

## UČNI NAČRT PREDMETA / COURSE SYLLABUS

<b>Predmet:</b>	Metode in primeri raziskovalnega dela
<b>Course title:</b>	Methods and examples of research work

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Pravo in management nepremičnin 3. stopnje	Pravo in management nepremičnin	1.	1.
III. level	Law and Management of Real Estate	1.	1.

Vrsta predmeta / Course type

Izbirni

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
30	0	0	0	0	0	6

Nosilec predmeta / Lecturer:

prof. dr. Ajda Fošner

Jeziki /

Languages:

Predavanja /

Lectures:

slovenščina

Vaje / Tutorial:

slovenščina

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

Poznavanje osnovnih matematičnih pravil računanja: računanje s števili, reševanje enačb, poznavanje osnovnih pojmov analize elementarnih funkcij itd. Znanje matematike, ki ga predvideva srednješolski program za opravljanje poklicne mature ali mature iz matematike.

**Prerequisites:**

Knowing basic mathematical calculations and basic definitions of analysis and linear algebra. Basic knowledge of high school mathematics.

**Vsebina:**

- Osnovni pojmi ekonomske statistike: statistični pojmi, potek statističnega proučevanja.
- Relativna števila: srednje vrednosti, kvantili, indeksi in statistični koeficienti v ekonomiji.
- Preprosta statistična analiza pojava:

**Content (Syllabus outline):**

- Basic definitions in statistics: basic statistical concepts, statistical research.
- Relative numbers: mean value, indexes, statistic coefficients in economy.
- Measure of variability, asymmetry, flatness, concentration.
- Correlation of variables.

mere variabilnosti, asimetrija, sploščenost, koncentracija.

- Povezanost spremenljivk.
- Analiza časovnih vrst in napovedovanje pojavov.

- Analysis of time sequences and predicting.

### Temeljna literatura in viri / Readings:

- Pfajfar Lovrenc, Arh Franc: Statistika 1. Ekonomska fakulteta, Ljubljana 2004.
- Blejcek Marijan: Uvod v statistiko. Ekonomska fakulteta, Ljubljana 1987.
- Ferligoj Anuška. Naloge iz statistike. samozaložba, Ljubljana 1997.

### Cilji in kompetence:

Študentje bodo razvili splošne kompetence:

- sposobnost uporabe metod statistične (kvantitativne in deloma kvalitativne) analize pri proučevanju pojavov,
- sposobnost analitičnega in strukturiranega pristopa pri reševanju problemov
- komunikacijske sposobnosti z vključevanjem matematičnih in statističnih metod pri predstavitev, analizi ter argumentaciji rešitev, idej, projektov, problemov.

Študentje bodo razvili predmetno-specifične kompetence:

- obvladovanje osnovnih statističnih metod zbiranja, urejanja in prikazovanja podatkov,
- poznavanje metod statistične analize,
- poznavanje analize odvisnosti ekonomskih spremenljivk na podlagi statistične analize,
- razumevanje vključevanja matematičnih in statističnih metod v ekonomijo, management,
- znanje uporabe namenske programske opreme za potrebe preproste statistične analize podatkov.

### Objectives and competences:

Students will develop basic competences:

- using statistical methods (quantitative and qualitative) in studying problems,
- knowing analytic and structural approach in studying problems,
- using mathematical and statistical methods in representation, analysis, and argumentation of solutions, ideas, projects, problems.

Students will develop subject - specific competences:

- knowing basic statistical methods of collecting, arranging, and showing information,
- knowing methods of statistical analysis,
- knowing how to analyze correlation between variables,
- understanding how to use mathematical and statistic methods in economy, management,
- using special programs for statistical analysis.

