



Univerza v Mariboru

Fakulteta za naravoslovje
in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Prenosljiva znanja II
Course title:	Transferable knowledge II

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
FIZIKA, 3. stopnja		3.	5.
PHYSICS, 3 rd cycle		3.	5.

Vrsta predmeta / Course type

Univerzitetna koda predmeta / University course code:

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work	ECTS
				15	75	3

Nosilec predmeta / Lecturer:

Jeziki / Languages:

Predavanja / Lectures:	Ni definirano
Vaje / Tutorial:	Not defined

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

Prerequisites:

Vsebina:

Študent v okviru tega predmeta opravi obveznosti z udeležbo na različnih aktivnostih (delavnicah, tečajih, seminarjih, poletnih šolah, izobraževanjih ipd.), ki jih izvaja Univerza v Mariboru ali druge priznane domače ali tuje institucije. Aktivnosti lahko zajemajo naslednja širša tematska sklopa:

- **splošne veščine in znanja** (aktivna udeležba delavnic, seminarjev, izobraževanj, tečajev s

Content (Syllabus outline):

Student fulfils the obligations at the subject by active participation at different activities (e.g. workshops, courses, seminars, summer schools, training etc.) conducted by University of Maribor or other renown domestic or foreign institution. Activities can be chosen from two main topics:

- **general skills and knowledge** (active participation at workshops, courses, seminars

področja komunikacije in retorike, IKT, administracije, etike, prijave in pisanja projektov, zakonodaje ipd.)
- **veščine s področja prenosa znanja iz/v gospodarstvo** (aktivna udeležba delavnic, seminarjev, izobraževanj, tečajev iz podjetništva, o zaščiti intelektualne lastnine, inovacijah, virih financiranja, sodobnih tehnologijah, prenosu znanj v prakso, poslovnem načrtovanju, raziskavah tržišč ipd.)

Posamezna aktivnost se ovrednoti z najmanj 0,5 ECTS. Aktivnosti, ki so daljše in zahtevajo več samostojnega dela študenta, se lahko ovrednotijo z večjim številom ECTS, vendar ne več kot z 1 ECTS.

Študent mora izbrati najmanj eno aktivnost iz posameznega tematskega sklopa.

Študent mora pred udeležbo posamezne aktivnosti oddati s strani delovnega mentorja potrjeno vlogo komisiji za podiplomski študij na Oddelku za fiziko. Vloga mora vsebovati informacije o aktivnosti in program dela. Komisija nato odloči o primernosti izbire in ob odobritvi aktivnost ovrednoti z ECTS.

or training in the field of communication and rhetoric, ICT, ethics, project applications and administration, regulations and legislations etc.)
- **skills of knowledge transfer into/from economy** (active participation at workshops, courses, seminars or training on the protection of intellectual property, business, innovation, funding sources, modern technologies, transfer of knowledge into practice, business planning, market research etc.)

Each activity is assessed with at least 0,5 ECTS. Activity that demands more individual work from students can be assessed with larger value of ECTS but not more than with 1 ECTS.

Student has to choose at least one activity from each of the two main topics.

Before attending the activity student has to submit the application confirmed by the working mentor to the committee for the postgraduate study at the Department of physics. The application should include information about the activity and the program of work. The committee will then decide on the appropriateness of the selection and upon approval it will assess the activity with ECTS.

Temeljni literatura in viri / Readings:

Ni predpisana / Not defined

Cilji in kompetence:

Cilj predmeta je študente usposobiti aktivno uporabljati prenosljiva znanja in jih opremiti s kompetencami za sledenje razvojnih trendov stroke ter razširiti njihova metodološka znanja za reševanje in implementacijo zahtevnih tehničnih, tehnoloških, organizacijskih in razvojnih nalog ter projektov. Tukaj gre večinoma za znanja, veščine in kompetence, ki

Objectives and competences:

The aim of this course is to train students for actively use transferable skills and to equip them with the competencies for tracking the development trends of the profession and to expand their methodological knowledge for solving and implementation of complex technical, technological, organizational and developmental tasks and projects. These are

jih ni moč usvojiti pri klasičnem izobraževanju znotraj uveljavljenega kurikuluma strokovnega področja, za katerega se kandidat izobražuje, saj so vezane na aktualne razmere in trende, ki se hitro spreminjajo.

mostly knowledge, skills and competences within the established area of expertise that cannot be gained during the standard curriculum, since they are tied to the current situation and trends, which are rapidly changing.

Predvideni študijski rezultati:

Znanje in razumevanje:

Študent usvoji izbrana (odvisno od izbire aktivnosti) prenosljiva znanja in veščine na področjih:

- komunikacije, IKT, administracije projektov, etike, zakonodaje ipd.;
- intelektualne lastnine, inovacij, virov financiranja, sodobnih tehnologij, prenosa znanj v prakso, poslovnega načrtovanja, raziskav tržišč ipd.

Intended learning outcomes:

Knowledge and understanding:

Student gains selected (depending on the choice of activity) transferable knowledge and skills in the areas of:

- communication, ICT, project administration, ethics, legislation etc.;
- intellectual property, innovation, financial resources, modern technologies, transfer of knowledge into practice, business planning, market research, etc.

Metode poučevanja in učenja:

Samostojno delo študenta, in druge oblike študija, ki lahko zajemajo tudi aktivno udeležbo na konferencah, seminarjih, delavnicah, poletnih šolah, tečajih ipd.

Learning and teaching methods:

Individual student work, and other forms of work, which may include active participation at conferences, seminars, workshops, summer schools, courses, etc.

Delež (v %) /

Načini ocenjevanja:

Weight (in %)

Assessment:

Poročilo

100%

Report

Opomba: Se oceni z opravi/ Ni opravi. Note: Pass / fail evaluation.

Reference nosilca / Lecturer's references:

OSRAJNIK, Damjan, GRUBELNIK, Vladimir, REPNIK, Robert. Multirhythmicity but no deterministic chaos in vibrating strings. Chaos, solitons and fractals. [Print ed.]. Sep. 2021, vol. 150, str. 1-5. DOI: 10.1016/j.chaos.2021.111206. [COBISS.SI-ID 73698819],
PANAHI, Shirin, NAZARIMEHR, Fahimeh, JAFARI, Sajad, SPOTT, Julien Clinton, PERC, Matjaž, REPNIK, Robert. Optimal synchronization of circulant and non-circulant oscillators. Applied mathematics and computation. [Print ed.]. Apr. 2021, vol. 394, art. no. 125830, str. 1-8. ISSN 0096-3003. DOI: 10.1016/j.amc.2020.125830. [COBISS.SI-ID 43339779].

JOZIČ, Primož, ZIDANŠEK, Aleksander, REPNIK, Robert. Fuel conservation for launch vehicles: Falcon Heavy case study. *Energies*. 2020, vol. 13, no. 3, str. 1-10. ISSN 1996-1073. Digitalna knjižnica Univerze v Mariboru – DKUM, DOI: 10.3390/en13030660. [COBISS.SI-ID 25125640],