

**ECONOMETRICS I**

Monsoon 2017

**Professor:** Dr. Punarjit Roychowdhury**Office:** E371**Phone:** 0120 - 3819100 (Ext. 685)**Email:** punarjit.r@snu.edu.in**Office Hours:** Tu Thu 12.30 pm-1.30 pm or by appointment**Class Time and Location:** Tu Thu 5pm-6.30pm, B303

**Description of the Course:** This is a graduate level introduction to econometrics offered to first-year Masters economics students. The course is designed to provide a general introduction to econometric theory and application.

**Textbooks:** I will not follow any specific text book. However, the following text books (and the exercises therein) might be useful for extending your understanding of the topics covered in class:

1. Greene, W. (2003), *Econometric Analysis*, 5<sup>th</sup> edition, Pearson, India (“WG”).
2. Wooldridge, J. (2014), *Introductory Econometrics: A Modern Approach*, 5<sup>th</sup> edition, Cengage Learning, India (“JW”).
3. Kennedy, P. (2008), *A Guide to Econometrics*, 6<sup>th</sup> edition, Wiley-Blackwell, United States (“PK”).
4. Mittelhammer, R.C. (2013), *Mathematical Statistics for Economics and Business*, 2<sup>nd</sup> Edition, Springer (“RM”).

**Grading:** Grades will be based on attendance, homework assignments, and two exams:

Attendance	5%
Assignments	20%
Midterm	35%
Final	40%

**Attendance:** Attendance will be taken randomly throughout the semester. Note, if your attendance falls below 70%, I am not obliged to let you take your final exam.

**Assignments:** You will be given several homework assignments during the course. You will have to submit the assignments at the beginning of the class the day they are due. You can collaborate while working on these assignments but must in all cases turn in your own work. Unless the student has a physician-documented illness, submissions received after the due date will not be given any credit.

**Exams:** There will be two exams for this course: a midterm and a final. The midterm is likely to be held towards the end of September. You will be notified about the exact date of the exam at least two weeks prior to the exam so that you have sufficient time to prepare. The final exam will be held either on the last day of class or in the first week of December.

**COURSE OUTLINE (TENTATIVE)****Part I**

- Overview of Probability and Distribution Theory

WG: Appendix B; RM: Chapter 1—Chapter 3

## Part II

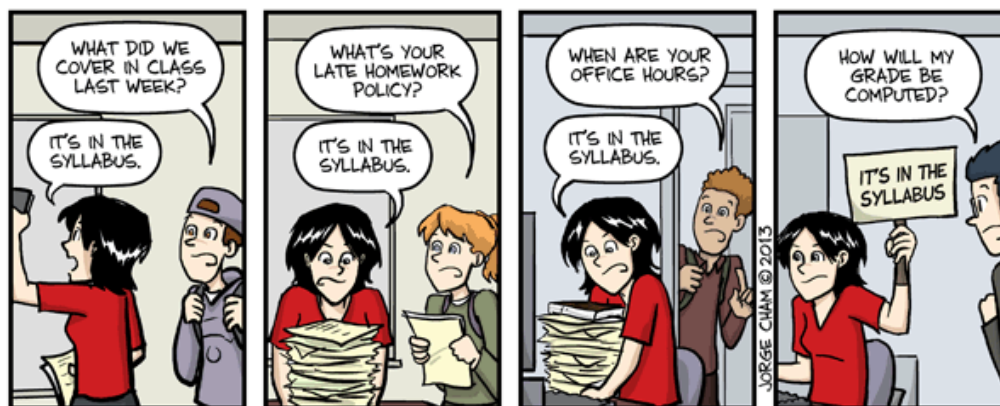
- Classical Simple Linear Regression Model  
JW: Chapter 2
- Classical Multiple Linear Regression Model  
WG: Chapter 2, Chapter 3, Chapter 4 (Section 4.1—Section 4.6); JW: Chapter 3
- Hypothesis Testing  
WG: Chapter 4 (Section 4.7), Chapter 6; JW: Chapter 4
- Asymptotics  
WG: Chapter 5 (Section 5.1—Section 5.2); JW: Chapter 5

\*\*\*\*\*Midterm\*\*\*\*\*

## Part III

- Multicollinearity  
WG: Chapter 4 (Section 4.9); JW: Chapter 3 (Section 3.4), Chapter 7
- Functional Forms  
WG: Chapter 7; JW: Chapter 6
- Model Selection  
WG: Chapter 8; JW: Chapter 6
- Generalized Least Squares and concept of Heteroskedasticity  
WG: Chapter 10, Chapter 11; JW: Chapter 8
- Endogeneity  
WG: Chapter 5 (Section 5.4—Section 5.6); JW: Chapter 15

\*\*\*\*\*Final\*\*\*\*\*



# IT'S IN THE SYLLABUS

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## Tentative Course Schedule

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<b>August</b>	
3	Syllabus discussion and Overview of Probability and Distribution Theory
8	Overview of Probability and Distribution Theory
10	Classical Simple Linear Regression
15	<b>Holiday</b>
17	Classical Simple Linear Regression
22	Classical Simple Linear Regression
24	Classical Simple Linear Regression
29	Classical Multiple Regression
31	Classical Multiple Regression
<b>September</b>	
5	Classical Multiple Regression
7	Classical Multiple Regression
12	Hypothesis Testing
14	Hypothesis Testing
19	Asymptotics
21	Asymptotics & Review Class
26	<i>MidTerm</i>
28	<b>Holiday</b>
<b>October</b>	
3	Multicollinearity
5	Discussion of Midterm Exam
10	Multicollinearity
12	Functional Forms
17	<b>Breeze</b>
19	<b>Midterm Break</b>
24	Functional Forms
26	Model Selection
31	Model Selection
<b>November</b>	
2	Generalized Least Squares
7	Generalized Least Squares
9	Generalized Least Squares
14	Endogeneity
16	Endogeneity
21	Endogeneity
23	Endogeneity
28	Review
<b>December</b>	
	<i>Final Exam</i>