UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	Kvantitativna metodologija
Course title:	Quantitative Methodology

Študijski program in stopnja **Study programme and level**	**Študijska smer** **Study field**	**Letnik** **Academic year**	**Semester** **Semester**
Psihosocialna pomoč (VS) / Psychosocial support (BA)	Program nima smeri / Program has a single course	Drugi / Second	Tretji / Third
Prva stopnja / First level			

Vrsta predmeta / Course type	Obvezni / Compulsory
Univerzitetna koda predmeta / University course code:	KVM / QUM

Predavanja **Lectures**	**Seminar** **Seminar**	**Vaje** **Tutorial**	**Klinične vaje** **work**	**Druge oblike študija**	**Samost. delo** **Individ. work**	**ECTS**
20		60			100	6

Nosilec predmeta / Lecturer:	Izr. prof. dr. Uroš Marušič / Associate professor Uroš Marušič, Ph.D.

Jeziki / Languages:	**Predavanja / Lectures:**	Slovenski / Slovenian, Angleški / English
	Vaje / Tutorial:	Slovenski / Slovenian, Angleški / English

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisits:**
Ni posebnih pogojev.	No special prerequisites.

Vsebina:

- Opredelitev osnovnih pojmov: populacija, vzorec, statistična spremenljivka, parameter populacije.
- Statistično proučevanje množičnih pojavov: popis, registracija, vzorčenje.
- Relativna števila: strukture, koeficienti, indeksi.
- Urejanje in prikazovanje opisnih spremenljivk: frekvenčna porazdelitev, izbira primernega grafikona.
- Urejanje in prikazovanje številskih spremenljivk: ranžirna vrsta, frekvenčna porazdelitev, izbira primernega grafikona.
- Mere centralne tendence: aritmetična sredina, mediana, modus, geometrijska sredina, kvantili.
- Mere variabilnosti: absolutne (variacijski razmik, kvartilni razmik, varianca, standardni odklon) in relativne (koeficient variacije).
- Korelacija in regresija: Pearsonov in Spearmanov koeficient korelacije (pomen, izračun, pogoji uporabe), parcialna in multipla korelacija, enačba regresijske premice, determinacijski koeficient.
- Longitudinalno raziskovanje: analiza časovnih vrst (prikazovanje, indeksi, stopnje rasti), analiza trendov (drseče sredine, linearni trend).
- Demografska statistika: analiza demografskih procesov, rast in obnavljanje prebivalstva, projekcije prebivalstva, splošni razvoj prebivalstva.
- Uporaba sodobnih računalniških orodij za statistično analizo: urejanje in prikazovanje podatkov, izračun vseh pomembnih parametrov.

Content (Syllabus outline):

- Definition of basic concepts: population, sample, statistical variables, the parameter of the population.
- Statistical study of mass phenomena: inventory, registration and sampling.
- Relative numbers: structure coefficients indices.
- Editing and displaying descriptive variables: frequency distribution, selecting an appropriate chart.
- Editing and displaying numeric variables: shunting type, frequency distribution, selecting an appropriate chart.
- Measures of central tendency: arithmetic mean, median, mode, geometric mean, quantil.
- Dimensions of variability: absolute (variation interval, interquartile range, variance, standard deviation) and relative (coefficient of variation).
- Correlation and regression Pearson and Spearman's rank correlation coefficient (meaning, calculation conditions of use), partial and multiple correlation equation regression lines, coefficient of determination.
- Longitudinal Research: time series analysis (displaying, indexes, growth rates), trend analysis (moving average, linear trend).
- Demographic Statistics: analysis of demographic processes, growth and regeneration of the population, population projections, the overall development of the population.
- Use of advanced software tools for statistical analysis: editing and displaying data, calculating all relevant parameters.

Temeljni literatura in viri / Readings:

FERLIGOJ, Anuška. *Osnove statistike na prosojnicah*. Ljubljana: samozaložba, 1997.

FIELD, Andy. *Discovering statistics using SPSS*. Third edition: SAGE Publications, 2013.

MACUR, Mirna. *Statistika 1*. Ljubljana: Vega, 2009.

PUSTAVRH, Simona, POVH, Janez, VIDIČEK, Matija, GOVORČIN, Jelena. *Zbirka rešenih nalog iz statistike*. Ljubljana: Vega, 2011.

PFAJFAR, Lovrenc. *Osnovna statistika za ekonomske in poslovne vede*. Ljubljana: Ekonomska fakulteta, 2011.

TRIOLA, F. Mario. *Elementary statistics*. Ninth edition: Pearson Education, 2004.

Cilji in kompetence:

Cilj: Pridobiti osnovna znanja in veščine za zbiranje, urejanje in opis podatkov.

Pridobitev splošnih kompetenc:

- seznanjenost z raziskovalnimi metodami, postopki in procesi, sposobnost zbiranja in interpretiranja podatkov, razvoj kritične in samokritične presoje.

Pridobitev predmetno-specifičnih kompetenc:

- seznanjenost in razumevanje ter vrednotenje raziskovalnih metod, relevantnih za vse pristope ter tistih, ki so specifične za izbran pristop,
- sposobnost zbiranja in interpretiranja ustreznih podatkov, potrebnih za oblikovanje kritične ocene (npr. glede potrebne psihosocialne intervencije), katere sestavni del je refleksija s tem povezanih družbenih, strokovnih in etičnih vidikov.

Objectives and competences:

Objectivs: To acquire basic knowledge and skills for the collection, analysis and description of the data.