### Predvideni študijski rezultati:

### Intended learning outcomes:

Študent bo:

- poznal zgodovinski razvoj statistike,
- poznal in znal pravilno uporabljati statistično terminologijo,
- razumel korake statističnega proučevanja,
- znal urediti, prikazati ter ustrezno predstaviti statistične podatke,
- poznal načine uporabe statistike na področju ekonomije in poslovnih ved,
- poznal pomen in uporabnost osnovnih statističnih parametrov.
- znal izračunati osnovne statistične parametre,
- znal izvesti preprosto analizo časovnih vrst,
- poznal vidike proučevanja enodimenzionalnih statističnih pojavov,
- spoznal pojem normalne porazdelitve pojava,
- znal analizirati preproste statistične pojave ter določiti lastnosti predvsem diskretnih številskih spremenljivk,
- razumel pomen medsebojne odvisnosti statističnih spremenljivk,
- znal analizirati odvisnost ter povezanost dveh spremenljivk,
- poznal regresijski model ter znal določati regresijsko premico ter utemeljiti njeno uporabo,
- poznal vidike analize dinamike razvoja pojava,
- poznal trend, kot osnovni vidik dinamike pojava,
- znal določiti linearni trend ter utemeljiti njegovo uporabo.

Student will:

- get to know the history of statistics,
- get to know basic statistic terminology and how to use it,
- understand the steps of statistical study,
- know how to arrange, show, and present statistical information,
- know how to use statistics in economy and business study,
- know basic statistical parameters,
- know how to calculate basic statistical parameters,
- know how to perform basic time analysis,
- know the aspects of investigating one-dimensional statistical problems,
- get to know normal distribution,
- know how to analyze basic statistical problems and how to define properties of discrete number values,
- know the meaning of the correlation between statistical variables,
- know how to analyze correlation between two statistical variables,
- know the meaning of regression model and know how to determine the regression function,
- know the aspects of analysis of phenomenon development,
- know trends,
- know how to determine linear trend and argument its usage.

**Metode poučevanja in učenja:**

**Learning and teaching methods:**

**Oblike dela:**

- Frontalna oblika poučevanja  
 Delo v manjših skupinah oz. v dvojicah  
 Samostojno delo študentov  
 e-učenje  
 drugo (vpišite) \_\_\_\_\_

**Metode (načini) dela:**

- Razlaga  
 Razgovor/ diskusija/debata  
 Delo z besedilom  
 Proučevanje primera  
 Igra vlog  
 Druge vrste nastopov študentov  
 Reševanje nalog  
 Študijski obiski podjetij ipd.)  
 Vključevanje gostov iz prakse  
  
 Udeležba na okrogli mizi, na konferenci

**Types of learning/teaching:**

- Frontal** teaching  
 Work in smaller groups or pair work  
 Independent students work  
 e-learning  
 other \_\_\_\_\_

**Teaching methods:**

- Explanation  
 Conversation/discussion/debate  
 Work with texts  
 Case studies  
 Role-play  
 Different presentation  
 Solving exercises  
 Field work (e.g. company visits)  
 Inviting guests from companies  
  
 Attending round table and conference

**Načini ocenjevanja:**

Delež (v %) /  
Weight (in %)

**Assessment:**

Seminar	100 %	Seminar
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**Reference nosilca / Lecturer's references:**

