Technical University of Ostrava, Faculty of Economics
Sokolská třída 33, 702 00 Ostrava 1, Czech Republic
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VŠB
TECHNICAL UNIVERSITY OF OSTRAVA
FACULTY OF ECONOMICS

International Summer School of Economic, Financial and Management Studies

Date: 17. 6. – 23. 6. 2018

Place: *Faculty of Economics VŠB-TU Ostrava* (VŠB-TUO, GPS: 49°83'67.07"N, 18°28'72.85"E)

Registration:

For registration, please send an e-mail with information about you (name, surname, home university (education institution), your study program, year of study, the title of doctoral dissertation thesis or title of master thesis, the name of supervisor) or place all information in CV at michaela.stanickova@vsb.cz

Required level of English: B1

Deadline for registration: 31. 5. 2018, up to 20 participants (Teaching will be in a computer classroom)

Fees:

Free of charge: registration, study materials, entrance tickets, lunches (Parník restaurant and music club in Ostrava city centre https://cs-cz.facebook.com/restauraceparnik)

Accommodation:

Dormitory Halls at the University campus in Ostrava-Poruba (bed & breakfast).
https://www.vsb.cz/ubytovani/en/about-dormitory/

Terminations:

At the end of the international summer school, a certificate will be awarded, with the possibility of granting 4 credits for students of doctoral degree / 2 credits for students of Master degree.

Focus:

An international summer school (ISS) designed primarily for foreign students oriented on quantitative methods applicable in economic, financial and managerial disciplines. The ISS covers the state of the art methods applicable in microeconomics (panel data analysis, performance analysis with focus on Data Envelopment Analysis, stochastic optimization), macroeconomics (DSGE modelling, spatial econometrics) and data analysis for managers (multivariate statistical methods, business analytics in R, DEMATEL, WINGS).

Program:

Day 1: Informal meeting (Get together)

Day 2: Macroeconomic modelling and DSGE models. A long run structural modelling using the CVAR approach

Day 3: Panel regression. Spatial econometrics.

Day 4: Spatial econometrics. Summer school trip.

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Day 5: Introduction to Data Analysis with R.

Day 6: The art of making a good decision – decision-making with multiple criteria and analytic hierarchy process (AHP). The art of making a good decision – PROMETHEE family methods.

Day 7: The art of making a good decision – PROMETHEE family methods. Performance evaluation.

ISS Courses structure

COURSE 1 (*Lecturer*: *doc. Ing. Aleš Melecký, Ph.D.*)

Macroeconomic modelling and DSGE models

Objectives

The course delivers an introduction to both aspects of the macroeconomic modelling - theoretical and empirical using Eviews software. Special attention will be devoted to Dynamic Stochastic General Equilibrium (DSGE) models and economic interpretations of the impulse responses generated from these models.

Results of learning outcomes

The course increases the level of ability of students to specify and estimate linear regression models in Eviews, take into account uncertainty of the estimated parameters and interpret the results in the economic sense.

Course outline

- Introduction to economic modelling.
- The conflict between Neoclassical and New Keynesian approach.
- Introduction to DSGE models.
- Regression analysis in EViews, simple DSGE model, more realistic DSGE model, lag structure, omitted variables vs. over the fitted model, impulse response analysis.

COURSE 2 (*Lecturer: doc. Ing. Jana Hančlová, CSc.*)

A long-run structural modelling using the CVAR approach

Objectives

The course aim is to introduce a long-run structural modelling approach, which is applied to modelling into a small open economy using the Cointegrating Vector AutoRegressive (CVAR) approach.

Results of learning outcomes

The course increases the level of student's ability to specify a framework for macroeconometric modelling of a small open economy, to describe the econometric methods needed for the empirical analysis of the cointegrating VAR models, to estimate a CVAR model for the Czech Republic in the software EViews and to provide an introduction to the interpretation.

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Course outline

- The long-run relationship in a small open economy and a CVAR model.
- The empirical work underlying the construction and estimation of the CVAR model for the Czech Republic.

COURSE 3 (*Lecturer: Mgr. Ing. Lucie Chytilová*)

Panel Regression

Objectives

The course delivers an introduction to panel data and its solving. More precisely, it is focusing primarily on solving panel data using the generalized least squares method in EViews software.

Results of learning outcomes

The panel data are generated by repeated observation of the group of units. In the context of econometric analyses, they are a separate category that allows insight into the structure and dynamics of the studied economic phenomena. They represent a larger set of detailed information to better capture the changing economic fabric and the causes of such changes. They also help to address issues of short time series satisfactorily. They can also become a tool in exploring events that lack long enough time series, but they occur in parallel in similar development situations. So this course increases the level of ability of students to practically use the panel data as a useful tool for (i) better understanding and analysing the studied economic phenomena and (ii) work with short time series.

