



Univerza v Mariboru

Fakulteta za naravoslovje  
in matematiko

### UČNI NAČRT PREDMETA / COURSE SYLLABUS

<b>Predmet:</b>	<b>Okoljske študije</b>
<b>Course title:</b>	<b>Environmental science</b>

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Enovit magistrski študijski program druge stopnje Predmetni učitelj	/		
Five-year master's degree program Subject Teacher	/		

**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
30	15				135	180/6

**Nosilec predmeta / Lecturer:**

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

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

**Prerequisites:**

**Vsebina:**  
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, gospodarjenje v zaščiteneh območjih) okoljskih problemov pa ni mogoče razrešiti brez razumevanja soodvisnosti osebnih, družbenih, tehnoloških, naravnih in znanstvenih dejavnikov. Temeljni cilji predmeta so:  
• predstaviti večplastnost okoljskih problemov;

**Content (Syllabus outline):**  
Socio-scientific issues are recognized as themes (problems) where underlying knowledge is rooted in scientific disciplines, while their solution is at individual or societal level. Many global (e.g. climate changes, loss of biodiversity, release of genetically modified organisms into nature, depletion of sources) and local (e. g. waste management, farming practices, pollution, management in protected areas) environmental problems can not be solved without understanding of combination of personal, societal, technological, and natural, scientific factors.  
Main goal of the subject is:  
• to present multi-facet nature of any environmental problem;

- predstaviti metode za identifikacijo naravne, osebne in družbene dimenzije družbeno-znanstvenih tem;
- naučiti študente smiselne uporabe instrumentov, ki merijo različne nivoje okoljskih problemov;
- Naučiti študente evalvacije rešitev, ki so jih predlagali drugi.

- to present methods for identification of natural, personal, and societal dimensions of socio-scientific issues;
- to teach students sound usage of instruments measuring different levels of environmental problems;
- to teach students how to evaluate proposed solutions by others.

### Temeljni literatura in viri / Readings:

Izbrana poglavja iz:

Joseph Thatheyus. Textbook of environmental studies. Oxford (UK): Alpha Science International, 2011  
Daniel B. Botkin, Edward A. Keller,,Environmental Science, International Student Version, Willey; 2011, ©2012

International Handbook of Research on Environmental Education. Eds. Robert B. Stevenson, Michael Brody, Justin Dillon, Arjen E.J. Wals; 2012. Routledge

### Cilji in kompetence:

Po opravljenem kurzu bo študent-ka:

- sposoben ovrednotiti okoljski problem kot družbeno-znanstveno temo;
- sposoben izbrati kazalnike za presojo novega problema;
- sposoben presoditi in ovrednotiti tujo rešitev okoljskega problema;

### Objectives and competences:

After the course a student should:

- be able to evaluate environmental problem as a socio-scientific issue;
- be able to choose benchmarks for evaluation of a novel problem;
- Be able to assess proposed solutions to a problem;

### Predvideni študijski rezultati:

Znanje in razumevanje

- večplastnosti okoljskih problemov;
- metod za identifikacijo naravne, osebne in družbene dimenzije družbeno-znanstvenih tem;
- smiselne uporabe instrumentov, ki merijo različne nivoje okoljskih problemov;
- postopkov za evalvacijo rešitev, ki so jih predlagali drugi.

### Intended learning outcomes:

Knowledge and understanding:

- of multi-facet nature of environmental problems;
- of methods for identification of natural, personal, and societal dimensions of socio-scientific issues;
- of sound usage of instruments measuring different levels of environmental problems;
- of procedures how to evaluate proposed solutions by others.

### Metode poučevanja in učenja:

Predavanja, seminarji

### Learning and teaching methods:

Lectures, seminaire

### Načini ocenjevanja:

Seminarska naloga  
Pisni izpit

Delež (v %) /

Weight (in %)

**Opravi/ni opravi**  
**100%**

### Assessment:

Seminar work  
Written exam:

### Reference nosilca / Lecturer's references:

1. ŠORGO, Andrej, JAUŠOVEC, Norbert, JAUŠOVEC, Ksenija, PUHEK, Miro. The influence of intelligence and emotions on the acceptability of genetically modified organisms. *Electron. J. Biotechnol.*, 2012, vol. 15, no. 1, str. 1-11, doi: [10.2225/vol15-issue1-fulltext-1](https://doi.org/10.2225/vol15-issue1-fulltext-1). [COBISS.SI-ID [18875912](https://www.cobiss.si/id/18875912)]
2. ŠORGO, Andrej, KAMENŠEK, Asja. Implementation of a curriculum for environmental education as education for sustainable development in Slovenian upper secondary schools. *Energy education science and technology. Part B, Social and educational studies*, 2012, vol. 4, iss. 2, str. 1067-1076. [COBISS.SI-ID [18644232](https://www.cobiss.si/id/18644232)]
3. ŠORGO, Andrej, AMBROŽIČ-DOLINŠEK, Jana, USAK, Muhammet, ÖZEL, Murat. Knowledge about and acceptance of genetically modified organisms among pre-service teachers: a comparative study of Turkey and Slovenia. *Electron. J.*

*Biotechnol.*, Jul. 2011, vol. 14, no. 4, str. 1-12. <http://dx.doi.org/10.2225/vol14-issue4-fulltext-5>, doi: [10.2225/vol14-issue4-fulltext-5](https://doi.org/10.2225/vol14-issue4-fulltext-5). [COBISS.SI-ID [18530312](https://www.cobiss.si/id/18530312)]

4. ŠORGO, Andrej, AMBROŽIČ-DOLINŠEK, Jana, TOMAŽIČ, Iztok, JANŽEKOVIČ, Franc. Emotions expressed toward genetically modified organisms among secondary school students and pre-service teachers. *J. Balt. sci. educ.*, 2011, vol. 10, no. 1, str. 53-64. [COBISS.SI-ID [18312456](https://www.cobiss.si/id/18312456)]

5. ŠORGO, Andrej, AMBROŽIČ-DOLINŠEK, Jana. Knowledge of, attitudes toward, and acceptance of genetically modified organisms among prospective teachers of biology, home economics, and grade school in Slovenia. *Biochemistry and molecular biology education*. [Print ed.], 2010, vol. 38, no. 3, str. 141-150. <http://dx.doi.org/10.1002/bmb.20377>, doi: [10.1002/bmb.20377](https://doi.org/10.1002/bmb.20377). [COBISS.SI-ID [17617416](https://www.cobiss.si/id/17617416)]