

The courses of *RESEARCH METHODS* for PhD students

Compulsory course for PhD's in Economics

Matthias Weber, Patrick Gruning, Zsuzsa Munkacsi – junior researchers of Faculty of Economics, Senior economists in the Bank of Lithuania would like to invite PhD students to the courses of **research methods**. The courses will start **15th of October, at 5 pm (17.00) in room 303**. The aim of this course is to provide an introduction to the most up-to-date research techniques in economics, both in terms of theories and numerical applications.

Matthias Weber	Patrick Gruning	Zsuzsa Munkacsi
1. 15 October 2015 (17:00-18:30, 18:45-20:15)	1. 29 October 2015 (17:00-18:30, 18:45-19:30)	1. 19 November 2015 (17:00-18:00, 18:15-19:45)
2. 19 October 2015 (17:00-18:30, 18:45-19:30)	2. 5 November 2015 (17:00-18:30, 18:45-19:30)	2. 26 November 2015 (17:00-18:00, 18:15-19:15)
3. 22 October 2015 (17:00-18:30, 18:45-19:30)	3. 12 November 2015 (17:00-18:30, 18:45-20:15)	3. 3 December 2015 (17:00-17:45, 18:00-20:15)

COURSE OUTLINE

<u>Research Project Design and Statistics with R</u>	<u>Continuous-Time Methods and Matlab</u>	<u>DS(G)E Modeling</u>
1. How to structure a research project; how to write (and publish) a scientific paper. 2. Introduction to R (and R-Studio). 3. Data analysis in R.	1. Ordinary and Partial Differential Equations (~6 academic hours) <ol style="list-style-type: none"> Theory and Applications in Economics or Finance Numerical Methods and Introduction to Matlab 2. Stochastic Differential Equations (~4 academic hours) <ol style="list-style-type: none"> Theory and Applications in Economics or Finance Numerical Methods using Matlab 	1. Developing D(S)GE models (~6 academic hours) <ol style="list-style-type: none"> RBC models (~1.5 academic hours) New Keynesian models (~2 academic hours) Extensions (~2.5 academic hours) 2. Solving D(S)GE models (~4 academic hours) <ol style="list-style-type: none"> Uhlig's algorithm (~1 academic hour) Dynare (~3 academic hours)

Exam and Grading

1. Take-home exam with questions on theory and assignments to solve models or problems with the computer
2. Grade is solely based on this take-home exam
3. Exam will be sent by e-mail by 15 December 2015 with a deadline of 21 January 2016

Portrait of lecturers

- **Matthias Weber** is a PhD researcher at the Center for Experimental Economics and Political Decision Making (CREED) at the University of Amsterdam. During this time he has also stayed at the Universitat Autònoma de Barcelona and at the University of California in San Diego (UCSD) for research visits. His research interests are methods of *behavioural and experimental economics in the fields of public economics, macroeconomics, and political economics*. His teaching experience concerns international monetary economics, advanced macroeconomics, and a variety of courses in mathematics. More information could be found in <http://weber-matthias.eu/>
- **Patrick Grüning** gained his doctoral degree in Finance at Goethe University Frankfurt. In 2011/2012 Patrick Grüning spent 6 months at the Sauder School of Business at the University of British-Columbia as a Visiting Scholar. His research focuses on *asset pricing, macro-finance DSGE models, endogenous growth theory, and exclusively so far on general equilibrium models*. In the last 2.5 years of his time at Goethe University Patrick was employed by the research center SAFE (Sustainable Architecture for Finance in Europe) located at Goethe University.
- **Zsuzsa Munkácsi** started her PhD in Economics studies at the European University Institute in 2011, she is expected to finish her studies by the end of this year. Zsuzsa Munkácsi was working as an economist in the National Bank of Hungary, as an economist in the Fiscal Council of Hungary. During her PhD studies, she was an intern at the International Monetary Fund and at the Deutsche Bundesbank (in 2013 and 2014, respectively). Her main area of interest is *Macroeconomics, with a focus on Public Economic, Labour and Demographic Economics, and the Shadow Economy*. Regarding the methodologies, she primarily use Quantitative Macroeconomic Modelling techniques (DSGE), but she is also familiar with (Macro) econometrics. More information could be found in <https://sites.google.com/site/munkacsizsu/home>