1. FOŠNER, Ajda. Prime and semiprime rings with symmetric skew 3-derivations. *Aequationes mathematicae*, ISSN 0001-9054, 2014, vol. 87, iss. 1-2, str. 191-200.
2. ALI, Shakir, FOŠNER, Ajda. On generalized (m,n)-derivations and generalized (m,n)-Jordan derivations in rings. *Algebra colloquium*, ISSN 1005-3867, 2014, vol. 21, iss. 3, str. 411-420.
3. FOŠNER, Ajda, REHMAN, Nadeem Ur. Identities with additive mappings in semiprime rings. *Bulletin of the Korean Mathematical Society*, ISSN 1015-8634, 2014, vol. 51, no. 1, str. 207-211.
4. FOŠNER, Ajda, LEE, Tsiu Kwen. Jordan [star]-derivations of finite-dimensional semiprime algebras. *Canadian mathematical bulletin*, ISSN 0008-4395, 2014, vol. 57, str. 51-60.
5. FOŠNER, Ajda. Prime and semiprime rings with symmetric skew n-derivations. *Colloquium mathematicum*, ISSN 0010-1354, 2014, vol. 134, no. 2, str. 245-253.
6. ZHENG, Baodong, XU, Jinli, FOŠNER, Ajda. Linear maps preserving rank of tensor products of matrices. *Linear and Multilinear Algebra*, ISSN 0308-1087, 2014, 11 str.
7. XIAO, Zhankui, WEI, Feng, FOŠNER, Ajda. Centralizing traces and Lie triple isomorphisms on triangular algebras. *Linear and Multilinear Algebra*, ISSN 0308-1087, 2014, 23 str.

8. FOŠNER, Ajda. On generalized  $[\alpha]$ -biderivations. *Mediterranean journal of mathematics*, ISSN 1660-5446, 2014, 7 str.
9. FOŠNER, Ajda. Local generalized  $([\alpha], [\beta])$ -derivations. *The scientific world journal*, ISSN 1537-744X, 2014, vol. 2014, ID 805780 (5 str.).
10. FOŠNER, Ajda, FOŠNER, Maja. Approximate cubic Lie derivations. *Abstract and applied analysis*, ISSN 1085-3375, 2013, vol. 2013, art. ID 425784, 5 str.
11. CHUANG, Chen-Lian, FOŠNER, Ajda, LEE, Tsiu Kwen. Jordan  $[\tau]$ -derivations of locally matrix rings. *Algebras and representation theory*, ISSN 1386-923X, 2013, vol. 16, iss. 3, str. 755-763.
12. DE FILIPPIS, Vincenzo, FOŠNER, Ajda, WEI, Feng. Identities with generalized skew derivations on Lie ideals. *Algebras and representation theory*, ISSN 1386-923X, 2013, vol. 16, iss. 4, str. 1017-1038.
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14. ALI, Shakir, FOŠNER, Ajda, KHAN, Mohammad Salahuddin. A note on commutativity of rings with additive mappings. *Arab journal of mathematical sciences*, ISSN 1319-5166, 2013, vol. 19, iss. 2, str. 199-204.
15. FOŠNER, Ajda, GER, Roman, GILÁNYI, Attila, MOSLEHIAN, Mohammad Sal. On linear functional equations and completeness of normed spaces. *Banach journal of mathematical analysis*, ISSN 1735-8787. [Online ed.], 2013, vol. 7, no. 1, str. 196-200.
16. FOŠNER, Ajda, WEI, Feng, XIAO, Zhankui. Nonlinear Lie-type derivations of von Neumann algebras and related topics. *Colloquium mathematicum*, ISSN 0010-1354, 2013, vol. 132, no. 1, str. 53-71.
17. FOŠNER, Ajda. A note on generalized  $(m,n)$ -Jordan centralizers. *Demonstratio mathematica*, ISSN 0420-1213, 2013, vol. 46, no. 2, str. 257-262.
18. FOŠNER, Ajda. Hyers-Ulam-Rassias stability of generalized module left  $(m,n)$ -derivations. *Journal of inequalities and applications*, ISSN 1029-242X, 2013, vol. 2013, art. 208 (8 str.).
19. BRZDĘK, Janusz, FOŠNER, Ajda. Remarks on the stability of Lie homomorphisms. *Journal of mathematical analysis and applications*, ISSN 0022-247X. [Print ed.], 2013, vol. 400, iss. 2, str. 585-596.
20. FOŠNER, Ajda, HUANG, Zejun, LI, Chi-Kwong, SZE, Nung-Sing. Linear maps preserving numerical radius of tensor products of matrices. *Journal of mathematical analysis and applications*, ISSN 0022-247X. [Print ed.], 2013, vol. 407, iss. 2, str. 183-189.
21. HARDY, Yorick, FOŠNER, Ajda, STEEB, Willi-Hans. Cayley transform and the Kronecker product of Hermitian matrices. *Linear Algebra and its Applications*, ISSN 0024-3795. [Print ed.], 2013, vol.

