

**Extended Syllabus  
(2020 Spring Semester)**

<b>Course Title</b>	<b>ECONOMETRICS I</b> 계량경제학 I	<b>Course Number</b>	ECO2009
<b>Credit</b>	3	<b>Enrollment Eligibility</b>	
<b>Class Time</b>	T 01:30-03:00, W 01:30-03:00	<b>Classroom</b>	To be announced

<b>Instructor's Photo</b>	<b>Name: Choi, In</b>	<b>Homepage: <a href="http://inchoi.sogang.ac.kr">inchoi.sogang.ac.kr</a></b>
	<b>E-mail: <a href="mailto:inchoi@gmail.com">inchoi@gmail.com</a></b>	<b>Telephone: 705-8773</b>
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**I. Course Overview**

1. Description
The purpose of this course is to introduce basic elements of econometrics to students with basic knowledge in statistics. Linear regression will be introduced; and estimation and hypothesis testing for linear regression will be dealt with. We start from simple regressions dealing with two variables and then study multiple regressions involving more than two variables. In addition, we study various regression models for practical use.
2. Prerequisites
Knowledge in basic statistics
3. Course Format (%)

Lecture	Discussion	Experiment/Practice	Field study	Presentations	Other		
80%	5%	10%	0%	5%	0%		
4. Evaluation (%)							
mid-term Exam	Final exam	Quizzes	Presentations	Projects	Assignments	Participation	Other
30%	40%	0%	0%	15%	15%	0%	0%

## II. Course Objectives

This course has the following objectives.

1. Understand basic theory for linear regression model
2. Learn how to use Python for regressions
3. Learn how to write a research report using econometric tools

## III. Course Format

(\* In detail)

This course consists of lectures by the instructor, practice for Python, and presentations of research reports by students.

#### IV. Course Requirements and Grading Criteria

Students are required to submit solutions for home assignments and research report. Final grades depend on home assignments, report, midterm examination and final examination.

#### V. Course Policies

#### VI. Materials and References

##### Text:

Min, C.-K. (2018) *Applied Econometrics*, Routledge (Hereafter, M)

##### References:

History of statistics:

Stigler, S. M. (1999) *Statistics on the Table*, Harvard University Press.

Stigler, S. M. (2016) *The Seven Pillars of Statistical Wisdom*, Harvard University Press.

Statistics in general:

Hogg, R. V. and E. A. Tanis (1988) *Probability and Statistical Inference*, 3<sup>rd</sup> ed., MacMillan.

Cassella, G. and R.L. Berger (1990) *Statistical Inference*. Wadsworth.

Econometrics:

Greene, W.H. (2003) *Econometric Analysis*. 5th Edition. Prentice Hall.

Stock, J. and M. Watson (2012) *Introduction to Econometrics*, 3<sup>rd</sup> edition, Addison Wesley

Wooldridge, J. (2008) *Introductory Econometrics: A Modern Approach*, 4th ed, South-Western.

## VII. Course Schedule

(\* Subject to change)

Week 1	<b>Learning Objectives</b>	<b>Understand what econometrics is about</b>
	<b>Topics</b>	Overview of econometrics
	<b>Class Work (Methods)</b>	Lecture
	<b>Materials (Required Readings)</b>	To be announced
	<b>Assignments</b>	To be distributed
Week 2	<b>Learning Objectives</b>	Review basic concepts of statistics
	<b>Topics</b>	<b>Review on Statistics</b>
	<b>Class Work (Methods)</b>	Lecture
	<b>Materials (Required Readings)</b>	To be announced
	<b>Assignments</b>	To be distributed
<b>Week</b>	<b>Learning</b>	Review basic concepts of statistics

