GHENT UNIVERSITY

Course Specifications

Valid in the academic year 2018-2019

Econometrics (F000533)

Course size (nominal values; actual values may depend on programme)

Credits	5.0	Study time	150 h
Contact hrs	45.0 h		

Course offerings and teaching methods in academic year 2018-2019

A (semester 2)	English	lecture	30.0 h
		group work	10.0 h
		seminar: coached exercises	5.0 h

Lecturers in academic year 2018-2019

Everaert, Gerdie	EB21	lecturer-in-charge

Offered in the following programmes in 2018-2019	crdts	offering
Bachelor of Science in Economics	5	A
Bachelor of Science in Business Engineering	5	A
Bachelor of Science in Business Economics	5	A
Master of Science in Complementary Studies in Economics	6	A
Exchange programme in Economics and Business Administration	5	A
Linking Course Master of Science in Economics	5	A
Preparatory Course Master of Science in Complementary Studies in Economics	5	A
Preparatory Course Master of Science in Business Economics	5	A
Preparatory Course Master of Science in Business Engineering	5	A
Preparatory Course Master of Science in Business Engineering	5	A
Preparatory Course Master of Science in Economics	5	A

Teaching languages

English

Keywords

Classical linear regression model, ordinary least squares, hypothesis tests, multicollinearity, heteroscedasticity, autocorrelation, endogeneity, dummy variables, specification tests

Position of the course

Understanding: a thorough knowledge and understanding of the classical linear regression model.
Being able to: being able to translate an economic problem and/or theory in an econometric specification with related hypotheses, to estimate the suggested econometric specification using the correct methodology, to analyse the properties/reliability of the econometric results by analysing whether the assumptions underlying this methodology are fulfilled and to analyse the economic implications of the econometric results by testing the hypotheses suggested by the underlying theory.
Doing: applying the acquired knowledge and abilities by solving a case.

Contents

The classical linear regression model takes a central position in this course. The regression line and the method of least squares are introduced starting from simple regression with one explanatory variable. The properties of this method are studied (unbiasedness, efficiency, distribution). Subsequently, the 3-variable regression model is introduced.
Particular attention is paid to the specification of the model, the economic interpretation

of regression results, hypothesis testing, and forecasting. Departures from the basic assumptions such as multicollinearity, autocorrelation, heteroscedasticity, and endogeneity are studied, tested, and remedied. Many economic applications serve to illustrate the various techniques.
students have to study chapter 16 (panel data) and 17 (dynamic models) of the handbook (Gujarati and Porter, 2009).

Initial competences

Final objectives from the courses “basic economics”, “applied statistics I/II(A)” and “mathematics I/II(A)”.

Final competences

1 Thorough knowledge of the classical linear regression model.
2 Being able to use the classical linear regression model in a scientifically well-founded way to analyse real economic problems.

Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract

Access to this course unit via an exam contract is unrestricted

Teaching methods

Group work, lecture, seminar: coached exercises

Extra information on the teaching methods

Ex cathedra theoretical lectures.
During the group assignment and tutorials students apply the theory to real problems.
Lectures and tutorials are all in English.

Learning materials and price

Gujarati and Porter, Basic Econometrics (fifth international edition), McGraw-Hill, 2009.
Chapters 1-13 and 18-20 Cost: 53 EUR

References

- Marno Verbeek, A Guide to Modern Econometrics, John Wiley & Sons, 2000.
- Jack Johnston and John Dinardo, Econometric Methods (fourth edition), McGraw-Hill, 1997.
- William H. Greene, Econometric Analysis (fifth edition), Prentice Hall, 2003.

Course content-related study coaching

Concerning the content of the course, students can appeal to the support of the lecturer and the assistants.
Study material (slides, assignments, solutions to the assignments,...) are available on Minerva.

Evaluation methods

end-of-term evaluation

Examination methods in case of periodic evaluation during the first examination period

Written examination

Examination methods in case of periodic evaluation during the second examination period

Written examination

Examination methods in case of permanent evaluation

Possibilities of retake in case of permanent evaluation

not applicable

Extra information on the examination methods

Written exam during which the knowledge of the econometric techniques discussed during this course and the ability to use these techniques to analyse real problems are evaluated.
Practical assignment (in preparation of the exam) in which the acquired knowledge is applied to real problems. The main part of the exam evaluates the correct interpretation of the student's solution (R output) of this case study. The solution of the case is not evaluated as such.
6-credit course students will get an extra exam question.

Calculation of the examination mark