Course outline

- Introduction to panel data and its solving.
- Solution of panel data using the generalized least squares method.
- EViews and its application.

COURSE 4 (*Lecturer*: *Dr. Stefano Mainardi*)

Spatial econometrics

Objectives

The course aims at formulating statistical tools and models for the analysis of spatial interactions/externalities and neighbourhood effects. This course module will especially focus on spatial regression analysis, which includes specification, estimation and diagnostic tests of models with spatial effects.

Results of learning outcomes

The course module will provide participants with an introduction to statistical and econometric foundations and methods for the analysis of spatial data. These methods are increasing of use in various areas of economics and other subjects (geography, epidemiology, population dynamics, and environmental science).

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Course outline

- Spatial exploratory data analysis and spatial autocorrelation.
- Spatial regression: basic models; higher-order and dynamic models; spatial heterogeneity.
- Model diagnostics, specification, and estimators. Basic elements of geo-statistics.
- Use of spatial econometric software: practical application.

COURSE 5 (*Lecturer*: *Antonio Andrés Rodriguez, Ph.D.*)

Introduction to Data Analysis with R

Objectives

R is rapidly becoming the leading language in Data science and statistics. R is used by organizations to solve real problems. In this course, we will cover the following analytics methods: linear regression, data visualization, and logistic regression. We will be using the statistical software R to build up models and work with real datasets. Prior experience with programming is not necessary to succeed.

Results of learning outcomes

At the end of this course, students will be able to:

- Become familiar the R fundamentals and basic syntax.
- Generate their own fancy data visualizations in R.
- Undertake their own data analysis using R.

Course outline

- Introduction to R.
- Reading and cleaning up datasets in R.
- Data visualization.
- Linear regression and logistic models in R.

COURSE 6 (*Lecturer: Ing. Jiří Franek, Ph.D.*)

The art of making a good decision – decision-making with multiple criteria and analytic hierarchy process h R

Objectives

The course will introduce attendants to the multiple criteria decision-making methods, especially the analytic hierarchy process for various decision-making problems and applications.

Results of learning outcomes

The attendants will acquire necessary knowledge and skills to apply decision-making methods for research and practical managerial purposes. This will include all the phases of a complex decision-making process and understanding how to interpret the results. In addition, the attendants will learn how to structure and apply the analytic hierarchy process (AHP) for group decision making.

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Course outline

- Decision making with multiple criteria – introduction to MCDM methods, main concepts and classification, simple and pairwise comparison methods.
- Saaty method and AHP - application of the Saaty method for weight estimation, theory and application of analytic hierarchy process, discussion and remarks.

COURSE 7 (*Lecturer*: *Mgr. Ing. František Zapletal, Ph.D.*)

The art of making a good decision – PROMETHEE family methods

Objectives

The aim of the course is to make the attendants familiar with the basics of decision-making. The students will be able to find the best decision or to get the ranking of alternatives using the PROMETHEE outranking methods.

Results of learning outcomes

The students will get know how to support their decision by quantitative methods. This knowledge is applicable in any field of research interest. Moreover, besides the theory, the attendants will be able to use free software to solve complex economic problems.

Course outline

- PROMETHEE – the main idea and methodology, how to get the ranking.
- PROMETHEE – PROMETHEE and multiple alternatives selection, efficiency, comparison with the Analytical Hierarchical Process (AHP).
- VISUAL PROMETHEE software – practical examples and possible graphical outputs.

COURSE 8 (*Lecturer*: *doc. Mehdi Toloo, Ph.D.)*

Performance evaluation

Objectives

The course delivers an introduction to quantitative mathematical models for performance evaluation, which have been used in various contexts including management, economics, and business.

Results of learning outcomes

The course increases the level of ability of students to practically utilize optimization problems (linear programming models) as a useful tool for decision making. The ability to (i) find out which organization is efficient in using its valuable resources, (ii) discriminate efficient and inefficient organizations, (iii) identify sources and amounts of inefficiency in each factor for each organization.

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Course outline

- Efficiency and effectiveness.
- Data Envelopment Analysis.
- DEA-Solver.
- Real-word applications.

More information about ISS:

ISS Website:

http://cpi.vsb.cz/?cpppages=international-summer-school-of-economic-financial-and-management-studies

Organizing Committee:

Ing. Lukáš Melecký, Ph.D. (lukas.melecky@vsb.cz)

Ing. Michaela Staníčková, Ph.D. (michaela.stanickova@vsb.cz)

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