

Syllabus of an educational component of a degree programme

Name of unit conducting a component	Doctoral School of Social Sciences
Name of an educational component	Applied Econometrics
Language of education	English
Goals of education	The main purpose of the course is to make the students familiar with some of the most useful tools of quantitative analysis that are frequently employed in various socio-economic (including law and economics) researches. The course is focused on practical skills acquired through solving actual socio-economic problems by means of adequate computer programs (Gretl (main software), R, Eviews or Stata depending on a given problem). Practical examples discussed and covered during the course will be taken from open databases as well as from the lecture's academic/scientific experience.
Learning outcomes of an educational component	The student is able on their own to carry out their investigation after having decided what type of an empirical problem they face.
Verification methods and assessment criteria of learning outcomes obtained by students	Final written examination. To get promotion the student's score must equal at least a half of the best student's score in the whole group but not less than 30% of the total score.
Type of an educational component (obligatory/optional)	optional
Year of study	1st
Semester	Spring
Name and surname of the coordinator of a component and/or person/s conducting a component	Dr hab. Waldemar Florczak, prof. UJ
Name and surname of person/s conducting an examination or granting credit in the case when this other person than conducting a component	
Manner of completion	Written examination
Preliminary and additional requirements	The course is addressed to all those interested in practical aspects of quantitative analysis. As such it does not exclude on a priori grounds the students without quantitative analysis

	background although some experience in issues related to economics/statistics/econometrics/research methods – all of which at introductory level - will be an obvious advantage. Yet, as the whole course ends up in a final written examination the real and binding requirement is the actual involvement on the student's side in the subject matter of the course, which should be possibly strengthened by their own firm conviction on the relevance of quantitative approach to socio-economic investigations.
Type and number of hours of courses requiring direct participation of academic staff and students, if in a given component such courses are included	30 academic hours split into 8 meetings . The room in which the meetings will take place should be equipped with a projector and possibly with computers. The former is a must, whereas the latter only advisable as the students can bring their own laptops to the classroom.
Number of ECTS credits assigned to a component	2
Balance of ECTS credits	2
Applied teaching methods	The form of the course is mixed, consisting of three parts. The first part is supposed to make the student familiar with the basic theoretical fundamentals of a given method, and in particular with what types of general research questions the method is supposed to answer. This part is closest in nature to traditional lecture with the student always free to ask questions during the presentation. The second part consists in solving practical example(s) illustrating all stages of applied investigation into a given socio-economic problem(s) using actual data and relevant computer software. This part is closest in nature to workshop activities. Finally, each lecture is supposed to end up in a couple of research questions focused on pragmatic aspects of the just discussed and practiced method(s) to check out the student's understanding of the issues covered during the meeting. This part serves both assessment and self-motivation purposes, possibly showing the student the necessity to on their own go deeper into specific method(s) through referring to specialist literature.
Form and conditions of passing a component, including conditions of allowing to take an examination, as well as form and conditions of passing each type of courses included in a given component	The course ends up in a final written examination. To sit the exam the student has to participate in possibly all the course meetings. Participation in the meetings is not only recommended per se but also because of the fact that each meeting will be finished by a series of practical questions/problems examining the student's understanding

	of the issues covered during the meeting.
Content of an educational module (with division into forms of courses completion)	<p>The course consists of 8 meetings covering the following topics:</p> <ol style="list-style-type: none"> 1. Dealing with data (data sources, data types, data basic properties, outliers, imputation techniques) 2. Revision of classical econometric analysis with emphasis on application aspects (1) (stages of econometric analysis, rules of specification, rules of statistical testing, essential and statistical verification) 3. Revision of classical econometric analysis with emphasis on application aspects (2) (common specification errors and misinterpretations of obtained results) 4. Panel/Longitudinal models 5. Principal Component Analysis, PCA 6. Logit and probit models for micro and macro data 7. Multinomial logit, conditional logit and mixed logit models 8. Censored and truncated variables models: Tobit model, truncated sample model, Heckit model
List of basic as well as supplementary literature, knowledge of which is required in order to pass a given component	<p>Basic literature:</p> <ol style="list-style-type: none"> 1. Gujarati D., <i>Econometrics by example</i>, Palgrave Macmillan 2012 <p>Supplementary literature:</p> <ol style="list-style-type: none"> 1. Kennedy P., <i>A Guide to Econometrics</i>, Blackwell Publishing 2013