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 cycle		3rd	6th

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
	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 how 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.
- Shubik, M. Game Theory in the Social Sciences, Massachusetts: MIT Press, 1985.
- Sethuraman, B. A. Rings, fields, and vector spaces, Berlin: Springer-Verlag, 1997.
- Kreps, D. M. Game Theory and Economic Modeling, Oxford: Oxford University Press, 1990.
- Oyvind Hjelle, O., Daehlen, M. Triangulations and applications, Mathematics and visualization, Berlin: Springer-Verlag, 2006.
- Zomorodian, A. J. Topology for computing, Cambridge: Cambridge University Press, 2009.
- Ferguson, T. S. Mathematical Statistics – A decision-Theoretic Approach, New York: Academic Press, 2014.
- Allgower, E. L., Georg, K. Numerical Continuation Methods, Berlin: Springer-Verlag, 2011.
- Druga literatura iz raziskovalnega področja.

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 transfer of scientific knowledge to practice and the development of mathematical methods, necessary to solve a concrete problem
- 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:

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

Intended learning outcomes:

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 ability to formulate new scientific concepts and methodological approaches for solving various problems

Prenesljive/ključne spretnosti in drugi atributi:	Transferable/Key Skills and other attributes:
• strokovno zapisovanje in izražanje matematičnih vsebin • obvladanje reševanja strokovnih problemov • suvereno predstavljanje ključnih spoznanj in spretnost argumentiranja	• 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:

Metode poučevanja in učenja:	Learning and teaching methods:
• konzultacije; • priprava seminarja; • samostojni študij.	• consultations; • seminar work; • self-study.

Načini ocenjevanja:

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

Reference nosilca / Lecturer's references:

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