

UČNI NAČRT PREDMETA / COURSE SYLLABUS (leto / year 2017/18)						
Predmet:		Naravoslovna obzorja				
Course title:		Science horizons				
Študijski program in stopnja Study programme and level		Študijska smer Study field		Letnik Academic year	Semester Semester	
Enoviti magistrski študijski program Pedagoška matematika		ni smeri		3 ali 4	prvi ali drugi	
Integrated Master's study programme Pedagogical Mathematics		none		3 or 4	first or second	
Vrsta predmeta / Course type				izbirni / elective		
Univerzitetna koda predmeta / University course code:				M0545		
Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work	ECTS
45		15			90	5
Nosilec predmeta / Lecturer:		prof. dr. Gorazd Planinšič				
Jeziki / Languages:		Predavanja / Lectures: slovenski / Slovene, angleški / English				
		Vaje / Tutorial: slovenski / Slovene, angleški / English				
Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:				Prerequisites:		
Vpis v letnik študija.				Enrolment in the programme.		
Vsebina:				Content (Syllabus outline):		

<p>Na izbranih primerih in ob demonstracijskih poskusih spoznati-osnovne načine razmišljanja ter pristope reševanja problemov v naravoslovju in tehnologiji.-uspešne primere naravoslovno-tehničnega opismenjevanja in populariziranja znanosti</p>	<p>Students will learn through selected examples and experimental work how science knowledge is constructed, how problems in science and technology are solved and how scientific ideas are communicated.</p>
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Temeljni literatura in viri / Readings:

Iskanje primernih virov je del aktivnosti v okviru predmeta. Priporočene vire določi nosilec predmeta glede na izbrane primere. Priporočljiva dodatna literatura: / Searching for the suitable literature is part of the course activities. Course leader will suggest additional literature depending on the selected examples. Suggested additional literature includes:

Hobson A., Physics : Concepts and connections 4th Ed., Prentice Hall, 2006.

Bloomfield L., How things work 3rd Ed., J. Wiley & Sons, 2006.

Jones M et al, Balanced Science 1,2, Cambridge Univ. Press, 1998.

Hill J. W et al, Chemistry for Changing Times 10th Ed, Prentice Hall, 2004.

Cilji in kompetence:

Širjenje poznavanja in razumevanja naravoslovja in tehnologije ter naravoslovnega pristopa pri reševanju problemov. Spoznavanje znanj različnih naravoslovnih vej, analitično razmišljanje, postavljanje smiselnih poenostavitev pri reševanju kompleksnih problemov. Pri izvedbi predmeta bodo občasno sodelovali tudi vabljeni predavatelji iz raziskovalnih institucij, industrije in strokovnjaki iz področja popularizacije znanosti.

Objectives and competences:

Students will widen their knowledge and understanding of scientific reasoning and how problems are solved in science and technology. Students will learn about different science disciplines, analytical reasoning, making reasonable simplifications based on assumptions when solving complex problems etc. Occasionally guest experts from will be invited to lead some course activities.

Predvideni študijski rezultati:

Intended learning outcomes:

Znanje: širjenje poznavanja terminologije v naravoslovju in tehnologiji. Razumevanje izbranih osnovnih pojavov in zakonov, ki jih srečujemo v naravi (predvsem kvalitativno).

Students will learn some basic terminology in science and technology and deepen their understanding of some basic concepts and laws that are important in science (mainly at qualitative level).

Metode poučevanja in učenja:

Predavanja, sodelovalno učenje/poučevanje, aktivno učenje ob poskusih, demonstracijski poskusi

Learning and teaching methods:

Lessons, discussions, active learning using experiments as integral part of the activities.

Načini ocenjevanja:

ocene: 1-5 (negativno), 6-10 (pozitivno) (po Statutu UL)

Delež (v %) /
Weight (in %)

100 %

Assessment:

Grading: 1-5 (fail), 6-10 (passed)

Reference nosilca / Lecturer's references:

ETKINA, Eugenia, PLANINŠIČ, Gorazd. Thinking like a scientist. Physics world, ISSN 0953-8585, 2014, vol. 27, no. 3, str. 48-51, fotogr. [COBISS.SI-ID 2647908]

PLANINŠIČ, Gorazd. Premiki pri poučevanju naravoslovnih predmetov. Vzgoja in izobraževanje, ISSN 0350-5065, 2011/2012, letn. 42/43, št. 6/1, str. 19-24, ilustr. [COBISS.SI-ID 1813116]

PLANINŠIČ, Gorazd. IYPT problems as an efficient source of ideas for first-year project laboratory tasks. European journal of physics, ISSN 0143-0807, 2010, vol. 30, no. 6, str. S133-S140. [COBISS.SI-ID 2275428]