



Univerza v Mariboru

Fakulteta za naravoslovje  
in matematiko

### UČNI NAČRT PREDMETA / COURSE SYLLABUS

**Predmet:** Individualno raziskovalno delo 3  
**Course title:** Individual Research Work 3

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

**Vrsta predmeta / Course type**

obvezni/compulsory

**Univerzitetna koda predmeta / University course code:**

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work	ECTS
					630	21

**Nosilec predmeta / Lecturer:**

Habilitirani nosilci predmetov v programu / Teachers listed in the program

**Jeziki /  
Languages:**

**Predavanja /  
Lectures:** Slovenski jezik; Slovene  
**Vaje / Tutorial:** Slovenski jezik; Slovene

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

Opravljeno Individualno raziskovalno delo 2.

**Prerequisites:**

Completed Individual Research Work 2.

**Vsebina:**

Individualno raziskovalno delo 3 je namenjeno izvedbi osnovnega raziskovalnega dela, ki je neposredno vezano na vsebine, ki bodo zajete v doktorski disertaciji. V okviru tega se prične s pripravo izvirnega znanstvenega članka, ki bo vseboval rezultate raziskovalnega dela.

**Content (Syllabus outline):**

The Individual research work 3 is assigned to realization of the basic scientific research that is in direct connection with the contents of doctoral dissertation. In this context, the preparation of the original scientific article, which will contain the results of the research work, begins.

**Temeljni literatura in viri / Readings:**

- Literatura iz raziskovalnega področja.
- Makarovič, J. Misel in sporočilo: Kako uspešno študirati, raziskovati in predstaviti svoje ideje. Ljubljana: DDU Univerzum, 1984.
- Toporišič, J. (ur.). Slovenski pravopis. Pravila. Ljubljana: SAZU, DZS, 1990.

**Dodatna literatura / Additional Readings:**

- Kandiller, L. Principles of mathematics in operations research, Berlin: Springer-Verlag 2007.
- 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, 1985.

**Cilji in kompetence:**

- pripraviti študente za izdelavo doktorskega dela, s katerim bodo pokazali sposobnost uporabe teoretičnih znanj in v praksi pridobljenih izkušenj pri reševanju problemov, nakazanih v prijavi teme doktorskega dela
- v doktorski disertaciji naj bi študent pokazal sposobnost izbire in uporabe domače ter tuje strokovne literature in dodatnih virov za reševanje izbranega problema

**Objectives and competences:**

- the intention is to prepare students for elaboration of their PhD thesis by which the student must prove his ability to use the theoretical knowledge and his practical work achieved experiences in resolving problems announced in the theme of his/her PhD thesis
- in his/her PhD thesis student should present the ability to choose and use his national and foreign professional scientific publications and additional sources in order to solve the chosen problem

**Predvideni študijski rezultati:**

Znanje in razumevanje:

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

**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
- emphasis will be on the student's ability to formulate the topic of the investigation and methodological approaches towards collecting, analysing and presenting the related data.

Prenesljive/ključne spretnosti in drugi atributi:

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

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 %) /

Weight (in %)

**Načini ocenjevanja:**

**Assessment:**

Individualno raziskovalno delo

Opravil / Ni opravil  
Pass / Fail

Individual research work

**Reference nosilca / Lecturer's references:**

Habilitirani nosilci predmetov v programu / Teachers listed in the program