UČNI NAČRT PREDMETA / COURSE SYLLABUS (leto / year 2017/18)			
Predmet:	Ekonometrija		
Course title:	Econometrics		

Študijski program in stopnja **Study programme and level**	**Študijska smer** **Study field**	**Letnik** **Academic year**	**Semester** **Semester**
Magistrski študijski program Matematika	ni smeri	1 ali 2	prvi ali drugi
Master's study programme Mathematics	none	1 or 2	first or second

Vrsta predmeta / Course type	izbirni / elective
Univerzitetna koda predmeta / University course code:	M2526

Predavanja **Lectures**	**Seminar** **Seminar**	**Vaje** **Tutorial**	**Klinične vaje** **work**	**Druge oblike študija**	**Samost. delo** **Individ. work**	**ECTS**
30	**15**	**30**			**105**	**6**

Nosilec predmeta / Lecturer:	prof. dr. Mihael Perman

Jeziki / Languages:	**Predavanja / Lectures:**	slovenski / Slovene, angleški / English
	Vaje / Tutorial:	slovenski / Slovene, angleški / English

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisites:**
Vpis v letnik študija.	Enrolment in the programme.

Vsebina:	**Content (Syllabus outline):**

Uvod: definicija in mesto ekonometrije v ekonomski znanosti, osnovna metodologija ekonometričnih raziskav. Linearna regresija: metoda najmanjših kvadratov, izrek Gauss-Markova, testiranje splošne linearne domneve, diagnostične metode, pomembne opazovane vrednosti, testi za ostanke, testi za linearnost, Cookov test. Posplošitve linearnega modela: heteroshedastičnost, avtokorelacija napak, stohastične neodvisne spremenljivke, nelinearni regresijski modeli, modeli z nepravimi spremenljivkami. Kointegracija. Logit in probit modeli za dihotome in politome podatke. Panelni podatki: ozadje modelov in definicije, ocenjevanje parametrov,preizkušanje domnev, večstopenjski panelni podatki, modeli diskretne izbire. Simultani sistemi več regresijskih enačb: zapisi simultanega sistema regresijskih enačb, identifikacija enačb sistema, izbrane metode ocenjevanja simultanega sistema enačb. Vektorska avtoregresija, preverjanje pravilnosti modela.Kointegrirana vektorska avtokorelacija.	Introduction: the definition and the place of econometrics in the economics, basic methodology of the econometric research. Linear regression: the method of least squares, The Gauss-Markov Theorem, testing of the general linear assumption, diagnostic methods, important empirical values, residue tests, linearity tests, the Cook Test. Generalized linear model: heteroskedasticity, autocorrelation of errors, stochastically independent variables, nonlinear regression models, models with instrumental variables. Cointegration, logit and probit models for dichotomous and politomous data. Panel data: modelling and definitions, parameter estimation, hypothesis testing, multidegree panel data, discrete choice models. Simultaneous systems regression equations: various forms of the systems, identification equation of the system, various estimation methods for the simultenous system of equations. Vector autoregression, model verification. Cointegrated vector autocorrelation.

Temeljni literatura in viri / Readings:

W. H. Greene: Econometric analysis, 3rd edition, Prentice Hall, 1997.

M. Verbeek: A Guide to Modern Econometrics, Wiley, 2004.

J. Woolridge: Introductory Econometrics: A modern Approach, 2nd Edition, South-Western College Pub, 2002.

N. Gujarati: Basic Econometrics. 4th ed. Boston: McGraw Hill,2003. Part 1 (str. 15-333) in Part 2 (str. 335-560).

R. Ramanathan: Introductory Econometrics with Applications. 5th ed.

J. Johnston: Econometric Methods, 3rd Edition, McGraw-Hill, New York, 1984.

R. S. Pindyck in D. S. Rubinfeld: Econometric Models and Economic Forecast, 4th Edition,, McGraw-Hill, New York 1998.

S. Weisberg: Applied Linear Regression, Wiley & Sons, 1985.

B. H. Baltagi: Econometrics, Springer, 1998.

Cilji in kompetence:

Uporaba statistike v ekonomskih vedah nujno vodi do ekonometrije. S tem nastane nov in globlji pogled na statistiko samo na eni strani, po drugi strani pa predmet da občutek za soigro ekonomskega in statističnega razmišljanja. Predmet je tudi nujen korak do uporabe statistike za ekonomsko analizo.

