UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Raziskovalni seminar 5
Course title:	Research seminar 5

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Matematika, 3. stopnja		**3.**	**6.**
Mathematics, 3rd Degree		**3rd**	**6th**

Vrsta predmeta / Course type   obvezni/obligatory

Univerzitetna koda predmeta / University course code:

Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work	ECTS
	10			5 (konzultacije)	75	**3**

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:

Prerequisits:

Ni posebnih pogojev.	No special requirements.

Vsebina:

Študent usvoji zahtevnejše metode samostojnega raziskovalnega dela na svojem znanstvenem področju ter se nauči realizirati dobljene rezultate v praksi. Pridobi sposobnost prepoznati matematično vsebino konkretnega problema, izbrati ustrezno metodo za njegovo reševanje in razviti primeren matematični aparat, ki je zato potreben.

Content (Syllabus outline):

Student gets familiar with advanced methods of independent research work in his scientific area and learns hoe to apply the results of his research in practice. He/she must be able to recognize the mathematical contents of a concrete problem, to choose the appropriate method(s) for its solving and to develop the necessary mathematical apparatus for this purpose.

Temeljni literatura in viri / Readings:

- Kandiller, L. Principles of mathematics in operations research, Berlin: Springer-Verlag 2007.
- Sethuraman, B. A. Rings, fields, and vector spaces, Berlin: Springer-Verlag
- Kreps, D. M. Game Theory and Economic Modeling, Oxford: Oxford University Press
- Atkinson, F. V. Multiparameter Eigenvalue Problems, New York: Academic Press
- M. Aigner, Discrete Mathematics, American Mathematical Society, Providence, 2007.
- R. Diestel, Graph Theory, Third Edition, Springer, Berlin, 2005.
- Zomorodian, A. J. Topology for computing, Cambridge: Cambridge University Press
- Mackiw, G. Applications of abstract algebra, New York: John Wiley & Sons

Cilji in kompetence:

- pripraviti študente za bodoče raziskovalno in aplikativno delo – prenos znanstvenih spoznanj v prakso in razvoj matematičnih metod, potrebnih za rešitev konkretnega problema.
- študent se usposobi za individualno in skupinsko delo pri reševanju matematičnih problemov, pridobi sposobnost sodelovanja na obsežnejšem projektu in vodenja skupine raziskovalcev.

Objectives and competences:

- to prepare students for their future independent research and applicative work – the transfere of scientific knowledge to practice and the development of mathematical methods, necessary to solve a concrete probleme
- students aquaintain the ability of individual and team work at solving mathematical problems and get able to participate in a larger project or rule a research team.

Predvideni študijski rezultati:

Znanje in razumevanje:
Znanje in razumevanje:
- poznavanje splošnih in specifičnih metod za reševanje teoretičnih in praktičnih problemov
- formiranje specifičnega znanje ter njegovo apliciranje na konkretne probleme
- sposobnost oblikovati nove zanstvene koncepte ter metodološke pristope za reševanje različnih problemov

Prenesljive/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:
Knowledge and understanding:
- the knowledge of general and specific methods for solving theoretical and practical problems
- the development of special knowledge and its application to concrete examples
- the abbility to formulate new scientific concepts and methodological approaches for solving various problems

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;
- priprava seminarja;
- samostojni študij.

Learning and teaching methods:

- consultations;
- seminar work;
- self-study.

Načini ocenjevanja:

Način (pisni izpit, ustno izpraševanje, naloge, projekt)	Delež (v %) / Weight (in %)	Assessment: Type (examination, oral, coursework, project):
• seminarsko predavanje;	100 %	• seminar talk;
Se oceni: opravil / ni opravil.		Evaluate: passed / not passed.

Reference nosilca / Lecturer's references:

Habilitirani nosilci predmetov v programu / Teachers listed in the program