Univerza v Mariboru

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Fakulteta za naravoslovje in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	Ekonometrija
Course title:	Econometrics

Študijski program in stopnja **Study programme and level**	**Študijska smer** **Study field**	**Letnik** **Academic year**	**Semester** **Semester**
Matematika, 2. stopnja	Modul F2	**1. ali 2.**	**1. ali 3.**
Mathematics, 2nd degree	Module F2	**1. or 2.**	**1. or 3.**

Vrsta predmeta / Course type

Univerzitetna koda predmeta / University course code:

Predavanja **Lectures**	**Seminar** **Seminar**	**Sem. vaje** **Tutorial**	**Lab. vaje** **Laboratory work**	**Teren. vaje** **Field work**	**Samost. delo** **Individ. work**	**ECTS**
60		**45**			**165**	**9**

Nosilec predmeta / Lecturer: Timotej JAGRIČ

Jeziki / Languages:	
Predavanja / Lectures:	SLOVENSKO/SLOVENE
Vaje / Tutorial:	SLOVENSKO/SLOVENE

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:

Prerequisits:

Vsebina:

- Uvod (Uvod v ekonometrijo, Ponovitev statistike);
- Multipli regresijski model (Uvod, Ocena parametrov, Lastnosti, Testiranje hipotez, Mere primernosti, linearne transformacije, napovedovanje);
- Neizpolnjevanje predpostavk (Specifikacija modela, Normalna porazdelitev, Multikolinearnost, Heteroskedastičnost, Avtokorelacija);

Content (Syllabus outline):

-Introduction (Introduction to Econometrics, Statistics Review);
-The Multiple Regression Model (Introduction, Estimating the Parameters, Properties, Hypothesis Testing, Goodness of Fit, linear transformations, forecasting);
-Violations of Assumptions (Model Specification, Multicollinearity, Heteroskedasticity, Serial Correlation);
- Dummy variables;

- Slamnate spremenljivke; - Odložene spremenljivke; - Simultani sistemi; LOGIT modeli.	- Lagged variables; - Simultaneous systems; - LOGIT models.

Temeljni literatura in viri / Readings:

N. Gujarati (2003). Basic Econometrics – Fourth Edition. McGraw-Hill, New York.
W. H. Green (2003). Econometric Analysis – Fifth Edition. Prentice Hall, New Jersey.
G. S. Maddala (2003). Introduction to Econometrics – Third Edition. John Wiley & Sons, New York.

Cilji in kompetence:	**Objectives and competences:**
Študentje naj bi dobili znanja in spretnosti, ki so potrebna za ekonometrično analizo. V okviru predmeta se bodo študentje učili tradicionalne ekonometrične metode. Razumeli bodo bistvene razlike med časovnimi vrstami in presečnimi podatki. Študentje bodo dobili spretnosti, ki so potrebne za oblikovanje in razvoj enostavnih in multiplih regresijskih modelov. Obravnavane metode bodo razumeli do te mere, da jih lahko uporabijo na realnih ekonomskih bazah podatkov z uporabo sodobnih ekonometričnih programov.	The students will get the knowledge and skills of econometric analysis. In the course the students will learn traditional econometric methods. They will understand differences between the time series and cross sections data. The students will get the skills of construction and development of simple and multiple regression models. The students will be able to apply methods on real economic data bases with modern econometric software.

