

UČNI NAČRT PREDMETA / COURSE SYLLABUS						
<b>Predmet:</b>		Individualni študij 1				
<b>Course title:</b>		Individual study 1				
<b>Študijski program in stopnja</b> Study programme and level		<b>Študijska smer</b> Study field		<b>Letnik</b> Academic year	<b>Semester</b> Semester	
3MaFi		Matematika		1	prvi in drugi	
3MaFi		Mathematics		1	first and second	
<b>Vrsta predmeta / Course type</b>				obvezni		
<b>Univerzitetna koda predmeta / University course code:</b>				M3127		
<b>Predavanja</b> Lectures	<b>Seminar</b> Seminar	<b>Vaje</b> Tutorial	<b>Klinične vaje</b> work	<b>Druge oblike študija</b>	<b>Samost. delo</b> Individ. work	<b>ECTS</b>
	5				175	6
<b>Nosilec predmeta / Lecturer:</b>		prof. Alexander Keith Simpson, prof. Matej Brešar, prof. Primož Potočnik				
<b>Jeziki / Languages:</b>		<b>Predavanja / Lectures:</b> slovenski/Slovene, angleški/English				
		<b>Vaje / Tutorial:</b> slovenski/Slovene, angleški/English				
<b>Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:</b>				<b>Prerequisites:</b>		
<b>Vsebina:</b>				<b>Content (Syllabus outline):</b>		

<p>Študent samostojno preštudira obsežnejšo temo s svojega ožjega raziskovalnega področja. Temo in literaturo mu določi mentor.</p>	<p>The student independently learns a major topic from his specific research field. The topic and literature is determined by the mentor.</p>
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**Temeljni literatura in viri / Readings:**

<p>Študent literaturo izbere v sodelovanju s svojim mentorjem.</p> <p>The literature is chosen in cooperation with the mentor.</p>
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**Cilji in kompetence:**

Študent usvoji specialno znanje, ki je potrebno za poglobljeno raziskovalno delo na svojem ožjem raziskovalnem področju.

**Objectives and competences:**

The student learns a specific topic, needed for the in-depth research work in his or her research field.

**Predvideni študijski rezultati:**

Znanje in razumevanje: Poglobljena seznanitev s ključnimi izsledki ter prijemi ožjega raziskovalnega področja na nivoju, ki omogoča njihovo uporabo pri originalnih problemih.

Uporaba: Usvojeno znanje in veščine bo študent uporabljal pri svojem raziskovalnem delu in na njih gradil dokaze novih matematičnih dognanj.

**Intended learning outcomes:**

Knowledge and understanding: The student will get acquainted with the key results in his specific research area on the level that facilitates their usage when tackling original research problems.

Application: The acquired knowledge and skills will be used in original research and proving new results.

Refleksija: Pridobljeno znanje bo študent ustrezno reflektiral.

Prenosljive spretnosti: Sposobnost razumevanja najzahtevnejših matematičnih dokazov ter načinov uporabe klasičnih rezultatov pri originalnih raziskovalnih problemih.

Reflection: The acquired knowledge will be appropriately reflected.

Transferable skills: The skill of understanding deep mathematical arguments and the usage of classical results in original research work.

**Metode poučevanja in učenja:**

Samostojni študij in konzultacije.

**Learning and teaching methods:**

Individual study and consultations.

**Načini ocenjevanja:**

Domače naloge in ustni izpit. Ocene: opravljen, ni opravljen.

Delež (v %) /  
Weight (in %)

100%

**Assessment:**

Homework and oral exam. Grades: pass, fail.

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

Matej Brešar:

BREŠAR, Matej. Functional identities on tensor products of algebras. Journal of algebra, ISSN

0021-8693, 2016, vol. 455, str. 108-136. [COBISS.SI-ID 17625945]

BREŠAR, Matej. Algebras in which non-scalar elements have small centralizers. *Linear and Multilinear Algebra*, ISSN 0308-1087, 2015, vol. 63, no. 9, str. 1864-1871. [COBISS.SI-ID 17160537]

BREŠAR, Matej, ŠPENKO, Špela. Functional identities of one variable. *Journal of algebra*, ISSN 0021-8693, 2014, vol. 401, str. 234-244. [COBISS.SI-ID 16842329]

Alexander Simpson:

AWODEY, Steve, BUTZ, Carsten, SIMPSON, Alex, STREICHER, Thomas. Relating first-order set theories, toposes and categories of classes. *Annals of pure and applied Logic*, ISSN 0168-0072. [Print ed.], 2014, vol. 165, iss. 2, str. 428-502. [COBISS.SI-ID 17089881]

EGGER, Jeff, MØGELBERG, Rasmus Ejlers, SIMPSON, Alex. The enriched effect calculus: syntax and semantics. *Journal of logic and computation*, ISSN 0955-792X, 2014, vol. 24, iss. 3, str. 615-654. [COBISS.SI-ID 17090137]

SIMPSON, Alex. Measure, randomness and sublocales. *Annals of pure and applied Logic*, ISSN 0168-0072. [Print ed.], 2012, vol. 163, iss. 11, str. 1642-1659. [COBISS.SI-ID 17091161]

Primož Potočnik:

BERČIČ, Katja, POTOČNIK, Primož. Two-arc-transitive two-valent digraphs of certain orders. *Ars mathematica contemporanea*, ISSN 1855-3966. [Tiskana izd.], 2016, vol. 11, no. 1, str. 127-146. [COBISS.SI-ID 1538308036]

POTOČNIK, Primož, WILSON, Stephen. Linking rings structures and semisymmetric graphs: Cayley constructions. *European journal of combinatorics*, ISSN 0195-6698, 2016, vol. 51, str. 84-98. [COBISS.SI-ID 17462361]

POTOČNIK, Primož, SPIGA, Pablo, VERRET, Gabriel. Bounding the order of the vertex-stabiliser in 3-valent vertex-transitive and 4-valent arc-transitive graphs. *Journal of combinatorial theory. Series B*, ISSN 0095-8956, 2015, vol. 111, str. 148-180. [COBISS.SI-ID 1537132228]

