UČNI NAČRT PREDMETA / COURSE SYLLABUS	
Predmet:	**Verižni ulomki**
Course title:	Continued Fractions

Študijski program in stopnja	Študijska smer	Letnik	Semester
Study programme and level	**Study field**	**Academic year**	**Semester**
Enovit magistrski študijski program druge stopnje Predmetni učitelj	**/**	**3. ali/or 4.**	**6. ali/or 8.**
Five-year master's degree program Subject Teacher	**/**		

Vrsta predmeta / Course type	Izbirni / Elective

Univerzitetna koda predmeta / University course code:

Predavanja	Seminar	Sem. vaje	Lab. vaje	Teren. vaje	Samost. delo	ECTS
Lectures	Seminar	Tutorial	Laboratory work	Field work	Individ. work	
30		15			45	3

Nosilec predmeta / Lecturer:	Daniel EREMITA

Jeziki /	**Predavanja / Lectures:**	slovenski/Slovene
Languages:	**Vaje / Tutorial:**	slovenski/Slovene

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:	**Prerequisits:**
Jih ni.	None.

Vsebina:

Content (Syllabus outline):

• Končni verižni ulomki	• Finite continued fractions
• Neskončni verižni ulomki	• Infinite continued fractions
• Periodični verižni ulomki	• Periodic continued fractions
• Diofantska aproksimacija	• Diophantine approximation
• Pellova enačba	• Pell's equation
• Faktorizacija z uporabo verižnih ulomkov	• Factoring using continued fractions
• Fermatov izrek o vsotah dveh kvadratov	• Fermat's theorem on sums of squares

Temeljni literatura in viri / Readings:

- Burton, D. M.: *Elementary Number Theory*, 7th ed., McGraw-Hill, New York, 2011
- Rosen, K. H.: *Elementary Number Theory and its applications*, 5th ed., Pearson/Addison Wesley, Boston, 2005
- Grasselli, J.: *Diofantski približki*, DMFA, Ljubljana 1992
- Grasselli, J.: Elementarna teorija števil, Ljubljana: DMFA, 2009.
- Rockett, A. M., Szüsz, P.: *Continued Fractions*, World Scientific Publishing Co. Pte. Ltd., Singapore, 1992

Cilji in kompetence:	**Objectives and competences:**
Razumevanje osnovnih konceptov in rezultatov klasične teorije navadnih verižnih ulomkov.	Understanding basic concepts and results of classical theory of simple continued fractions.

Predvideni študijski rezultati:	**Intended learning outcomes:**
Znanje in razumevanje: • konceptov in rezultatov klasične teorije navadnih verižnih ulomkov • nekaterih aplikacij verižnih ulomkov Prenesljive/ključne spretnosti in drugi atributi: • pridobljena znanja se dopolnjujejo z znanji iz drugih področij teorije števil in z znanji s področja algebre, kombinatorike, analize, računalništva, …	Knowledge and understanding: • concepts and results of classical theory of simple continued fractions • some applications of continued fractions. Transferable/Key Skills and other attributes: • the obtained knowledge supplements with the knowledge of other fields of number theory and also with the knowledge of algebra, combinatorics, analysis, computer science, …

Metode poučevanja in učenja: **Learning and teaching methods:**

• Predavanja • Seminarske vaje • Individualno delo	• Lectures • Tutorial • Individual work

Delež (v %) /

Načini ocenjevanja: Weight (in %)   **Assessment:**

Način (pisni izpit, ustno izpraševanje, naloge, projekt):		Type (examination, oral, coursework, project):
Pisni test – praktični del Izpit (ustni) – teoretični del Vsaka izmed naštetih obveznosti mora biti opravljena s pozitivno oceno. Pozitivna ocena pri pisnem testu je pogoj za pristop k izpitu.	50% 50%	Written test – practical part Exam (oral) – theoretical part Each of the mentioned commitments must be assessed with a passing grade. Passing grade of the written test is required for taking the exam.

Reference nosilca / Lecturer's references:

1. EREMITA Daniel, Functional identities of degree 2 in triangular rings. *Linear algebra appl.*, v tisku, http://dx.doi.org/10.1016/j.laa.2012.07.028

2. EREMITA Daniel, ILIŠEVIĆ Dijana. On (anti-)multiplicative generalized derivations. *Glas. mat.*, 2012, vol. 47, no. 1, str. 105-118.

3. BENKOVIČ Dominik, EREMITA Daniel. Multiplicative Lie n-derivations of triangular rings. *Linear algebra appl.*. [Print ed.], 2012, vol. 436, iss 11, str. 4223-4240.

4. BENKOVIČ Dominik, EREMITA Daniel, VUKMAN Joso. A characterization of the centroid of a prime ring. *Stud. sci. math. Hung. (Print)*, 2008, vol. 45, no. 3, str. 379-394.

5. EREMITA Daniel, ILIŠEVIĆ Dijana. On additivity of centralisers. *Bull. Aust. Math. Soc.*, 2006, 74, str. 177-184.