has a lot of valuable technology and the only way to keep that value if for you to keep it safe. Lock the door and do not leave the door unlocked if you are the last one out.

### **Required Texts:**

Kmenta, Jan. Elements of Econometrics, second edition, The University of Michigan Press, 1997, Cloth 0-472-10886-7.

<http://www.amazon.com/gp/product/0472108867?ie=UTF8&tag=teachingand05-20&linkCode=as2&camp=1789&creative=390957&creativeASIN=0472108867>

Delwiche, Lora D. and Susan J. Slaughter. The Little SAS Book: A Primer, Fourth Edition. SAS Publishing, August 25, 2008. Paper 1-599-94725-0

<http://www.amazon.com/gp/product/1599947250?ie=UTF8&tag=teachingand05-20&linkCode=as2&camp=1789&creative=390957&creativeASIN=1599947250>

Myers, Steven. Class Notes, on <http://webct.uakron.edu>

### **Recommended Texts:**

Salvatore, Dominick. Theory and Problems of Statistics and Econometrics, Schaum's Outline Series in Economics, Second Edition, McGrawHill, October 23, 2001, 0-071-34852-2.

<http://www.amazon.com/gp/product/0071348522?ie=UTF8&tag=teachingand05-20&linkCode=as2&camp=1789&creative=390957&creativeASIN=0071348522>

Kennedy, Peter. A Guide to Econometrics, 6<sup>th</sup> edition, Wiley-Blackwell, Feb. 2008, ISBN-1405182571 This is a required book in 627 Econometrics.

<http://www.amazon.com/gp/product/1405182571?ie=UTF8&tag=teachingand05-20&linkCode=as2&camp=1789&creative=390957&creativeASIN=1405182571>

### **Other Useful Sources (not for purchase):**

SAS Online documentation for version 9.2. This is available through the help menu once you are in the SAS program. You can also get to it on the web at <http://support.sas.com> and specifically at [http://support.sas.com/documentation/cdl\\_main/index.html](http://support.sas.com/documentation/cdl_main/index.html) (for a web based solution)

SAS/STAT <http://support.sas.com/software/products/stat/index.html#documentation>

SAS/ETS <http://support.sas.com/software/products/ets/index.html#documentation>