

UČNI NAČRT PREDMETA / SUBJECT SPECIFICATION

Predmet:	Okolje in energetski viri
Subject Title:	Environment and energetic sources

Študijski program Study programme	Letnik Year	Semester Semester
Varstvo okolja in ekotehnologije	2	2 ali 3

Predavanja Lectures	Sem. vaje Tutorial	Lab. vaje Lab. work	Teren. vaje Field work	Samost. delo Individ. work	ECTS
20	15	15		130	6

Nosilec predmeta / Lecturer: prof. dr. Željko Vukelič / Željko Vukelič, Ph.D., Full Prof.

Jeziki / SL	Predavanja / Lectures:	20
Languages:	Vaje / Tutorial:	30

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

- osnovno znanje fizike in geografije. Posebnih pogojev ni.

Prerequisites:

- Basic knowledge of physics and geography. There are no special requirements.

Vsebina:

- ENERGETSKI POTENCIAL OKOLJA
- AKTIVNI ENERGETSKI VIRI
- GORIVA
- OBNOVLJIVI VIRI
- NEIZKORISTLJIVI VIRI
- ZAKLJUČEN EKOLOŠKO – ENERGETSKI KROG
- OBČUTLJIVOST OKOLJA NA IZRABO ENERGETSKIH VIROV, EMISIJE IN IMISIJE
- NAPOVEDI PORABE VIROV
- OHRANJANJE IN NADOMEŠČANJE VIROV
- VAROVANJE OKOLJA PRI ENERGETSKI PRESKRBI PREBIVALSTVA

Content (Syllabus outline):

- energetic potential of environment
- active energetic resources
- fuels
- renewable resources
- unexploited resources
- closed organic - energy cycle
- environmental sensitivity to energy use, emission and immission
- forecasts of resource consumption
- preserving and replacing resources
- environmental protection with providing energy for public

Temeljni literatura in viri / Textbooks:

1. SALOBIR, Boris. Warming with geothermal energy.. Šolski center Velenje, 2008.
2. SALOBIR, Boris. Consumption of Dry Geothermal Energy, Fakulteta za energetiko, februar, 2009.
3. SALOBIR, Boris. *Geotermija v rudarski praksi*., Univerza v Ljubljani, Ljubljana, 2007;
4. SALOBIR, Boris, MAKOVŠEK, Bogdan. Rudarstvo 4 - RUDARSTVO IN OKOLJE. Učbenik. ModART d.o.o., Velenje, 2004,
5. SALOBIR, Boris. *Trajnostni in sonaravni razvoj*: Velenje: Šolski center Velenje, 2007.

Cilji:

V danem okolju zna študent poiskati in analizirati obstoječe in potencialne vire energije. Zna oceniti občutljivost njihovega izkoriščanja in porabe ter določiti kakšno obremenitev bodo povzročali v okolju. Zna oceniti porabo virov za določene energetske namene. Usposobi se za zamenjavo klasičnih z alternativnimi viri, zna ohranjati energetski potencial in ga ekonomsko plasirati na energetsko tržišče. Pozna kroženje energije v naravi in to upošteva pri varovanju okolja in energetski preskrbi prebivalstva.

Objectives:

Student can find and analyze existing and potential resources of energy in any given environment. He can assess the sensitivity of their exploitation and consumption and determine the stress it will cause to the environment. He can assess the use of resources for intended energy purpose. He will qualify for exchanging classical for alternative resources; he will know how to preserve energetic potential and how to economically put it on the economical market. He will know the cycle of energy in nature and he will take it into account when protecting the environment and energetic supply of public.

Predvideni študijski rezultati:

Znanje in razumevanje:

Študent bo ob zaključku tega predmeta sposoben oceniti energetski potencial svojega okolja, znal bo poiskati nadomestne vire in jih kombinirati s klasičnimi, poznal bo porabo energije pri prebivalstvu in industriji ter znal oceniti njen vpliv na okolje, uporabiti znanja za varovanje okolje in preprečevanje nedopustnih emisij ter nesmotne porabe energije.

Prenesljive/ključne spretnosti in drugi atributi:

Študent se bo naučil uporabe literature, priročnikov in tabel za pridobivanje podatkov, znal bo izmeriti in izračunati vrednosti po določenih postopkih, sposoben bo analizirati vplive in jih sintetizirati v končnih odločitvah.

Intended learning outcomes:

Knowledge and Understanding:

By the end of the lectures, the student will be capable of assessing the energetic potential of his environment, he will know where to find alternative resources and how to combine them with classical; he will know the consumption of energy by public and industry and he will know how to assess it's impact on the environment, how to use his knowledge of protecting the environment and the prevention of inadmissible emissions and thoughtless consumption of energy.

Transferable/Key Skills and other attributes:

Student will learn how to use literature, manuals and chart data acquisition, he will know how to measure and calculate value by established procedures and he will be able to analyze impacts and synthesize them in final decisions.

Metode poučevanja in učenja:

- Frontalni način predavanja,
- Prikaz z vizualnimi sredstvi,
- Ogledi na terenu in vaje
- Izvajanje osnovnih meritev,
- Delo v skupinah pri semin. nalogah.

Learning and teaching methods:

- frontal lecture
- visual display
- tours and fieldwork
- basic measurements
- teamwork on assignments

Načini ocenjevanja:

Način (pisni izpit, ustno izpraševanje, naloge, projekt)

50% pisni izpit
40% projektna ali seminarska naloga
10 % terenske vaje in meritve

Delež (v %) /
Weight (in %)

Assessment:

Type (examination, oral, coursework, project):
50% written exam
40% project or assignment (term paper)
10% fieldwork and measurements

Materialni pogoji za izvedbo predmeta :

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| <ul style="list-style-type: none">- Predavalnica z multimedijско opremo,- Merilni inštrumenti za terensko delo |
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Material conditions for subject realization:

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| <ul style="list-style-type: none">- lecture room with multimedia equipment- measure equipment for fieldwork |
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Obveznosti študentov:

(pisni, ustni izpit, naloge, projekti)
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| <ul style="list-style-type: none">- Vsaj 80 % prisotnost na predavanjih- 100 % prisotnost na vajah,- Izdelana in pozitivno ocenjena seminarska naloga |
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Student's commitments:

(written, oral examination, coursework, projects):
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| <ul style="list-style-type: none">- at least 80 % class attendance- 100 % fieldwork attendance- Finished and positively graded assignment (term paper) |
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Sestavil: doc. dr. Boris Salobir, 7.7.2009