

UČNI NAČRT PREDMETA/COURSE SYLLABUS

Predmet: Metode kineziološkega raziskovanja 1

Course title: Research Methods in Kinesiology 1

Študijski programi in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Doktorski študijski program Doctoral study program	Ni členitve (študijski program)	1	1

Univerzitetna koda predmeta/University course code:

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje Clinical work	Druge oblike študija Other study work	Samostojno delo Individ. work	ECTS
30	15	15		65		5

Nosilec predmeta/Lecturer: Doc. dr. Bojan Leskošek, doc. dr. Rok Blagus

Vrsta predmeta/Course type: obvezni/compulsory

Jeziki/Languages:

Predavanja/Lectures:	Slovenščina/Slovene
Vaje/Tutorial:	Slovenščina /Slovene

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

Izpolnjevanje pogojev za vpis na doktorski študij Kineziologija in absolviran vsaj en dodiplomski predmet iz statistike (z vsaj 4 KT) in en predmet iz metodologije raziskovanja (z vsaj 4 KT).

Prerequisites:

General conditions for enrolment into the Doctoral Programme of Kinesiology and having passed at least one course on statistics (with at least 4 ECTS credits) and one course on research methodology (with at least 4 ECTS credits) at the undergraduate level.

Vsebina:

I. Raziskovalni proces

- formulacija problema
- raziskovalni načrt
- iskanje, pregled in ocena kvalitete virov

Content (Syllabus outline):

I. Research process

- problem formulation
- research plan
- literature search, review and evaluation

<ul style="list-style-type: none"> - etika raziskovanja in zaščita udeležencev raziskav - poročanje o raziskavah - vrste raziskav (pregled) - merjenje ter zanesljivost in veljavnost merjenja - načrtovanje vzorcev - sekundarni in primarni podatki - načrtovanje vprašalnika - merjenje ter zanesljivost in veljavnost merjenja - načrtovanje vzorcev - zbiranje podatkov <p>II. Statistična analiza podatkov:</p> <ul style="list-style-type: none"> - Osnovna inferenčna analiza podatkov - Grafična predstavitev podatkov - Posplošeni linearni regresijski modeli - Hierarhični regresijski modeli - Analiza zgodovine dog - Pregled multivariatnih metod 	<ul style="list-style-type: none"> - research ethics and participants' protection - research reporting - types of research (overview) - secondary and primary data - planning of a questionnaire - measurement and its reliability and validity - planning of samples - data collection. <p>II. Statistical data analysis:</p> <ul style="list-style-type: none"> - basic inferential data analysis - graphical presentation of data - generalized linear models - hierarchical regression models - event history analysis - overview of multivariate methods.
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Temeljna literatura in viri/Readings:

<ol style="list-style-type: none"> 1. Tenenbaum G., M.P. Driscoll: Methods of Research in Sport Sciences. Meyer & Meyer Sport, Oxford, 2005. 2. Johnson R.A., Wichern D.W.: Applied Multivariate Statistical Analysis. New Jersey: Prentice Hall, 1988 (ali novejša izdaja) 3. Altman, D. (1990). Practical Statistics for Medical Research. Chapman & Hal. 4. Bland, M. (2000). An introduction to Medical Statistics (3rd ed.). OUP Oxford. 5. Katz, M. H. (1999). Multivariable analysis: a practical guide for clinicians. Cambridge: Cambridge University press

Cilji in kompetence:

Objectives and competences:

<p>V tem okviru se želi usposobiti študente:</p> <ul style="list-style-type: none"> - za izbiro metodološkega pristopa, ki ustreza raziskovalnim ciljem in hipotezam ter drugim okoliščinam, - za razumevanje temeljnih konceptov izbranih statističnih metod, - za samostojno obdelavo podatkov z obravnavanimi metodami na osebnih računalnikih - za pravilno razlago dobljenih rezultatov 	<p>Within the above-mentioned framework, train students to:</p> <ul style="list-style-type: none"> - choose the methodological approach that corresponds to the research objectives, hypotheses and other circumstances, - understand the basic concepts of the selected statistical methods, - independently process data using the studied methods on a personal computer, - adequately explain the obtained results.
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Predvideni študijski rezultati:**Intended learning outcomes:**

