Univerza v Mariboru

Fakulteta za naravoslovje in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	**Modeliranje rešitev družbeno-znanstvenih tem**
Course title:	**Modeling of the solutions of Socio-scientific issues**

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Doktorski študij Ekološke znanosti, 3. stopnja		1. ali 2.; 1st or 2nd	1.- 4.; 1st-4th
Doctoral Study Ecological Sciences, 3rd degree			

Vrsta predmeta / Course type	Izbirni/Elective
Univerzitetna koda predmeta / University course code:	

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Lab. vaje Laboratory work	Terenske vaje Field work	Samost. delo Individ. work	ECTS
4	26				150	6

Nosilec predmeta / Lecturer:	prof. dr. Andrej Šorgo

Jeziki / Languages:	**Predavanja / Lectures:**	slovenščina / Slovene
	Vaje / Tutorial:	slovenščina / Slovene

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisits:**
osnovne spretnosti s področja raziskovalnega dela	basic research skills

Vsebina:	**Content (Syllabus outline):**
Teme, kjer je razlaga v naravoslovnih znanostih odločitve pa se sprejemajo na individualnem ali družbenem nivoju imenujemo družbeno-znanstvene teme. Številnih globalnih (npr. globalne klimatske spremembe, upad biodiverzitete, sproščanje gensko spremenjenih organizmov v okolje,izraba virov) in lokalnih (npr. ravnanje z odpadki, kmetijska praksa, onesnaževanje,	Topics, where explanations are in a domain of natural sciences and decisions are made on an individual or societal level are called socio-scientific issues. Many global (i.e. Global climate change, declining biodiversity, release of genetically modified organisms into the environment, use of resources) and local (e.g. waste, agricultural practices, pollution, management of protected areas) are all

gospodarjenje v zaščitenih območjih) okoljskih problemov pa ni mogoče razrešiti brez razumevanja soodvisnosti osebnih, družbenih, tehnoloških, naravnih in znanstvenih dejavnikov. Za razrešitev okoljskih problemov zato potrebujemo orodja s katerimi lahko oblikujemo modele za njihovo rešitv na tehnično-tehnološkem, strukturnem (npr. predpisi) in kognitivnem nivoju.	environmental problems what cannot be solved without understanding the interdependence personal, social, technological, natural and scientific factors. To resolve the environmental problems we need the tools to design models for their solutions at the technical and technological, structural (e. g. regulations) and cognitive levels.

Temeljni literatura in viri / Readings:

Byrne, B. M. (2016). *Structural equation modeling with Amos: basic concepts, applications, and programming* (3rd ed., str. XX, 437). Routledge.

Dodatna literatura:

Schumacker, R. E., & Lomax, R. G. (2016). *A beginner's guide to structural equation modeling* (4th ed., str. XXI, 351). Routledge.

Šorgo, A., Crnkovič, N., Cesar, K., Selak, Š., Vrdelja, M., & Gabrovec, B. (2022). The infuence of anxiety and fear of COVID-19 on vaccination hesitancy among postsecondary students. *Scientific reports*, *12*, 1–10. doi:10.1038/s41598-022-25221-2

Novotny, P., Zimová, E., Mazouchová, A., & Šorgo, A. (2021). Are children actually losing contact with nature, or is it that their experiences differ from those of 120 years ago? *Environment & behavior*, *53*(9), 931–952. doi:10.1177/0013916520937457

Špur, N., Škornik, S., & Šorgo, A. (2020). Influence of experience, interest, knowledge and learning source on children's attitudes towards extensive grassland conservation. *Environmental conservation*, *47*(2), 130–137. doi:10.1017/S0376892920000119

Cilji in kompetence:	**Objectives and competences:**
Temeljni cilji predmeta so usposobiti študente za: • prepoznavo in opredelitev večplastnosti družbeno-znanstvenih problemov; • uporabo metod za identifikacijo in opredelitev naravne, osebne in družbene dimenzije družbeno-znanstvenih tem; • oblikovanje in ovrednotenje instrumentov, ki merijo različne nivoje družbeno-znanstvenih tem; • oblikovanje in ovrednotenje modelov povezav različnih nivojev družbeno-znanstvenih tem;	The main objectives of the course are to enable students to: • identify and define the complexity of socio-scientific issues; • the use of methods for identification and characterization of natural, personal and social dimensions of socio-scientific topics; • design and evaluation of instruments that measure the different levels of socio-scientific topics; • design and evaluation of model linking the different levels of socio-scientific topics; • quantitative and qualitative evaluation of models and solutions to socio-scientific topics.

• kvantitativno in kvalitativno evalvacijo modelov in rešitev družbeno-znanstvenih tem.	

Predvideni študijski rezultati:	**Intended learning outcomes:**
Znanje in razumevanje: Po končanem kurzu in samostojnem delu bodo študentje pridobili znanja in spretnosti potrebne za samostojno raziskovalno delo na področjih družbeno-znanstvenih tem.	**Knowledge and understanding:** After completion of the course and independent work, students will gain the knowledge and skills necessary for independent research work in socio-scientific issues.
Prenesljive/ključne spretnosti in drugi atributi: Sposobnost identifikacije, analize, presoje, ovrednotenja in predstavitve izbranega družbeno-znanstvenega problema.	**Transferable/Key Skills and other attributes:** Competence to identify, analyse, evaluate and present of chosen socio-scientific problem.

Metode poučevanja in učenja:	**Learning and teaching methods:**
• Predavanja, seminarsko delo, individualne kozultacije	• Lectures, seminnaire work, individual consultations

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment:**
Seminarska naloga	50	Seminar paper
Ustni izpit	50	Oral exam

Reference nosilca / Lecturer's references:

Špernjak, A., Puhmeister Jug, A., & Šorgo, A. (2023). Public opinions and knowledge about microorganisms. *Research in science & technological education*, *41*(2), 800–818.

Ploj Virtič, M., Du Plessis, A., & Šorgo, A. (2023). In the search for the ideal mentor by applying the „Mentoring for effective teaching practice instrument“. *European journal of teacher education*, *46*(4), 688–706.

Kletečki, N., Hruševar, D., Mitić, B., & Šorgo, A. (2023). Plants are not boring, school botany is. *Education sciences*, *13*(5, [ ] 489), 13. https://dk.um.si/IzpisGradiva.php?id=87008