UČNI NAČRT PREDMETA / COURSE SYLLABUS			
Predmet:	Seminar		
Course title:	Seminar		

Študijski program in stopnja **Study programme and level**	**Študijska smer** **Study field**	**Letnik** **Academic year**	**Semester** **Semester**
Univerzitetni študijski program Matematika	ni smeri	2	drugi
First cycle academic study programme Mathematics	none	2	second

Vrsta predmeta / Course type	obvezni
Univerzitetna koda predmeta / University course code:	M0255

Predavanja **Lectures**	**Seminar** **Seminar**	**Vaje** **Tutorial**	**Klinične vaje** **work**	**Druge oblike študija**	**Samost. delo** **Individ. work**		**ECTS**
	30				**60**		**3**

Nosilec predmeta / Lecturer:	doc. George Mejak, prof. Bor Plestenjak, prof. Pavle Saksida, prof. Sašo Strle, prof. Tomaž Košir

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):**

Vodja seminarja pripravi zadostno število krajših samostojnih tem iz vsebin, ki sodijo v različna področja matematike in jih lahko razumejo študenti po treh semestrih študija. Teme skupaj s potrebnim gradivom razdeli študentom na prvem sestanku seminarja. Gradivo mora biti ustrezna osnova za pripravo predavanja in seminarske naloge, študenti pa lahko poiščejo še dodatne vire.	Seminar leader prepares a sufficient number of short independent topics from different areas of mathematics suitable for students after completing three semesters of study. Topics are handed out to students along with necessary literature during the first meeting of the seminar. The handouts have to suffice for the preparation of the seminar, however students can look for additional sources.

Temeljni literatura in viri / Readings:

gradivo, ki ga pripravi vodja seminarja

S. Krantz: A primer of mathematical writing, American Mathematical Society, 1997.

Cilji in kompetence:	**Objectives and competences:**
Namen predmeta je študenta naučiti, kako pripravi predstavitev matematične teme in napiše matematični tekst. V okviru predmeta se bo študent na podlagi lastnih izkušenj, opazovanja drugih in povratnih informacij vodje seminarja ter kolegov usposobil za pripravo učinkovite in razumljive predstavitve matematičnih idej (ustrezne prosojnice, razumljiva razlaga, urejeno pisanje na tablo, jasno napisana in strukturirana matematična seminarska naloga).	The purpose of the course is to teach a student how to prepare a presentation of a mathematical topic and how to write a mathematical text. As a part of the course the student will based on own experience, observing peers, and feedback information given by the seminar leader acquire the ability to prepare effective and understandable presentation of mathematical ideas (appropriate slides, intelligible explanations, organized board work, clearly written and structured seminar work).

Predvideni študijski rezultati:	**Intended learning outcomes:**
Znanje in razumevanje: Študent se nauči pripraviti krajšo predstavitev in napisati seminarsko nalogo. Uporaba: Pridobljene izkušnje mu bodo v pomoč v času študija pri drugih predmetih in kasneje v delovnem okolju. Refleksija: Povezovanje pridobljenih spretnosti s strokovnim znanjem	Knowledge and understanding: Student learns to prepare a short presentation and to write a seminar paper. Application: Gained experience will be of use during the course of study for other courses and later for work. Reflection: The ability to connect new skills to the expertise.

Prenosljive spretnosti – niso vezane le na en predmet: Pridobljene izkušnje mu bodo v pomoč pri vseh drugih predmetih, ki zahtevajo predstavitev ali izdelavo domače naloge.	Transferable skills: Gained experience will be of use during the course of study for other courses that require presentation or homework.

Metode poučevanja in učenja:	**Learning and teaching methods:**
Študent pripravi predstavitev, ki traja 60 minut, po predstavitvi je čas za diskusijo in zastavljanje vprašanj. Poudarek ni na zahtevnosti teme, temveč na jasni in dobro organizirani predstavitvi idej. Študent mora predavanje pripraviti tako, da mu lahko kolegi v letniku sledijo. Enak kriterij velja za pisni izdelek, ki mora temo predstaviti kot zaključeno celoto.	Student prepares a presentation in the duration of 60 minutes which is followed by a discussion and question session. The emphasis is not on the difficulty of the topic but rather on the clear and well structured presentation of ideas. The presentation has to be prepared in a way that the colleagues in the class can follow. The same criterion holds for the seminar work which has to be a self-contained presentation of the topic.

