

## Economic Statistics and Econometrics I (Second Half)

Professor Jack Porter  
Social Sciences Building #6448  
jrporter@ssc.wisc.edu  
Office Hours: Wednesday 2:15–3:45 and by appointment

TA Youngjae Hwang  
yhwang42@wisc.edu  
Office Hours: TBA

TA Phoebe Tian  
xtian37@wisc.edu  
Office Hours: TBA

### Course Description

This course is an introduction to probability and statistics and econometric methods designed for first year economics Ph.D. students. The first half of the course covers probability and statistics, and will be taught by Prof. Xiaoxia Shi. The main emphasis in the second half of the semester will be linear regression, which provides a foundation for applied work in economics and for further study in econometrics.

### Lectures and Sections

Each week there will be two lectures of 1 1/4 hours. In addition there will be a section meeting once a week in which problems sets and other issues from lecture will be discussed.

### Books

The textbook for the course is:  
HANSEN, B., (2017), *Econometrics*  
The (free) pdf file for this textbook is available on Bruce Hansen's website.

Other helpful references are:  
GOLDBERGER, A., *A Course in Econometrics*  
GREENE, W., *Econometric Analysis*  
HAYASHI, F., *Econometrics*  
WOOLDRIDGE, J., *Econometric Analysis of Cross Section and Panel Data*

## Problems Sets and Exams

Problem sets will be assigned approximately weekly and will be discussed in the section meetings. Grades for the second half of the semester will be based on an exam (80%) and the problem sets (20%). The grades from the two halves will be averaged to obtain the semester grade.

## Course Outline (Parenthetical chapters/sections refer to Hansen: *Econometrics*)

1. Conditional Expectations and Best Linear Predictors (Chaps 1, 2)
  2. Ordinary Least Squares and Gauss-Markov (Chaps 3, 4)
  3. Small Sample and Large Sample Inference (Chaps 5, 6, 7)
  4. Restrictions and Hypothesis Testing (Chaps 8, 9)
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## **Recording**

Audio and/or video recording of the class is prohibited.

## **Students with Disabilities**

Please contact the instructors during the first two weeks of the semester if you have a documented requirement for accommodation to obtain equal access to this class or to any assignment in this class.

## **Students with Religious Observance Conflicts**

Please contact the instructors during the first two weeks of semester if you have a religious observance conflict on certain dates this semester for which you will need relief.

## **Grievance Procedure**

The Department of Economics has developed a grievance procedure through which you may register comments or complaints about a course, an instructor, or a teaching assistant. The Department continues to provide a course evaluation each semester in every class. If you wish to make anonymous complaints to an instructor or teaching assistant, the appropriate vehicle is the course evaluation. If you have a disagreement with an instructor or a teaching assistant, we strongly encourage you to try to resolve the dispute with him or her directly. The grievance procedure is designed for situations where neither of these channels is appropriate.

If you wish to file a grievance, you should go to room 7238 Social Science and request a Course Comment Sheet. When completing the comment sheet, you will need to provide a detailed statement that describes what aspects of the course you find unsatisfactory. You will need to sign the sheet and provide your student identification number, your address, and a phone where you can be reached. The Department plans to investigate comments fully and will respond in writing to complaints.

Your name, address, phone number, and student ID number will not be revealed to the instructor or teaching assistant involved and will be treated as confidential. The Department needs this information, because it may become necessary for a commenting student to have a meeting with the department chair or a nominee to gather additional information. A name and address are necessary for providing a written response.

## **Misconduct Statement**

Academic Integrity is critical to maintaining fair and knowledge-based learning at UW Madison. Academic dishonesty is a serious violation: it undermines the bonds of trust and honesty between members of our academic community, degrades the value of your degree and defrauds those who may eventually depend upon your knowledge and integrity.

Examples of academic misconduct include, but are not limited to: cheating on an examination (copying from another student's paper, referring to materials on the exam other than those explicitly permitted, continuing to work on an exam after the time has expired, turning in an exam for regrading after making changes to the exam), copying the homework of someone else, submitting for credit work done by someone else, stealing examinations or

course materials, tampering with the grade records or with another student's work, or knowingly and intentionally assisting another student in any of the above. Students are reminded that online sources, including anonymous or unattributed ones like Wikipedia, still need to be cited like any other source; and copying from any source without attribution is considered plagiarism.

The Department of Economics will deal with these offenses harshly following UWS14 procedures:

1. The penalty for misconduct in most cases will be removal from the course and a failing grade,
2. The department will inform the Dean of Students as required and additional sanctions may be applied.
3. The department will keep an internal record of misconduct incidents. This information will be made available to teaching faculty writing recommendation letters and to admission offices of the School of Business and Engineering.

If you think you see incidents of misconduct, you should tell your instructor about them, in which case they will take appropriate action and protect your identity. You can also choose to contact our department administrator, Tammy Herbst-Koel (therbst@wisc.edu), and your identity will be kept confidential. For more information, refer to <https://www.students.wisc.edu/doso/academic-integrity/>