

Course Descriptions Bachelor 2021-2022

Course Title Econometric Methods I
 Course Code EBC2111
 ECTS Credits 6,5
 Assessment Whole/Half Grades

| Period | Start | End | Mon | Tue | Wed | Thu | Fri |
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| 5 | 11-4-2022 | 3-6-2022 | L | | X | | X |

Level Advanced

Coordinator Alain Hecq For more information: a.hecq@maastrichtuniversity.nl

Language of instruction English

Goals Students will have a good knowledge of econometric methods. They will have the skills to apply these methods to a set of economic data.

Description This course is part of the programme for second-year econometrics students. The challenge of econometrics is to answer the question, what everyday reality has to tell about economic theories. Here, everyday reality takes the form of numerical observations or 'data', while economic theories are translated into a formal statistical 'model' with corresponding hypotheses. In order to extract as much information as possible out of the former concerning the latter, an appeal is made to statistical induction. These are the 'econometric methods' that are the subject of this course. They comprise mainly the estimation of the model parameters, the testing of the model hypotheses, and making (conditional) predictions with the model. We will study the most frequently used statistical methods and techniques in the first place for the classical linear model, but we mainly focus of the matrix notations of usual linear estimators and test statistics (e.g., OLS, OLS, the t-tests, F-test). Those estimators will be implemented during the tutorial meetings using the software packages R and Eviews. Further some important assumptions will be relaxed and alternative estimators (GLS, SURE) will be investigated in the presence of autocorrelation and heteroskedasticity. This course also emphasize dynamic models and time series econometrics (ARMA, VAR, cointegration, unit root, VECM, ...). Applied works (R, Eviews) will be carried out during tutorial meetings. The course Econometrics Methods II in the programme for the third-year econometrics students, covers issues that we do not do in this course (IV, GMM, ML, ...).

Literature Greene, W. (2012), Econometric Analysis, 7th ed., Pearson.

Prerequisites A first course in econometrics (see, e.g. Empirical Econometrics). Exchange students should have advanced knowledge of: 1) Mathematical statistics, 2) probability theory, 3) matrix algebra, 4) introduction to quantitative methods with an emphasis to the linear model
 An advanced level of English.

Teaching methods PBL / Presentation / Lecture / Assignment / Groupwork

Assessment methods Participation / Written Exam / Presentation

Evaluation in previous academic year For the complete evaluation of this course please click <http://iwio-sbe.maastrichtuniversity.nl/rapporten.asp?referrer=codeUM>

This course belongs to the following programme / specialisation

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| Bachelor Econometrics and Operations Research | Year 2 Compulsory Course(s) |
| Bachelor Fiscal Economics | Year 3 Elective Course(s) |
| Pre-master Economics | Disciplinary Course(s) |
| Pre-master Financial Economics | Disciplinary Course(s) |
| Pre-master Human Decision Science | Compulsory Course(s) |
| SBE Exchange Bachelor | Bachelor Exchange Courses |
| SBE Exchange Master | Bachelor Exchange Courses |
| SBE Non Degree Courses | Bachelor Courses |