



Univerza v Mariboru

Fakulteta za naravoslovje  
in matematiko

### UČNI NAČRT PREDMETA / COURSE SYLLABUS

<b>Predmet:</b>	Individualno raziskovalno delo 2
<b>Course title:</b>	Individual research work 2

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Matematika, 3. stopnja		1.	2.
Mathematics, 3 <sup>rd</sup> Degree		1 <sup>st</sup>	2 <sup>nd</sup>

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
					540	18

Nosilec predmeta / Lecturer:

<b>Jeziki / Languages:</b>	<b>Predavanja / Lectures:</b>	Slovenski jezik; Slovene
	<b>Vaje / Tutorial:</b>	Slovenski jezik; Slovene

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

Ni posebnih pogojev.

**Prerequisites:**

No special requirements.

**Vsebina:**

Študent se podrobneje seznani z metodami samostojnega raziskovalnega dela, potrebnimi za izdelavo doktorske naloge. Predela določeno splošno in specializirano literaturo ter na njeni podlagi ob posvetovanju s potencialnim mentorjem izbere ožje področje, s katerega bo pripravljala doktorsko disertacijo.

**Content (Syllabus outline):**

Student studies in details the methods of independent research, necessary for efficient work on his PhD thesis. He reads some general and specialized textbooks on this topic and based on them – after consulting his potential supervisor – chooses a narrow field for preparation of his future PhD thesis.

**Temeljna literatura in viri / Readings:**

- Science and technology research in progress. Mathematics: Academic Media.
- Kandiller, L. Principles of mathematics in operations research, Berlin: Springer-Verlag 2007.
- Makarovič, J. Misel in sporočilo: Kako uspešno študirati, raziskovati in predstaviti svoje ideje. Ljubljana: DDU Univerzum.
- Toporišič, J. (ur.). Slovenski pravopis. Pravila. Ljubljana: SAZU, DZS
- Gill, J. Essential mathematics for political and social research, Cambridge: Cambridge University Press, 2006
- Mackiw, G. Applications of abstract algebra, New York: John Wiley & Sons

**Cilji in kompetence:**

- pripraviti študente za bodoče delo na doktorski disertaciji, pri katerem naj bi študent dokazal sposobnost uporabe teoretičnih znanj in v praksi pridobljenih izkušenj za rešitev problema, ki si ga bo izbral ob prijavi teme doktorskega dela.
- študent se usposobi za izbiro in uporabo domače ter tuje strokovne literature na svojem področju dela in dodatnih virov, potrebnih za rešitev zastavljenega problema.

**Objectives and competences:**

- to prepare students for their future independent work on the PhD thesis, during which they should demonstrate the ability to use theoretical knowledge and their practical experiences to solve a problem, selected for their doctoral thesis
- students acquaintain the ability to select and use national and international scientific journals and monographies in their area of research as well as to find additional sources necessary to solve the chosen problem

**Predvideni študijski rezultati:****Znanje in razumevanje:**

- poznavanje širšega strokovnega področja, na katero bo sodila bodoča doktorska disertacija
- formiranje specifičnega znanje ter razumevanje pojmovnika predvidenega doktorskega dela
- sposobnost oblikovati koncept doktorske naloge ter metodološke pristopove za zajemanje, obdelovanje in prikazovanje podatkov

**Prenosljive/ključne spretnosti in drugi atributi:**

- strokovno zapisovanje in izražanje matematičnih vsebin
- obvladanje reševanja strokovnih problemov
- suvereno predstavljanje ključnih spoznanj in spretnost argumentiranja

**Intended learning outcomes:****Knowledge and understanding:**

- the knowledge of the wider mathematical field to which the dissertation will belong
- the development of special knowledge and working out the dictionary (notation) for the subject of the future doctoral thesis
- the ability to formulate the topic of the investigation and methodological approaches to collection, analysis and presentation of data.

**Transferable/Key Skills and other attributes:**

- expressing mathematical contents in oral and written form
- ability to solve specific mathematical problems
- clear presentation of the results of research work and efficient argumentation

**Metode poučevanja in učenja:**

- konzultacije;
- samostojni študij.

**Learning and teaching methods:**

- consultations;
- self-study.

Delež (v %) /

**Načini ocenjevanja:**

Weight (in %)

**Assessment:**

Način (pisni izpit, ustno izpraševanje, naloge, projekt) <ul style="list-style-type: none"> <li>• Ustni zagovor;</li> <li>• Pisno poročilo.</li> </ul> Se oceni: opravil / ni opravil.	<p style="text-align: center;"><b>30 %</b></p> <p style="text-align: center;"><b>70 %</b></p>	Type (examination, oral, coursework, project): <ul style="list-style-type: none"> <li>• Oral exam;</li> <li>• Written report.</li> </ul> Evaluate: passed / not passed.
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**Reference nosilca / Lecturer's references:**

Habilitirani nosilci predmetov v programu / Teachers listed in the program