<p>Znanje in razumevanje:</p> <p>Usposobiti študente za pravilno uporabo metodoloških in statističnih pristopov, zlasti regresijskih in multivariatnih, ki se pogosto uporabljajo v raziskovanju na področju kineziologije.</p>	<p>Knowledge and understanding:</p> <p>Train students to correctly employ methodological and statistical approaches, especially the regression and multivariate ones which are frequently employed in kinesiological research.</p>
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Metode poučevanja in učenja:**Learning and teaching methods:**

<p>Študentje osvojijo osnovna znanja na predavanjih (v primeru manjšega števila študentov deloma tudi z individualnim študijem pod mentorstvom učitelja). Na vajah si ogledajo konkretne primere in njihovo reševanje s pomočjo programskih orodij (predvidena je uporaba programa R). Pridobljeno znanje utrdijo z izdelavo sprotnih domačih nalog ali projektnega dela, vezanega na njihov doktorski študij. Eno od tem, ki je povezana z njihovo disertacijo, podrobneje preučijo s samostojnim študijem ob pomoči mentorja in izdelavo seminarske naloge, ki se javno predstavi.</p>	<p>Students gain basic knowledge of the subject during classes (in case of a smaller number of enrolled students, individual study under the supervision of the lecturer is foreseen). During exercises, concrete cases will be analyzed and solved with adequate statistical software (ie. R). Knowledge gained during courses will be consolidated with homework or project work related to their PhD. Each student will—under the supervision of the lecturer—study part of his PhD and present it as a form of seminar work.</p>
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Načini ocenjevanja:**Delež/Weight****Assessment:**

<p>Način (pisni izpit, ustno izpraševanje, naloge, projekt)</p> <p>Spremlja in ocenjuje se aktivnost študenta na organiziranem delu procesa (predavanje, vaje), izdelava pisnih izdelkov (domače naloge, vaje, projektno delo), vodenje seminarja in zagovori domačih nalog.</p>	<p>100,00 %</p>	<p>Type (examination, oral, coursework, project):</p> <p>The assessment encompasses the students' class work (during lectures and exercises), their written homework (including project work), and the homework and seminar presentation.</p>
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Reference nosilca/Lecturer's references:

<ol style="list-style-type: none"> 1. LESKOŠEK, Bojan, ČUK, Ivan, PAJEK, Jernej, FORBES, Warwick, BUČAR PAJEK, Maja. Bias of judging in men's artistic gymnastics at the European championship 2011. <i>Biology of Sport</i>, ISSN 0860-021X, 2012, vol. 29, no. 2, str. 107-113. 2. LESKOŠEK, Bojan, STREL, Janko, KOVAČ, Marjeta. Overweight and obesity in Slovenian schoolgirls, 1991-2006. <i>Collegium antropologicum</i>, ISSN 0350-6134, 2010, vol. 34, no. 4, str. 1303-1308. 3. BUČAR PAJEK, Maja, ČUK, Ivan, PAJEK, Jernej, KARACSONY, Istvan, LESKOŠEK, Bojan. Reliability and validity of judging in women's artistic gymnastics at University Games 2009. <i>European journal of sport science : EJSS</i>, ISSN 1536-7290, 2012, vol. 12, no. 3, str. 207-215, ilustr., tabele. http://www.tandfonline.com/loi/tejs20, doi: 10.1080/17461391.2010.551416. 4. BLAGUS, Rok, GOEMAN, Jelle J. Mean squared error of ridge estimators in logistic regression. <i>Statistica Neerlandica</i>. May 2020, vol. 74, iss. 2, str. 159-191. 5. BLAGUS, Rok, GOEMAN, Jelle J. What (not) to expect when classifying rare events. <i>Briefings in bioinformatics</i>. Mar. 2018, vol. 19, iss. 2, str. 341-349. 6. BLAGUS, Rok, LUSA, Lara. Gradient boosting for high-dimensional prediction of rare events.
