



Univerza v Mariboru

Fakulteta za naravoslovje
in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Seminar
Course title:	Seminar

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
FIZIKA, 3. stopnja		3.	6.
PHYSICS, 3 rd cycle		3.	6.

Vrsta predmeta / Course type

Obvezni za vse module

Univerzitetna koda predmeta / University course code:

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Lab. vaje Laboratory work	Terenske vaje Field work	Samost. delo Individ. work	ECTS
	5				85	3

Nosilec predmeta / Lecturer: Aleš Fajmut

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

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

Ni posebnih zahtev.

Prerequisites:

No special prerequisites.

Vsebina:

Content (Syllabus outline):

Študent pripravi javno seminarsko predavanje pred kolegi študenti in ostalo znanstveno javnostjo, v katerem predstavi svoje raziskovalno delo, ki je usmerjeno k izdelavi doktorske disertacije. Študent objavi pred predavanjem povzetek predavanja in vabilo na spletnih straneh Oddelka za fiziko FNM ter na oglasnih deskah oddelkov za fiziko fakultet in institutov. Vodji seminarja odda študent v pisni obliki daljši povzetek predavanja, ki mora biti pripravljen v takšni obliki in strukturi, kot bi jo zahtevala ena izmed znanstvenih revij za objavo članka. Seminar je lahko napisan in predstavljen tudi v angleščini.

Students prepares public lecture for colleagues and scientific community. He/she represents his/her research with the emphasis on the future doctoral thesis. Student announces his lecture with the abstract and the invitation on the web site of the Department of Physics FNM and on the boards of other Physics departments on the Faculties and the Institutes. Student also prepares a longer summary of the lecture that should be in such form as for acceptance of the paper in one of the scientific journals. The Seminar may be written and presented in English.

Temeljni literatura in viri / Readings:

- 1) Katz, M. J. (2007). *From research to manuscript: A guide to scientific writing* (152 pp.). Springer. <http://link.springer.com/book/10.1007/1-4020-4071-7>
 - 2) Ren, Z. (2004). *Navodila za pripravo podiplomskega dela*. Fakulteta za strojništvo.
 - 3) Day, R. A., & Gastel, B. (2006). *How to write and publish a scientific paper* (6th ed.). Cambridge University Press. <https://plus.cobiss.net/cobiss/si/sl/bib/pefmb/14788616>
- Dodatna:
- 4) Meloy, J. M. (2002). *Writing the qualitative dissertation: Understanding by doing*. L. Erlbaum Associates.
 - 5) DOBOVIŠEK, Andrej, BLAŽEVIČ, Tina, KRALJ, Samo, FAJMUT, Aleš. Enzyme cascade to enzyme complex phase-transition-like transformation studied by the maximum entropy production principle. *Cell reports physical science*. 2025, vol. 6, iss. 2, [article no.] 102400, 11 str. ISSN 2666-3864. <https://doi.org/10.1016/j.xcrp.2024.102400>, Digitalna knjižnica Univerze v Mariboru – DKUM, DOI: 10.1016/j.xcrp.2024.102400, DOI: 20.500.12556/DKUM-91789. [COBISS.SI-ID 225246211],

Cilji in kompetence:

Cilj predmeta Seminar je, da študent dokaže komunikativnost v znanstvenem okolju in sposobnost predstavitve pridobljenih znanstvenih izsledkov v obliki seminarskega predavanja in v pisni obliki na ravni objave članka v znanstveni reviji.

Objectives and competences:

At the subject Seminar student can prove his communication skills in the scientific society and his ability to present results from the research work in the form of public lecture and in written form at the level of scientific paper.

Predvideni študijski rezultati:

Intended learning outcomes:

<p>Znanje in razumevanje:</p> <ul style="list-style-type: none"> vseh relevantnih teoretičnih in praktičnih znanj <p>Prenesljive/ključne spretnosti in drugi atributi:</p> <ul style="list-style-type: none"> sposobnost predstavitve pridobljenih raziskovalnih izsledkov s področja fizike kolegom in znanstveni javnosti mednarodna komunikativnost v vrhunskem znanstvenem in strokovnem okolju
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<p>Knowledge and understanding:</p> <ul style="list-style-type: none"> of relevant theoretical and practical knowledge. <p>Transferable/Key Skills and other attributes:</p> <ul style="list-style-type: none"> Capability of public presentation of research results from the field of physics to colleagues and scientific community Capability of communication in the top-level scientific community

Metode poučevanja in učenja:

Seminarska predavanja kolegov študentov.
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Learning and teaching methods:

Seminarska predavanja kolegov študentov.
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	Delež (v %) / Weight (in %)	Assessment:
<p>Načini ocenjevanja:</p> <p>Način (pisni izpit, ustno izpraševanje, naloge, projekt)</p> <p>Ustna predstavitev poročilo</p>	<p>Se oceni z opravi / ni opravi.</p>	<p>Type (examination, oral, coursework, project):</p> <p>Oral presentation report</p> <p>Pass / fail evaluation.</p>

Reference nosilca / Lecturer's references:

<p>FAJMUT, Aleš. Molecular mechanisms and targets of cyclic guanosine monophosphate (cGMP) in vascular smooth muscles. V: SAKUMA, Kunihiro (ur.). Muscle cell and tissue : novel molecular targets and current advances. London: IntechOpen, cop. 2021. Str. 1-31. ISBN 978-1-83968-651-1, ISBN 978-1-83968-650-4, ISBN 978-1-83968-652-8. https://www.intechopen.com/chapters/76823, DOI: 10.5772/intechopen.97708. [COBISS.SI-ID 79467011]</p> <p>DOBOVIŠEK, Andrej, VITAS, Marko, BLAŽEVIČ, Tina, MARKOVIČ, Rene, MARHL, Marko, FAJMUT, Aleš. Self-organization of enzyme-catalyzed reactions studied by the maximum entropy production principle. International journal of molecular sciences. 2023, vol. 24, iss. 10, 21 str. ISSN 1422-0067. DOI: 10.3390/ijms24108734. [COBISS.SI-ID 152729603]</p> <p>DOBOVIŠEK, Andrej, BLAŽEVIČ, Tina, KRALJ, Samo, FAJMUT, Aleš. Enzyme cascade to enzyme complex phase-transition-like transformation studied by the maximum entropy production principle. Cell reports physical science. 2025, vol. 6, iss. 2, [article no.] 102400, 11 str. ISSN 2666-3864. https://doi.org/10.1016/j.xcrp.2024.102400, Digitalna knjižnica Univerze v Mariboru –</p>
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