Acquisition of general competences:

- Familiarity with research methods, procedures and processes, ability to collect and interpret the data, the development of critical and self-critical assessment.

Acquisition of course-specific competences:

- knowledge and understanding and evaluation of research methods relevant to all approaches and those specific to the chosen approach,
- Ability to collect and interpret relevant data necessary for the formation of a critical assessment (eg. regarding the necessary psychosocial interventions), a part of which is a reflection of the underlying social, professional and ethical aspects.

Predvideni študijski rezultati:	**Intended learning outcomes:**
Študentje: - se seznanijo s teoretskimi osnovami statističnih metod in s praktičnimi vidiki statističnega opazovanja množičnih pojavov; - se usposobijo za začetno fazo statistične analize: definicija problema, določitev aktualnih statističnih spremenljivk, pridobivanje podatkov, urejanje in prikaz podatkov, izračun najpomembnejših parametrov; - se naučijo uporabljati nekaj najaktualnejših programskih orodij za osnovno statistično obdelavo podatkov.	Students: - Get acquainted with the theoretical basis of statistical methods and practical aspects of statistical observation of mass phenomena; - Are trained for the initial phase of statistical analysis: definition of the problem, identification of the relevant statistical variables, data acquisition, editing and displaying data, calculation of the most important parameters; - Learn how to use some of the modern software tools for basic statistical data processing
Metode poučevanja in učenja:	**Learning and teaching methods:**
- predavanja z aktivno udeležbo študentov (razlaga, vprašanja, primeri); - vaje, kjer bodo študentje pri konkretnih statističnih problemih ponovili, utrdili in dodatno osvetlili pojme in metode, spoznane na predavanjih; - vaje v računalniški učilnici: pri teh vajah bodo študentje spoznali nekaj najaktualnejših programskih orodij za statistično obdelavo podatkov, s katerimi se bodo naučili izvajati vse statistične metode, ki so jih srečali na predavanjih in vajah; te vaje bodo potekale v manjših skupinah, tako da bo imel vsak študent na razpolago en računalnik; - projekt, ki ga bodo študentje pripravili v manjših skupinah; vključeval bo konkreten statistični problem, ki ga bodo morali študentje v celoti rešiti z metodami, spoznanimi na predavanjih in vajah; - uporaba spletne učilnice oziroma drugih sodobnih IKT orodij; - kolokviji: z njimi bodo študentje stimulirani, da sproti študirajo snov, ki	- lectures with the active participation of students (explanation, questions, examples); - exercises where the students with the use of the concrete statistical problems recur, consolidate and shed further light on concepts and methods, learned on the lectures; - exercises in the computer room: with these exercises, students will learn about modern software tools for statistical data processing; with the use of these tools, students will learn to carry out all statistical methods, they met at lectures and tutorials; these exercises will take place in small groups so that each student will have a computer at the disposal; - the project, which will be prepared by students in small groups; it will include a concrete statistical problem that will have to be completely solved by students, using methods that they have learned in class and exercises; - the use of online classroom and other modern ICT tools;

bo obravnavana na predavanjih in vajah.	- colloquies: students will be encouraged to keep studying the material that will be discussed at lectures and tutorials.

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment:**
Projekt, kolokvij Pisni izpit Ocenjevalna lestvica – skladno s Pravilnikom o preverjanju in ocenjevanju znanja.	30 % 70 %	Project, Colloquies Written examination Grading scale - in accordance with the Rules of examination and evaluation of knowledge.

Reference nosilca / Lecturer's references:

MARUŠIČ, Uroš, VERGHESE Joe, MAHONEY, R. Jeannette. Cognitive-Based Interventions to Improve Mobility: A Systematic Review and Meta-analysis. *Journal of the American Medical Directors Association,* 2018, vol. 19, no. 6, pp. 484-491.

MARUŠIČ, Uroš, KAVCIC, Voyko, PIŠOT, Rado, GOSWAMI, Nandu. The Role of Enhanced Cognition to Counteract Detrimental Effects of Prolonged Bed Rest: Current Evidence and Perspectives. *Frontiers in Physiology*, 2019, vol. 9, pp. 1864.

MARUŠIČ, Uroš, GROSPRÊTRE, Sidney. Non-physical approaches to counteract age-related functional deterioration: Applications for rehabilitation and neural mechanisms. *European Journal of spoprt science,* 2018, vol. 18, no. 5, pp. 639-649.

MARUŠIČ, Uroš, MÜLER, L. T. M. Martinjan, ALEXANDER B. Neil, BOHNEN I. Nicolas. Feasibility and behavioral effects of prolonged static and dynamic standing as compared to sitting in older adults with type 2 diabetes mellitus. *BMC Geriatrics*, 2020, vol. 20, no. 2, pp. 204.

MARUŠIČ, Uroš, TAUBE, Wolfgang, MORRISON, Shwanda, et al. Aging effects on prefrontal cortex oxygenation in a posture-cognition dual-task: an fNIRS pilot study. *European review of aging and physical activity,* 2019, vol. 16, no. 2.

MARUŠIČ, Uroš, GROSPRÊTRE, Sidney, PARAVLIC, Armin, KOVAČ, Simon, PIŠOT, Rado, TAUBE, Wolfgang. Motor Imagery during Action Observation of Locomotor Tasks Improves Rehabilitation Outcome in Older Adults after Total Hip Arthroplasty. *Neural Plast*icity, 2018, no. 5651391.