Načini ocenjevanja:	Delež (v %) / Weight (in %)	**Assessment:**
predstavitev seminarska naloga ocene: 5 (negativno), 6-10 (pozitivno) (po Statutu UL)	50% 50%	presentation seminar work. Grading: 6-10 pass, 5 fail (according to the rules of University of Ljubljana)

Reference nosilca / Lecturer's references:

Tomaž Košir:

GRUNENFELDER, Luzius, KOŠIR, Tomaž. Koszul cohomology for finite families of comudule maps end applications. Communications in algebra, ISSN 0092-7872, 1997, let. 25, št. 2, str. 459-479. [COBISS.SI-ID 7127641]

GRUNENFELDER, Luzius, KOŠIR, Tomaž, OMLADIČ, Matjaž, RADJAVI, Heydar. On groups generated by elements of prime order. Geometriae dedicata, ISSN 0046-5755, 1999, let. 75, št. 3, str. 317-332. [COBISS.SI-ID 8849241]

GRUNENFELDER, Luzius, KOŠIR, Tomaž. On a representation of commuting maps by tensor product. Linear Algebra and its Applications, ISSN 0024-3795. [Print ed.], 1997, let. 251, str. 215-222. [COBISS.SI-ID 7104345]

George Mejak:

MEJAK, George. Eshebly tensors for a finite spherical domain with an axisymmetric inclusion. European journal of mechanics. A, Solids, ISSN 0997-7538. [Print ed.], 2011, vol. 30, iss. 4, str. 477-490. [COBISS.SI-ID 16025177]

MEJAK, George. Optimization of cross-section of hollow prismatic bars in torsion. Communications in numerical methods in engineering, ISSN 1069-8299, 2000, vol. 16, št. 10, str. 687-695. [COBISS.SI-ID 9984089]

MEJAK, George. Finite element solution of a model free surface problem by the optimal shape design approach. International journal for numerical methods in engineering, ISSN 0029-5981. [Print ed.], 1997, vol. 40, str. 1525-1550. [COBISS.SI-ID 9983833]

Bor Plestenjak:

PLESTENJAK, Bor. Numerical methods for the tridiagonal hyperbolic quadratic eigenvalue problem. V: Fifth international workshop on accurate solution in eigenvalue problems : hagen, Germany from June 29 to July 1, 2004. Philadelphia: SIAM, 2006, vol. 28, no. 4, str. 1157-1172. [COBISS.SI-ID 14367833]

HOCHSTENBACH, Michiel E., KOŠIR, Tomaž, PLESTENJAK, Bor. A Jacobi-Davidson type method for the two-parameter eigenvalue problem. SIAM journal on matrix analysis and applications, ISSN 0895-4798, 2005, vol. 26, no. 2, str. 477-497. [COBISS.SI-ID 13613401]

HOCHSTENBACH, Michiel E., PLESTENJAK, Bor. Backward error, condition numbers, and pseudospectra for the multiparamerer eigenvalue problem. Linear Algebra and its Applications, ISSN 0024-3795. [Print ed.], 2003, vol. 375, str. 63-81. [COBISS.SI-ID 12778841]

Pavle Saksida:

SAKSIDA, Pavle. On zero-curvature condition and Fourier analysis. Journal of physics. A, Mathematical and theoretical, ISSN 1751-8113, 2011, vol. 44, no. 8, 085203 (19 str.). [COBISS.SI-ID 15909465]

SAKSIDA, Pavle. Lattices of Neumann oscillators and Maxwell-Bloch equations. Nonlinearity, ISSN 0951-7715, 2006, vol. 19, no. 3, str. 747-768. [COBISS.SI-ID 13932377]

SAKSIDA, Pavle. Nahm's equations and generalizations Neumann system. Proceedings of the London Mathematical Society, ISSN 0024-6115, 1999, let. 78, št. 3, str. 701-720. [COBISS.SI-ID 8853849]

Sašo Strle:

OWENS, Brendan, STRLE, Sašo. Rational homology spheres and the four-ball genus of knots. Advances in mathematics, ISSN 0001-8708, 2006, vol. 200, iss. 1, str. 196-216. [COBISS.SI-ID

13875033]

STRLE, Sašo. Bounds on genus and geometric intersections from cylindrical end moduli spaces. Journal of differential geometry, ISSN 0022-040X, 2003, vol. 65, no. 3, str. 469-511. [COBISS.SI-ID 13135193]

RUBERMAN, Daniel, STRLE, Sašo. Mod 2 Seiberg-Witten invariants of homology tori. Mathematical research letters, ISSN 1073-2780, 2000, vol. 7, no. 5-6, str. 789-799. [COBISS.SI-ID 10557785]