

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Psihometrija
Course title:	Psychometrics

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Biopsihologija, 1. stopnja		2.	1.
Biopsychology, 1st level		2.	1.

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
45	-	-	30	-	105	6

Nosilec predmeta / Lecturer:

Jeziki / Languages:	Predavanja / Lectures:	Slovenski / Slovene
	Vaje / Tutorial:	Slovenski / Slovene

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

Prerequisites:

Vsebina:

1. del: Psihofizika
- Definicija in temeljni pojmi psihofizike
 - Ocenjevanje zaznavnih pragov (klasična psihofizika, teorija detekcije signalov, teorija treh kontinuumov)
 - Metode lestvičenja (Fechnerjeva metoda, Thurstonove metode, metoda deljenja in množenja, Stevensove metode)
2. del: Psihološko testiranje
- Teorija merjenja v psihologiji
 - Merjenje medosebnih razlik (zgodovinski pregled)
 - Opredelitev in vrste testov
 - Testni dosežki in njihova pretvorba
 - Zanesljivost testa (vidiki, modeli, metode ocenjevanja)
 - Veljavnost testa (vidiki, modeli, metode ocenjevanja)
 - Postopki izdelave testa (analiza testnih nalog)
 - Uvod v teorijo odgovora na postavko (Raschev model in njegove razširitve)

Content (Syllabus outline):

- Part 1: Psychophysics
- Definition and basic concepts of psychophysics
 - Sensory threshold estimation (classical psychophysics, signal detection theory, theory of three continua)
 - Scaling methods (Fechner's method, Thurstone's methods, fractioning and multiplication method, Stevens' methods)
- Part 2: Psychological testing
- Measurement theory in psychology
 - Measurement of individual differences (a historical overview)
 - Types of tests
 - Test scores and their transformation
 - Test reliability (aspects, models, estimation methods)
 - Test validity (aspects, models, estimation methods)
 - Procedures of test development (item analysis)
 - Introduction to item response theory (Rasch model and its extensions)

Temeljni literatura in viri / Readings::

Podlesek, A., Brenk, K. (2004). *Osnove psihološkega merjenja : psihofizikalna metodologija*. Ljubljana: Filozofska fakulteta, Oddelek za psihologijo.

Bucik, V. (1997). *Osnove psihološkega testiranja*. Ljubljana: Filozofska fakulteta, Oddelek za psihologijo.

Sočan, G. (2011). *Postopki klasične testne teorije (2. natis)*. Ljubljana: Znanstvena založba Filozofske fakultete.

Ferligoj, A., Leskošek, K., Kogovšek, T. (1995). *Zanesljivost in veljavnost merjenja*. Ljubljana: Fakulteta za družbene vede (Metodološki zvezki, št. 11). <http://www.stat-d.si/mz/mz11/mz11.pdf>

Furr, R.M., Bacharach, V.R. (2013). *Psychometrics: an introduction* (2nd ed.). Los Angeles: SAGE.

William Revelle and the Personality Project (2014). *An introduction to psychometric theory with applications in R*. <http://www.personality-project.org/r/book/>

Cilji in kompetence:

Sposobnost uporabe metod za merjenja zaznavnih pragov in psihofizikalno lestvičenje.

Sposobnost zasnovati in sodelovati pri razvoju psihološkega testa.

Sposobnost preveriti merske lastnosti psihološkega testa.

Sposobnost razumeti in kritično vrednotiti znanstvene članke, v katerih so uporabljene klasične ali sodobne psihofizikalne ali psihometrične metode.

Objectives and competences:

Ability to apply methods of sensory threshold measurement and psychophysical scaling.

Ability to conceive, and participate in the development of, a psychological test.

Ability to assess metric characteristics of a psychological test.

Ability to understand and critically appraise scientific papers where classical or modern psychophysical or psychometric methods are used.

Predvideni študijski rezultati:

Poznavanje in razumevanje področja psihofizike.

Zmožnost uporabe psihofizikalnih meritev v biopsiholoških raziskavah.

Poznavanje in razumevanje področja psihometrije.

Poznavanje postopkov za razvoj psiholoških testov.

Zmožnost preverjanja merskih lastnosti psiholoških testov.

Intended learning outcomes:

Knowledge and understanding of the field of psychophysics.

Ability to apply psychophysical measurement in biopsychological research.

Knowledge and understanding of the field of psychometrics.

Ability to assess metric characteristics of psychological tests.

Prenesljive / ključne spretnosti in drugi atributi:

Zmožnost razumevanja in uporabe postopkov posrednega merjenja.

Zmožnost merjenja odnosa med dražljajem in zaznavo.

Zmožnost zasnove in sodelovanja v razvoju psiholoških testov.