439, iss. 12, str. 4023-4031.

22. FOŠNER, Ajda, HUANG, Zejun, LI, Chi-Kwong, SZE, Nung-Sing. Linear preservers and quantum information science. *Linear and Multilinear Algebra*, ISSN 0308-1087, 2013, vol. 61, iss. 10, str. 1377-1390.
23. FOŠNER, Ajda, HUANG, Zejun, LI, Chi-Kwong, POON, Yiu-Tung, SZE, Nung-Sing. Linear maps preserving the higher numerical ranges of tensor products of matrices. *Linear and Multilinear Algebra*, ISSN 0308-1087, 2013, vol. 62, iss. 6, str. 776-791.
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25. FOŠNER, Ajda, HUANG, Zejun, LI, Chi-Kwong, SZE, Nung-Sing. Linear maps preserving Ky Fan norms and Schatten norms of tensor products of matrices. *SIAM journal on matrix analysis and applications*, ISSN 0895-4798, 2013, vol. 34, no. 2, str. 673-685.
26. FOŠNER, Ajda. The Hyers-Ulam-Rassias stability of  $(m,n)$   $[\sub]\{([\sigma], [\tau])\}$ -derivations on normed algebras. *Abstract and applied analysis*, ISSN 1085-3375, 2012, vol. 2012, art. 347478 (11 str.).
27. FOŠNER, Ajda. On the generalized Hyers-Ulam stability of module left  $(m, n)$ -derivations. *Aequationes mathematicae*, ISSN 0001-9054, 2012, vol. 84, no. 1-2, str. 91-98.
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29. FOŠNER, Ajda. 2-local Jordan automorphisms on operator algebras. *Studia Mathematica*, ISSN 0039-3223, 2012, t. 209, fasc. 3, str. 235-246.
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31. FOŠNER, Ajda, KUZMA, Bojan, KUZMA, Timotej, SZE, Nung-Sing. Maps preserving matrix pairs with zero Jordan product. *Linear and Multilinear Algebra*, ISSN 0308-1087, 2011, vol. 59, iss. 5, str. 507-529.
32. FOŠNER, Ajda, VUKMAN, Joso. On certain functional equations related to Jordan triple  $([\theta],[\phi])$ -derivations on semiprime rings. *Monatshefte für Mathematik*, ISSN 0026-9255, 2011, vol. 162, no. 1, str. 157-165.
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- 36.** ALI, Shakir, FOŠNER, Ajda. On Jordan ( $[\alpha]$ ,  $[\beta]$ )  $[\sup]$   $[\ast]$ -derivations in semiprime  $[\sup]$   $[\ast]$ -rings. *International journal of algebra*. [Print ed.], 2010, vol. 4, no. 3, str. 99-108.
- 37.** TEMELJOTOV SALAJ, Alenka, FOŠNER, Ajda, JURCA, Jerneja, KARČNIK, Irena, RAZPOTNIK, Irena, DOVGAN ŽVEGLA, Lidija. Znanja, veščine in kompetence za urejanje prostora = Knowledge, skills and competence in spatial planning. *Urbani izziv*, ISSN 0353-6483. [Tiskana izd.], jun. 2010, letn. 21, št. 1, str. 61-69, 136-143.
- 38.** FOŠNER, Ajda. Commutativity preserving maps on  $M[\sub]n(\mathbb{R})$ . *Glasnik matematički. Serija 3*, ISSN 0017-095X, 2009, vol. 44, no. 1, str. 127-140.
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