COLLEGE OF MANAGEMENT OF TECHNOLOGY
MANAGEMENT OF TECHNOLOGY SECTION

ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

MGT581: Introduction to Econometrics

4 credits

Spring 2019

Prof. Gaétan de Rassenfosse
ODY 201 A
gaetan.derassenfosse@epfl.ch
http://iipp.epfl.ch/ | http://www.gder.info

Teaching Assistant
Ling Zhou
ling.zhou@epfl.ch

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Course website/moodle: This course uses Moodle, see http://moodle.epfl.ch

Office hours: by email appointment only

COURSE OVERVIEW

This course provides and introduction to the key principles in econometrics. It covers the following topics: linear and non-linear estimators; difference between correlation and causality; techniques to establish causal effects; and interpretation of effect size.

DIDACTIC APPROACH AND CLASS ATTENDANCE

The course involves three main learning channels: theory sessions, practical sessions, and problem sets. The Monday lecture will provide elements of theory, while the Friday exercise sessions will provide hands-on experience with the STATA statistical software. (Students are free to use the R software, although no support will be offered.) Exercise sessions will follow closely material covered in class. Students will receive regular problem sets to submit to the T.A. Deadline for submission is 4 pm on the Monday.

LEARNING OUTCOMES

By the end of the course, the student must be able to:

- Recognize pitfalls and bias in data collection and econometric models
- Illustrate the concept of endogeneity
- Check the validity of an econometric result
- Quantify an economic relationship
- Design an appropriate regression model
- Interpret coefficients of econometric regressions

MATERIALS

Slides will be uploaded on Moodle one week before the lecture.

The reference textbook is *not compulsory:*

James H. Stock and Mark W. Watson, Introduction to Econometrics, Third Edition (Updated Edition), Pearson. ISBN: 978-0-13348687-2 (http://www.isbnsearch.org/isbn/9780133486872)

FORM OF EXAMINATION & GRADING

- Written exam accounting for 60 per cent of the final grade
- Individual problem sets accounting for 40 per cent of the final grade

COURSE SCHEDULE: AN OVERVIEW OF THE SESSIONS

Session	Date	Topics
1.	February 18	Introduction and review of key principles
	February 22	No exercise session
2.	February 25	Speaker + Linear regression with one regressor
	March 1	No exercise session
3.	March 4	… Hypothesis tests and confidence intervals
	March 8	Exercise session 1
4.	March 11	Linear regression with multiple regressor
	March 15	Exercise session 2
5.	March 18	… Hypothesis tests and confidence intervals
	March 22	Exercise session 3
6.	March 25	Nonlinear regression functions
	March 29	Exercise session 4
7.	April 1	Assessing studies based on multiple regression
	April 5	Exercise session 5
8.	April 8	Regression with panel data
	April 12	Exercise session 6
9.	April 15	Regression with a binary dependent variable
	April 19	Good Friday
	April 22	Easter Monday
	April 26	Easter Holidays
10.	April 29	Instrumental variables regression
	May 3	Exercise session 8
11.	May 6	Instrumental variables regression (continued)
	May 10	Exercise session 9
12.	May 13	Experiments and quasi-experiments
	May 17	Exercise session 10
13.	May 20	Buffer week
	May 24	Exercise session 11
14.	May 27	Recap of key concepts
	May 31	No exercise session

Important dates for problem sets:

- Problem Set #1: available on March 15, submission on March 28
- Problem Set #2: available on April 19, submission on May 2
- Problem Set #3: available on May 24, submission on June 6