

SYLLABUS

Econometrics 2

(ECTS 5)

The mission of ZSEM is to transfer values, knowledge, and skills that students need for long-term success in a globalized business world undergoing constant technological and market transformations

LECTURERS

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COURSE SCHEDULE

Lectures and exercises 45 hours

TIME TABLE

Time table is posted on the ZSEM notice-board as well as on the web site <http://www.zsem.hr>.

GENERAL AND SPECIFIC COURSE GOALS

The course provides an introduction to the theory and practice of econometric analysis of time series data. Students will gain knowledge in regression analysis of time series data, and study problems that arise when analysing time series data by means of regression models. The goal of this course is understand the time evolution of the most relevant economic time series (GDP, unemployment, inflation, interest rates, exchange rates, financial asset prices) and the analysis of the dynamic causal relationships existing among those variables in order to perform forecasts and economic policy analysis. Specifically, primary goals for students are to correctly interpret regression results of time series data, justify and critique specific techniques used in econometric inference.

The teaching methodology minimizes the formal aspects, focusing on the intuitive discussion of concepts and intensive work with real data sets, aiming that the student reaches a practical mastering of econometrics with time series economic data.

Students will be acquainted with modern software tools to analyze real world data, draw inference, and solve computationally demanding problems.

LITERATURE

- Jeffrey M. Wooldridge, Introductory Econometrics, South-Western College Pub, 6 edition, 2015

- Jeffrey M. Wooldridge, Introductory Econometrics, South-Western College Pub, 5 edition, 2013
- Jan Kmenta, Elements of Econometrics, University of Michigan Press, 2 edition, 1993

GRADING

Part of the grade	Percentage
Test 1	40%
Test 2	40%
Homeworks/Projects	20%

Percentage	Grade
$\geq 90\%$	5
$\geq 80\%$	4
$\geq 70\%$	3
$\geq 60\%$	2

To attain a passing grade, student must score at least 40% on each of two tests. Both tests are written exams (60 minutes each). There are two homeworks, each homework brings 10% towards the grade. Late homeworks will not be counted.

General Exams

Students are allowed to take the general exam during the whole academic year. General exam is written exam (120 minutes). Homeworks are not counted for general exam. General exam brings 100% towards the grade. However, students must submit homeworks before taking the general exam and score 50% on each homework.

STUDENTS OBLIGATIONS

- Attendance is obligatory. Students must attend at least 75% of all lectures.
- Absence justification is regulated by the college rules.
- Students are obliged to use Moodle platform regularly. Moodle is considered to be a basic tutorial tool as well as the basic source of information regarding terms, exams, results and other information connected with the course of study. It is used as a communication “channel” among professor and students. Students are supposed to check the web site on the daily basis, monitor mail folder and take part in discussion sections.

- Cheating on exams is strictly prohibited. Students are not allowed to cheat or allow other students to cheat. This practice will be considered a fraud and punished according to college rules.
- **REGISTERING GRADES:** Student is required to register his/her grade during the terms that are posted on the Moodle along with the exam results. The registration usually takes place within a seven – day period. If the student cannot come personally, he/she can send his index for grade registration via another student or relative. If the student missed the registration process without any notice, grade “insufficient” will be reported in the exam documentation.

COURSE OVERVIEW

If any changes in the course occur, they will be announced in advance during the class.

Week 1

Review of the Regression Model, Properties the Ordinary Least Squares Estimates, Expected Values and Variances of the OLS Estimators. Testing normality. The Hausman test.

Week 2

Regression Analysis of Time Series Data, Examples of Time Series Regression Models

Week 3

Finite Sample Properties of OLS under Classical Assumptions, Functional Form, Dummy Variables and Index Numbers

Week 4

Trends and Seasonality.

Week 5

Further Issues in Using OLS with Time Series Data. Stationary and Weakly Dependent Time Series. Dynamically Complete Models and the Absence of Serial Correlation

Week 6

Serial Correlation and Heteroskedasticity in Time Series Regression. Testing for Serial Correlation. Testing for Heteroskedasticity.

Week 7

Review

Week 8

Instrumental Variables Estimation of the Multiple Linear Regression model. Two Stage Least Squares.

Week 9

Testing for Endogeneity. Testing Overidentifying Restrictions. Simultaneous Equations models. Structural equations. Reduced form equations. Example: the Macroeconomic Model of a Closed Economy

Week 10

The Identification Problem. Identifying and Estimating a Structural Equation. Example: the IS-LM Model. Simultaneous Equation models with Time Series

Week 11

Vector Autoregressive (VAR) Models.

Week 12

Causality Tests. The Granger Causality Test.

Week 13

Deterministic and Stochastic Trends. Testing for Unit-Roots. The Dickey-Fuller Test. Spurious Regression

Week 14

Cointegration. Error-Correction Model.

Week 15

Testing for Cointegration. The Engle-Granger Approach. Computer Examples of Cointegration: Monetization Ratio, Claims and Currency Ratios.

First midterm exam, October 30, 2017

Second midterm exam, December 11, 2017