

UČNI NAČRT PREDMETA / COURSE SYLLABUS						
Predmet:	Proseminar A					
Course title:	Introductory seminar A					
Študijski program in stopnja Study programme and level	Študijska smer Study field			Letnik Academic year	Semester Semester	
Enoviti magistrski študijski program Pedagoška matematika	ni smeri			1	prvi in drugi	
Integrated Master's study programme Pedagogical Mathematics	none			1	first and second	
Vrsta predmeta / Course type				izbirni		
Univerzitetna koda predmeta / University course code:				M0506		
Predavanja Lectures	Seminar Seminar	Vaje Tutorial	Klinične vaje work	Druge oblike študija	Samost. delo Individ. work	ECTS
30		60			30	4
Nosilec predmeta / Lecturer:				prof. Jakob Cimprič, prof. Peter Šemrl		
Jeziki / Languages:	Predavanja / Lectures:		slovenski/Slovene			
	Vaje / Tutorial:		slovenski/Slovene			
Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:				Prerequisites:		
Vsebina:				Content (Syllabus outline):		
Elementarne funkcije: pregled (polinomi, racionalne, algebraične, eksponentne in logaritemske, kotne in krožne, hiperbolične in				Elementary functions: an overview (polynomials, rational, algebraic, exponential and logarithmic, trigonometric and inverse		

<p>area funkcije), lastnosti, računanje, risanje grafov, reševanje enačb in neenačb.</p> <p>Analitična geometrija v ravnini: premice, stožnice, medsebojne lege, polarne koordinate.</p> <p>Linearna algebra: vektorji v ravnini in prostoru, računske operacije, majhni sistemi enačb in neenačb.</p> <p>Kompleksna števila: računanje, reševanje enačb in sistemov enačb, polarni zapis.</p> <p>Algebra polinomov: računanje s polinomi, realna in kompleksna faktorizacija, parcialni ulomki.</p>	<p>trigonometric, hyperbolic and inverse hyperbolic functions), properties, computation, graphing, solving equations and inequalities.</p> <p>Analytic geometry in the plane: a straight line, conic sections, mutual position, polar coordinates.</p> <p>Linear algebra: vectors in plane and space, computational operations, small systems of linear equations and inequalities.</p> <p>Complex numbers: arithmetic, solving equations and systems of equations, polar form.</p> <p>Algebra of polynomials: computation with polynomials, real and complex factorization, partial fractions.</p>
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Temeljni literatura in viri / Readings:

Srednješolski učbeniki matematike.

K. Cvetko Vah, D. Dolžan: Učbenik za proseminar, Učbeniki in priročniki 19, DMFA založništvo, Ljubljana, 2014.

A. Cedilnik: Matematični priročnik, 2. izdaja, Didakta, Radovljica, 1997.

Cilji in kompetence:

"Študent ponovi, utrdi in nadgradi vsebine iz srednješolske matematike, ki so potrebne za normalno sodelovanje pri drugih predmetih 1. letnika.

Objectives and competences:

Student revises, consolidates and upgrades the contents of high school mathematics, which are necessary for following the courses in the first year.

Predvideni študijski rezultati:

Znanje in razumevanje: Študent temeljito obvlada računanje z elementarnimi funkcijami, reševanje enačb in neenačb, računanje s kompleksnimi števili in osnove ravninske geometrije.

Intended learning outcomes:

Knowledge and understanding: A thorough knowledge of calculus of elementary functions, solving equations and inequalities, calculating with complex numbers, and basic knowledge of plane geometry.

Uporaba: Predmet je predpriprava za Analizo 1 in Algebro 1.

Refleksija: Razumevanje pojmov elementarne matematike, ki so nujni za nadaljnji študij.

Prenosljive spretnosti – niso vezane le na en predmet: Študent se nauči prebrati in razumeti matematično trditev, razločiti predpostavke od posledic in razumeti utemeljitev oziroma dokaz.

Application: This is preparatory course for Analysis 1 and Algebra 1.

Reflection: Understanding of basic mathematical concepts that are necessary for further studies.

Transferable skills: Student learns to read and understand a mathematical statement, distinguish assumptions from conclusions, and understand the deduction or proof.

Metode poučevanja in učenja:

Predavanja, skupinsko in seminarsko delo

Learning and teaching methods:

Lectures, group and seminar work

Načini ocenjevanja:

izpit ali dva kolokvija namesto izpita

Ocene: 6-10 pozitivno, 5 negativno (v skladu s Statutom UL)

Delež (v %) /

Weight (in %)

Assessment:

exam or two midterm tests

Grading: 6-10 pass, 5 fail (according to the Statute of UL)

100%

Reference nosilca / Lecturer's references:

Jakob Cimprič:
 Peter Šemrl:

- ŠEMRL, Peter. Applying projective geometry to transformations on rank one idempotents. Journal of functional analysis, ISSN 0022-1236, 2004, vol. 210, no. , str. 248-257 [COBISS.SI-ID 13012825]
- ŠEMRL, Peter. Comparability preserving maps on bounded observables. Integral equations and operator theory, ISSN 0378-620X, 2008, vol. 62, no. 3, str. 441-454 [COBISS.SI-ID 15005273]

- ŠEMRL, Peter. A characterization of normed spaces among metric spaces. Rocky Mountain journal of mathematics, ISSN 0035-7596, 2011, vol. 41, no. 1, str. 293-298 [COBISS.SI-ID 15865177]