



Univerza v Mariboru

Fakulteta za naravoslovje
in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Doktorska disertacija
Course title:	Doctoral Dissertation

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
FIZIKA, 3. stopnja		4.	8.
PHYSICS, 3 rd cycle		4.	8.

Vrsta predmeta / Course type

Obvezni za vse module

Univerzitetna koda predmeta / University course code:

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Lab. vaje Laboratory work	Druge oblike študija Other forms of study	Samost. delo Individ. work	ECTS
					900	30

Nosilec predmeta / Lecturer:

Izbrani mentor/Chosen mentor

Jeziki /

Languages:

Predavanja /

Lectures: /

Vaje / Tutorial: /

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

Pred zagovorom doktorske disertacije mora:

- študent uspešno opraviti vse obveznosti programa
- biti prijava doktorske disertacije opravljena v skladu s pravilnikom visokošolskega zavoda
- študent izpolnjevati vse pogoje za zagovor doktorske disertacije, ki so zapisani v merilih Doktorske šole UM.

Vsaka obveznost študenta v načinih ocenjevanja mora biti opravljena s pozitivno oceno.

Prerequisites:

Before the defence of doctoral dissertation the following requirements have to be fulfilled:

- student has to finish successfully all obligations within the program,
- the application of doctoral dissertation has to be done according to the rules of the faculty,
- student has to fulfil all conditions for the defence of doctoral dissertation determined by the Doctoral School of UM.

Each student obligation within the assessment methods must be completed with a passing grade.

V celoti dokončana in s pozitivno ocenjena doktorska disertacija je pogoj za pristop k njenemu zagovoru in ubranitvi.

A fully completed and positively evaluated doctoral dissertation is a prerequisite for admission to its defense and successful completion.

Vsebina:

Izdelava doktorske disertacije z naslednjo okvirno vsebino:

- Izvleček doktorske disertacije v slovenskem in angleškem jeziku in ključne besede
- Kazalo vsebine, slik, tabel, prilog
- Uvod
- Materiali in metode
- Rezultati
- Diskusija
- Sklep
- Literatura in viri
- Priloge (po potrebi)

Pred zagovorom doktorske disertacije študent odpošlje osnutek članka (manuskript), ki temelji na znanstvenih spoznanjih doktorske disertacije, znanstveni reviji, indeksirani v SCI, pri čemer mora biti študent prvi ali vodilni avtor članka.

Content (Syllabus outline):

Student works out the doctoral thesis with the following rough structure:

- Abstract of the doctoral thesis in Slovenian and English language and key words
- Table of contents, figures, tables, supplements
- Introduction
- Materials and methods
- Results
- Discussion
- Conclusions
- Bibliography
- Supplements (if needed)

Before the defence of the doctoral thesis, the student submits a manuscript, which is based on his/her scientific results of the doctoral thesis, to a scientific journal, indexed in SCI, whereby he/she must be the first or the leading author of the article.

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. http://www.fs.uni-mb.si/main.asp?page=studij/podiplomski/navodila_delo.htm
- 3) Meloy, J. M. (2002). *Writing the qualitative dissertation: Understanding by doing*. L. Erlbaum Associates. **Celotno besedilo dostopno v EBSCOhost Ebook Academic Collection - World Wide**
- 4) 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>

Cilji in kompetence:

Objectives and competences:

Doktorska disertacija je pisni dokument, s katerim študent dokaže vrhunsko sposobnost uporabe teoretičnega znanja in v praksi pridobljenih izkušenj za rešitev problema, ki si ga je izbral s prijavo teme doktorskega dela. V doktorski disertaciji študent pokaže sposobnost izbire in uporabe metod dela v fiziki, uporabe domače in tuje strokovne literature ter dodatnih virov za potrebe rešitve izbranega problema.

The doctoral thesis is a written document by means of which the student proves his top-level ability to use the theoretical knowledge and his experiences achieved in the practical work to resolve the selected problem. In his doctoral thesis, the student presents the ability to choose and use appropriate methods in physics, to use literature and additional sources in order to solve the chosen problem.

Predvideni študijski rezultati:

Znanje in razumevanje:
 Globlje poznavanje širšega znanstvenega področja in vrhunsko razumevanje ožjih vsebin s področja doktorske disertacije. Poudarek je na aplikaciji pridobljenih vrhunskih teoretičnih in praktičnih znanj ter obvladovanju najrazličnejših metodologij znanstvenega dela. Študent je sposoben razvoja novih znanj iz specifičnega znanstvenega področja.

Prenosljive/ključne spretnosti in drugi atributi:

Obvladanje dokumentiranja in prezentacije znanstvenih izsledkov, obvladanje reševanja znanstvenih problemov, suverenost v predstavitev ključnih spoznanj in spretnost argumentiranja.

Intended learning outcomes:

Knowledge and understanding:
 In-deep knowledge of broader scientific area and top-level understanding of special topics from the field of doctoral thesis. The emphasis is given to the application of the top-level theoretical and practical knowledge obtained as well as to the complete acquaintance with different methodologies of scientific work. Student is capable to develop new knowledge of specific scientific area.

Transferable/Key Skills and other attributes:
 Proficiency in documenting and presenting the scientific results, proficiency in solving scientific problems, sovereignty in presentations and discussions about the results of research.

Metode poučevanja in učenja:

Mentor preverja vsebino in strukturo disertacije ter usmerja kandidata pri predstavitvi disertacije (razgovor, delo s tekstom).
 Individualizirano poučevanje.
 Raziskovalno poučevanje.

Learning and teaching methods:

The supervisor controls the contents and the structure of the thesis and directs the candidate in preparation of the defence of doctoral thesis (discussion, work with text).
 Individualization in teaching.
 Inquiry based learning.

Načini ocenjevanja:

Način (pisni izpit, ustno izpraševanje, naloge, projekt)
 Zaključno delo
 Zagovor zaključnega dela

Delež (v %) /

Weight (in %)

Assessment:

Type (examination, oral, coursework, project):
 Final work
 Defence of the final work

75 %
 25 %

Se oceni z opravil / ni opravil.		Each of the mentioned commitments must be assessed with a passing grade. Positive grade of doctoral thesis is prerequisite for access to presentation and defense of doctoral thesis. Pass / fail evaluation.
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Reference nosilca / Lecturer's references:

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