



Univerza v Mariboru

Fakulteta za naravoslovje
in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet: Aplikacije fizikalnih projektov
Course title: Application of physical projects

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
FIZIKA		1. ali 2.	1., 2. ali 3.
PHYSICS		1. or 2.	1., 2. or 3.

Vrsta predmeta / Course type

Izbirni za modul Fizika 1, 2 in 3,
Biofizika 3

Univerzitetna koda predmeta / University course code:

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Lab. vaje Laboratory work	Teren. vaje Field work	Samost. delo Individ. work	ECTS
5	5				290	10

Nosilec predmeta / Lecturer: Mitja Slavinec

Jeziki / Languages:
Predavanja / Lectures: slovenski/Slovenian
Vaje / Tutorial:

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

Jih ni.

Prerequisites:

None.

Vsebina:

Vsebina predavanj je prilagojena izbranemu fizikalnemu projektu. Na predavanjih so predstavljena orodja in tehnike za vodenje fizikalnih projektov v praksi, finančna analiza projektov, izdelava načrta in

Content (Syllabus outline):

The content of this course will be based directly on the selected projects. Management tools and technique, financial analysis of projects, plan preparation and team leading and teamwork are present at the lectures.

oblikovanje, vodenje ter delo v skupini.

Temeljni literatura in viri / Readings:

- 1) G. S. Romine, Applied Physics: Concepts into Practice , Prentice-Hall, Inc , 2001.
- 2) James P. Lewis, Fundamentals of Project Management, American Management Association, New York, ZDA, 2002.
- 3) Izbrana strokovna literatura v odvisnosti od tematike projekta.

Cilji in kompetence:

Študentje pridobijo praktična znanja za organizacijo, vodenje in izvedbo fizikalnih projektov.

Objectives and competences:

Students achieve practical knowledge that is necessary for organization and management of physical project.

Predvideni študijski rezultati:

Znanje in razumevanje:

Razumevanje poteka aplikacije fizikalnih projektov na praktičnem nivoju.

Prenesljive/ključne spretnosti in drugi atributi:

Celosten pristop k aplikaciji fizikalnih projektov.

Intended learning outcomes:

Knowledge and understanding:

Understanding the application of physical projects on a practical level.

Transferable/Key Skills and other attributes:

Gained global approach on application of physical projects.

Metode poučevanja in učenja:

Teoretični uvod v področje določeno z izbranim fizikalnim projektom in seminar študentov.

Learning and teaching methods:

Theoretical introduction to the area of the selected physical projects and student's seminar work.

Načini ocenjevanja:

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

Seminar

Ustni zagovor

Delež (v %) /

Weight (in %)

50%

50%

Assessment:

Type (examination, oral, coursework, project):

Seminar

Oral exam

Reference nosilca / Lecturer's references:

1. ÜLEN, Simon, ČAGRAN, Branka, SLAVINEC, Mitja, GERLIČ, Ivan. Designing and evaluating the effectiveness of Physlet-based learning materials in supporting conceptual learning in secondary school physics. *Journal of science education and technology*, ISSN 1059-0145, 2014, vol. 23, iss. 5, str. 658-667, tabele, doi: [10.1007/s10956-014-9492-x](https://doi.org/10.1007/s10956-014-9492-x). [COBISS.SI-ID 20475656]

2. SVETEC, Milan, SLAVINEC, Mitja. Nematic liquid crystal locking menisci. *Advances in condensed matter physics*, ISSN 1687-8108, 2013, vol. 2013, art. ID 756902, str. 1-6. <http://dx.doi.org/10.1155/2013/756902>. [COBISS.SI-ID 19802888]

3. SVETEC, Milan, SLAVINEC, Mitja. Structural transition of nematic liquid crystal in cylindrical capillary as a result of the annihilation of two point defects. *The Journal of chemical physics*, ISSN 0021-9606, 2008, vol. 128, no. 8, str. 084704-1-084704-6, ilustr. <http://link.aip.org/link/?JCPA6/128/084704/1>, <http://dx.doi.org/10.1063/1.2839301>. [COBISS.SI-ID 15899400]

4. SLAVINEC, Mitja, KRALJ, Samo, ŽUMER, Slobodan, SLUCKIN, T. J. Surface depinning of smectic-A edge dislocations. *Physical review. E*, ISSN 1063-651X, 2001, 63, str. 031705-1-031705-6. [COBISS.SI-ID 1277796]

5. SLAVINEC, Mitja, CRAWFORD, G. D., KRALJ, Samo, ŽUMER, Slobodan. Determination of the nematic alignment and anchoring strength at the curved nematic-air interface. *Journal of applied physics*, ISSN 0021-8979, 1997, vol. 81, str. 2153-2156. [COBISS.SI-ID 5769736]