Predvideni študijski rezultati:	**Intended learning outcomes:**
Znanje in razumevanje: - poznavanje osnovnih matričnih operacij in njihova aplikacija v linearnih regresijskih modelih; - razumevanje predpostavk, na katerih temeljijo linearni regresijski modeli; - razumevanje posledic odstopanja modela od teh predpostavk; - poznavanje principov statističnega testiranja; - poznavanje uporabe računalniških programov za ocenjevanje in testiranje ekonometričnih modelov; - interpretacija in komentiranje rezultatov; - sposobnost prebiranja literature s področja kvantitativnih ekonomskih analiz, ki temeljijo na ekonometriji. Prenesljive/ključne spretnosti in drugi atributi: - sposobnost analize in sinteze;	Knowledge and Understanding: - Use of basic matrix operations and their application to the linear regression model; - understand the assumptions of the linear regression model - awareness of the implications for the model departures from assumptions; - understand statistical testing principles; - use software in the estimation and testing of econometric models; - interpret and discuss results; - be able to understand quantitative econ. literature that uses econometric methods. Transferable/Key Skills and other attributes: - capability for analysis and synthesis; - capacity for applying knowledge in practice; - autonomous work; - oral and written communication; - problem solving;

- sposobnost uporabe znanja v praksi; - samostojno delo; - ustna in pisna komunikacija; - reševanje problemov; - sposobnost prilagajanja novim razmeram; - raziskovalne sposobnosti; - sposobnost generiranja novih idej.	- capacity to adapt to new situations; - research skills; - capacity for generating new ideas.

Metode poučevanja in učenja:	**Learning and teaching methods:**
• predavanja (predavatelj bo podal študentom vsebino ključnih teorij in tehnik); • vodene vaje v računalniški učilnici (primeri modeliranja in razprava o domačih nalogah); • individualne konzultacije s predavateljem; • samostojno delo v računalniški učilnici, s posebnim poudarkom na uporabi interneta (izdelava domačih nalog z uporabo računalnika, delo z ekonomskimi bazami podatkov, učna gradiva na internetu, spletne predstavitve predavanj iz ekonometrije); • samostojni študij gradiva	• lectures (lecturer will provide students with knowledge of the fundamental theories and techniques); • guided classes in computer room (sample modeling is done and the main problems of home assignments are discussed); • teachers' consultations; • self study in computer room, in particular with the Internet (making home assignments using PC, work with economic data bases, study guides on the Internet, looking through sets of slides in Econometrics); • self study with literature

Načini ocenjevanja:		**Assessment:**
Način (pisni izpit, ustno izpraševanje, naloge, projekt) - seminarska naloga - pisni izpit	Delež (v %) / Weight (in %) 50% 50%	Type (examination, oral, coursework, project): - seminar work - written examination
Reference nosilca / Lecturer's references:		

1. ŽUNKO, Matjaž, JAGRIČ, Timotej. Raven razkrivanja z metodo tvegane vrednosti v slovenskih poslovnih bankah. *Bančˇ. vestn.*, apr. 2012, letn. 61, št. 4, str. 42-46. [COBISS.SI-ID 10994460]

2. ZDOLŠEK, Daniel, JAGRIČ, Timotej. Audit opinion identification using accounting ratios : experience of United Kingdom and Ireland. *Aktual. probl. ekon.*, 2011, no. 1 (115), str. 285-310, graf. prikazi, tabele. [COBISS.SI-ID 10625564]

3. BEKŐ, Jani, JAGRIČ, Timotej. Demand models for direct mail and periodicals delivery services : results for a transition economy. *Appl. econ.*, apr. 2011, vol. 43, no. 9, str. 1125-1138, doi: 10.1080/00036840802600244. [COBISS.SI-ID 10071324]

4. JAGRIČ, Vita, JAGRIČ, Timotej. Primerjalna presoja bančnih bonitetnih modelov za prebivalstvo = A comparative assessment of credit risk models for bank retail portfolio. *Bančˇ.*

vestn., jan.-feb. 2011, letn. 60, št. 1/2, str. 48-52. [COBISS.SI-ID 10593052]

5. JAGRIČ, Timotej, JAGRIČ, Vita. A comparison of growing cell structures neural networks and linear scoring models in the retail credit environment : a case of a small EU and EMU member country. *East. Europ. econ.*, nov-dec 2011, vol. 49, no. 6, str. 74-96, doi: 10.2753/EEE0012-8775490605. [COBISS.SI-ID 10975772]