3	<b>Objectives</b>	
	<b>Topics</b>	<b>Review on Statistics</b>
	<b>Class Work (Methods)</b>	Lecture
	<b>Materials (Required Readings)</b>	To be announced
	<b>Assignments</b>	To be distributed
Week 4	<b>Learning Objectives</b>	Learn methods and applications of linear regression with one regressor
	<b>Topics</b>	<b>Linear Regression with One Regressor</b>
	<b>Class Work (Methods)</b>	Lecture
	<b>Materials (Required Readings)</b>	To be announced
	<b>Assignments</b>	To be distributed
Week 5	<b>Learning Objectives</b>	Learn methods and applications of linear regression with one regressor
	<b>Topics</b>	<b>Linear Regression with One Regressor</b>
	<b>Class Work (Methods)</b>	Lecture
	<b>Materials (Required Readings)</b>	To be announced
	<b>Assignments</b>	To be distributed
Week	<b>Learning Objectives</b>	Learn methods and applications of linear regression with multiple regressors

6	<b>Topics</b>	<b>Linear Regression with Multiple Regressors</b>
	<b>Class Work (Methods)</b>	Lecture
	<b>Materials (Required Readings)</b>	To be announced
	<b>Assignments</b>	To be distributed
Week 7	<b>Learning Objectives</b>	Learn methods and applications of linear regression with multiple regressors
	<b>Topics</b>	<b>Linear Regression with Multiple Regressors</b>
	<b>Class Work (Methods)</b>	Lecture
	<b>Materials (Required Readings)</b>	To be announced
	<b>Assignments</b>	To be distributed
Week 8	<b>Learning Objectives</b>	Midterm week
	<b>Topics</b>	
	<b>Class Work (Methods)</b>	
	<b>Materials (Required Readings)</b>	
	<b>Assignments</b>	
Week 9	<b>Learning Objectives</b>	Learn methods and applications of linear regression with multiple regressors

	<b>Topics</b>	<b>Linear Regression with Multiple Regressors</b>
	<b>Class Work (Methods)</b>	Lecture
	<b>Materials (Required Readings)</b>	To be announced
	<b>Assignments</b>	To be distributed
<b>Week 10</b>	<b>Learning Objectives</b>	Learn about basic nonlinear regression models
	<b>Topics</b>	<b>Nonlinear regression function</b>
	<b>Class Work (Methods)</b>	Lecture
	<b>Materials (Required Readings)</b>	To be announced
	<b>Assignments</b>	To be distributed
<b>Week 11</b>	<b>Learning Objectives</b>	Learn about possible problems of regressions
	<b>Topics</b>	<b>Assessing Studies Based on Multiple Regression</b>
	<b>Class Work (Methods)</b>	Lecture
	<b>Materials (Required Readings)</b>	To be announced
	<b>Assignments</b>	To be distributed
<b>Week 12</b>	<b>Learning Objectives</b>	Learn how to use panel data for empirical research

	<b>Topics</b>	<b>Regression with Panel Data</b>
	<b>Class Work (Methods)</b>	Lecture
	<b>Materials (Required Readings)</b>	To be announced
	<b>Assignments</b>	To be distributed
<b>Week 13</b>	<b>Learning Objectives</b>	Learn how to use panel data for empirical research
	<b>Topics</b>	<b>Regression with Panel Data</b>
	<b>Class Work (Methods)</b>	Lecture
	<b>Materials (Required Readings)</b>	To be announced
	<b>Assignments</b>	To be distributed
<b>Week 14</b>	<b>Learning Objectives</b>	Learn how to use the regression model with a Binary Dependent Variable
	<b>Topics</b>	<b>Regression with a Binary Dependent Variable</b>
	<b>Class Work (Methods)</b>	Lecture
	<b>Materials (Required Readings)</b>	To be announced
	<b>Assignments</b>	To be distributed
<b>Week 15</b>	<b>Learning Objectives</b>	Presentations by students



	<b>Topics</b>	Topics chosen by students
	<b>Class Work (Methods)</b>	Presentation
	<b>Materials (Required Readings)</b>	None
	<b>Assignments</b>	None
<b>Week 16</b>	<b>Learning Objectives</b>	Final examination
	<b>Topics</b>	
	<b>Class Work (Methods)</b>	
	<b>Materials (Required Readings)</b>	
	<b>Assignments</b>	

### VIII. Special Accommodations

For students with handicaps, assistance will be provided. The level of assistance will depend on the relevant circumstances.