Zaradi nepostredne uporabnosti vsebin bodo pri predmetu sodelovali tudi strokovnjaki iz prakse.

Objectives and competences:

Statistical applications in economics naturally lead to econometrics. This gives new, deaper perspective to the statitstics itself on one side, and to the interplay between statistics and economics on the other side. The course is a necessary prerequisite for anybody who will use statistics for the analysis of the processes in the economics.

Since the content is of great practical importance we expect that also specialists from financial practice will present their work experience during the course.

Predvideni študijski rezultati:

Znanje in razumevanje

Predmet omogoča neposreden vpogled v uporabo statistike v ekonomiji, nakaže načine razmišljanja in osvetli medigro med ekonomskim in statističnim razmišljanjem.

Uporaba

Statistika je jezik bolj kvantitativno usmerjene ekonomije. Ta predmet bo omogočal neposredno uporabo statistike po eni strani, po drugi pa se bodo diplomanti lahko brez težav vpisali tudi na doktorski študij ekonomije.

Refleksija

Medigra med uporabo, statističnim

Intended learning outcomes:

Knowledge and understanding:

Understanding of statistical applications to economics, interplay between statistical reasoning and economics.

Application:

Statistics is the language of the quantitative economics. On one side, application is immediate, on the other side the knowledge will satisfy to persue doctoral studies in economics.

Reflection:

The interplay between application, statistical modelling, economics feedback information, and application stimulation for mathematical

modeliranjem, povratno informacijo ekonomije in spodbude iz uporabe za matematično razmišljanje. Prenosljive spretnosti – niso vezane le na en predmet Spretnosti so prenosljive na druga področja matematičnega modeliranja, še najbolj pa je predmet pomemben zaradi svoje neposredne uporabnosti in brušenja zmožnosti matematičnega modeliranja.	reasoning. Transferable skills: The skills obtained are transferable to other areas of mathematical modelling, but the gist of the course is its immediate applicability.

Metode poučevanja in učenja:	**Learning and teaching methods:**
predavanja, vaje, domače naloge, konzultacije	Lectures, exercises, homeworks, consultations

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment:**
Način (pisni izpit, ustno izpraševanje, naloge, projekt): domače naloge, izpit iz vaj ustni izpit. ocene: 1-5 (negativno), 6-10 (pozitivno) (po Statutu UL)	 50% 50%	Type (examination, oral, coursework, project): homework written exam oral exam Grading: 1-5 (fail), 6-10 (pass) (according to the Statute of UL)

Reference nosilca / Lecturer's references:

Mihael Perman:

BLEJEC, Matjaž, LOVREČIČ SARAŽIN, Marko, PERMAN, Mihael, ŠTRAUS, Mojca. Statistika. Piran:

Gea College, Visoka šola za podjetništvo, 2003. X, 150 str., graf. prikazi, tabele. ISBN 961-6347-43-8. [COBISS.SI-ID 122243328]

PERMAN, Mihael. Order statistics for jumps of normalised subordinators. Stochastic Processes and their Applications, ISSN 0304-4149. [Print ed.], 1993, vol. 46, no. 2, str. 267-281. [COBISS.SI-ID 12236633]

HUZAK, Miljenko, PERMAN, Mihael, ŠIKIĆ, Hrvoje, VONDRAČEK, Zoran. Ruin probabilities and decompositions for general perturbed risk processes. Annals of applied probability, ISSN 1050-5164, 2004, vol. 14, no. 3, str. 1378-1397. [COBISS.SI-ID 13168985]