Zmožnost preverjanja merskih lastnosti merskih instrumentov na vseh področjih.

Transferable / Key Skills and other Attributes:

Ability to understand and apply procedures of indirect measurement.

Ability to measure the relationship between stimulus and perception.

Ability to conceive, and participate in the development of, psychological tests.

Ability to assess measurement characteristics of measurement instruments in all fields.

Metode poučevanja in učenja:

Interaktivna predavanja

Laboratorijske vaje

Samostojno delo študentov

Learning and teaching methods:

Interactive lectures

Labs

Individual work

Načini ocenjevanja:	Delež (v %) / Weight (in %)	Assessment:
Način:		Type:
Pisni izpit	50	Written examination
Domače naloge	50	Homework

Reference nosilca / Lecturer's references:

- VIDMAR, Gaj, BLAGUS, Rok. Outlier detection for healthcare quality monitoring : a comparison of four approaches to over-dispersed proportions. *Quality and reliability engineering international*, 2014, vol. 30, no. 3, str. 347-362. doi: [10.1002/qre.1581](https://doi.org/10.1002/qre.1581). [COBISS.SI-ID [1848681](#)]
- ERJAVEC, Tatjana, VIDMAR, Gaj, BURGER, Helena. Exercise testing as a screening measure for ability to walk with a prosthesis after transfemoral amputation due to peripheral vascular disease. *Disability and rehabilitation*, 2014, vol. 36, no. 14, str. 1148-1155, doi: [10.3109/09638288.2013.833307](https://doi.org/10.3109/09638288.2013.833307). [COBISS.SI-ID [1848425](#)]
- VIDMAR, Gaj, BLAGUS, Rok, STŘELEČEK, Luboš, STEHLÍK, Milan. Business indicators of healthcare quality : outlier detection in small samples. *Applied Stochastic Models in Business and Industry*, 2012, vol. 28, no. 3, str. 282-295, doi: [10.1002/asm.905](https://doi.org/10.1002/asm.905). [COBISS.SI-ID [29598681](#)]
- GROLEGER, Katja, VIDMAR, Gaj, PIKL, Maša, VREČAR, Irena, BURJA, Cirila, KRUŠEC, Klavdija. Content validity and inter-rater reliability of the Halliwick-concept-based instrument Swimming with Independent Measure. *International journal of rehabilitation research*, 2012, vol. 35, no. 2, str. 116-123, doi: [10.1097/MRR.0b013e32835277ab](https://doi.org/10.1097/MRR.0b013e32835277ab). [COBISS.SI-ID [1609833](#)]
- JAKOVLJEVIĆ, Miroљub, VIDMAR, Gaj, MEKJAVIĆ, Igor B. Psychomotor function during mild narcosis induced by subanesthetic level of nitrous oxide : individual susceptibility beyond gender effect. *Undersea & hyperbaric medicine*, 2012, vol. 39, no. 6, str. 1067-1074. [COBISS.SI-ID [4488299](#)]
- KOS, Nataša, BURGER, Helena, VIDMAR, Gaj. Mobility and functional outcomes after femoral neck fracture surgery in elderly patients : a comparison between hemiarthroplasty and internal fixation. *Disability and rehabilitation*, 2011, vol. 33, no. 23-24, str. 2264-2271, doi: [10.3109/09638288.2011.568665](https://doi.org/10.3109/09638288.2011.568665). [COBISS.SI-ID [1116521](#)]
- VIDMAR, Gaj, BURGER, Helena, MARINČEK, Črt. Time trends in ability level and functional outcome of stroke and multiple sclerosis patients undergoing comprehensive rehabilitation in Slovenia. *Zdravstveno varstvo*, 2011, vol. 50, no. 1, str. 24-33. doi: [10.2478/v10152-010-0025-6](https://doi.org/10.2478/v10152-010-0025-6). [COBISS.SI-ID [1092201](#)]
- VIDMAR, Gaj, NOVAK, Primož. Reliability of in-shoe plantar pressure measurements in rheumatoid arthritis patients. *International journal of rehabilitation research*, 2009, vol. 32, no. 1, str. 36-40. [COBISS.SI-ID [893801](#)]
- VIDMAR, Gaj, RODE, Nino. Visualising concordance. *Computational statistics*, 2007, letn. 22, str. 499-509. [COBISS.SI-ID [23556057](#)]
- VIDMAR, Gaj, POHAR PERME, Maja. Augmented convex hull plots: rationale, implementation in R and biomedical applications. *Computer methods and programs in biomedicine*, 2005, letn. 78, str. 69-74, doi: [10.1016/j.cmpb.2004.12.003](https://doi.org/10.1016/j.cmpb.2004.12.003). [COBISS.SI-ID [19129305](#)]