



Univerza v Mariboru

Fakulteta za naravoslovje
in matematiko

UČNI NAČRT PREDMETA / COURSE SYLLABUS

Predmet:	Zgodovina matematike
Course title:	History of Mathematics

Študijski program in stopnja Study programme and level	Študijska smer Study field	Letnik Academic year	Semester Semester
Izobraževalna matematika – enopredmetna, 2. Stopnja	Modul I2	1. ali 2.	1. ali 3.
Educational mathematics - single-major, 2 nd cycle	Module I2	1. or 2.	1. or 3.

Vrsta predmeta / Course type

obvezni / compulsory

Univerzitetna koda predmeta / University course code:

Predavanja Lectures	Seminar Seminar	Sem. vaje Tutorial	Lab. vaje Laboratory work	Teren. vaje Field work	Samost. delo Individ. work	ECTS
75					135	7

Nosilec predmeta / Lecturer:

Daniel EREMITA

Jeziki /

Languages:

Predavanja /

Lectures:

SLOVENSKO/SLOVENE

Vaje / Tutorial:

SLOVENSKO/SLOVENE

Pogoji za vključitev v delo oz. za opravljanje študijskih obveznosti:

Vsaka izmed naštetih obveznosti v načinih ocenjevanja mora biti opravljena s pozitivno oceno.

Pozitivna ocena seminarske naloge je pogoj za pristop k ustnemu izpitu.

Prerequisites:

Each of the mentioned assessments must be assessed with a passing grade.

Passing grade of the seminar paper is required to take the oral exam.

Vsebina:

Content (Syllabus outline):

Metodologija zgodovine matematike, zgodovinski viri. Glavni centri in obdobja razvoja matematike: mezopotamska matematika, egipčanska matematika, starogrška in helenistična matematika, kitajska matematika, indijska matematika, japonska matematika, matematika indijanskih civilizacij, arabska matematika, matematika renesanse, matematika XV., XVI., XVII., XVIII., XIX. in XX. stoletja. Razvoj glavnih področij matematike: geometrije, aritmetike, algebre, teorije števil, analize, matematične logike, teorije množic, topologije, teorije grafov, teorije verjetnosti, statistike, računalništva, metodike matematike, zgodovine matematike idr. Razvoj osnovnih matematičnih pojmov. Pomembni matematiki in njihov prispevek k razvoju matematike. Slovenski matematiki. Zgodovina matematike kot del splošne zgodovine. Filozofski, sociološki, psihološki, lingvistični in podobni aspekti matematike. Matematika in druge znanosti.	Methodology of the history of mathematics, historical sources. The main centers and periods of mathematical development: Mesopotamian mathematics, Egyptian mathematics, Ancient Greek and Hellenistic mathematics, Chinese mathematics, Hindu mathematics, Japanese mathematics, mathematics of indigenous cultures of the Americas, Arabic mathematics, Renaissance mathematics, mathematics of XV., XVI., XVII., XVIII., XIX. and XX. centuries. The development of the major areas of mathematics: geometry, arithmetic, algebra, number theory, analysis, mathematical logic, set theory, topology, graph theory, probability theory, statistics, computer science, methodology of mathematics, history of mathematics, etc. The development of the fundamental mathematical notions. Important mathematicians and their contribution to mathematics. Slovenian mathematicians. A history of mathematics as a part of a general history. Philosophical, sociological, psychological, linguistic and similar aspects of mathematics. Mathematics and other sciences.
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Temeljni literatura in viri / Readings:

V. J. Katz, A History of Mathematics, An Introduction. Boston [etc.] : Addison-Wesley, 2009. C. B. Boyer, U. C. Merzbach: A History of Mathematics. New York [etc.]: John Wiley & Sons, 1991. D. J. Struik: Kratka zgodovina matematike. Ljubljana: DMFA 1986. Dodatna literatura / Additional Readings: D. M. Burton, The history of mathematics: an introduction. McGraw-Hill, 2006. C. H. Edwards: The historical development of the calculus. New York ; Heidelberg ; Berlin : Springer, 1979. T. L. Heath: A History of Greek Mathematics. Cambridge University Press, 2013. B. L. van der Waerden: Geometry and Algebra in Ancient Civilizations. Berlin: Springer Verlag, 2002.
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Cilji in kompetence:

Spoznati zgodovinski razvoj matematike, razvoj njenih osnovnih področij in razvoj osnovnih matematičnih pojmov. Seznaniti se s pomembnimi matematiki in njihovimi prispevki k razvoju matematike.

Objectives and competences:

To obtain knowledge of the historical development of mathematics, the development of its major areas, and the development of the fundamental mathematical notions. To get acquainted with the important mathematicians and their contribution to mathematics.

Predvideni študijski rezultati:

Znanje in razumevanje:

- zgodovinski razvoj matematike, razvoj njenih osnovnih področij in razvoj osnovnih matematičnih pojmov
- pomembni matematiki in njihovi prispevki k razvoju matematike

Prenesljive/ključne spretnosti in drugi atributi:

- prenos znanja zgodovine matematike na vse matematične predmete in na nekatera druga področja (fizika, astronomija, mehanika, računalništvo, filozofija, zgodovina, ...).

Intended learning outcomes:

Knowledge and Understanding:

- historical development of mathematics, the development of its major areas, and the development of the fundamental mathematical notions
- important mathematicians and their contribution to mathematics

Transferable/Key Skills and other attributes:

- knowledge transfer of history of mathematics to all mathematical courses and also to other areas (physics, astronomy, mechanics, computer science, philosophy, history, ...).

Metode poučevanja in učenja:

- Predavanja
- Individualno delo

Learning and teaching methods:

- Lectures
- Individual work

Načini ocenjevanja:**Assessment:**

• Seminarska naloga • Ustni izpit	Delež (v %) / Weight (in %) 20% 80%	• Seminar paper • Oral exam
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Reference nosilca / Lecturer's references:

1. EREMITA, Daniel. Biderivations and commuting linear maps on current Lie algebras. *Journal of Lie theory*. 2021, vol. 31, no. 1, str. 119-126. ISSN 0949-5932.[COBISS.SI-ID [100444419](#)]
2. BENKOVIČ, Dominik, EREMITA, Daniel. Generalized derivations of current Lie algebras. *Communications in algebra*. 2024, vol. 52, iss. 11, str. 4603-4611. ISSN 0092-7872. [COBISS.SI-ID [200554755](#)]

3. EREMITA, Daniel. Dhara, B. (6-BELDC-M); Ghosh, S. (6-JDVP); Sandhu, G. S. (6-PMNC-M): On Lie ideals satisfying certain differential identities in prime rings. (English summary). - Extracta Math. 38 (2023), no. 1, 67–84. *MathSciNet : Mathematical Reviews on the Web*. [Spletna izd.]. 2024, 1 spletni vir (mr4608757). ISSN 2167-5163. [COBISS.SI-ID [200562435](#)]
4. EREMITA, Daniel. Krempa, Jan (PL-WASW-IM): On nil algebras and a problem of Passman concerning nilpotent free algebras. (English summary). - Algebra and coding theory, 197-204, Contemp. Math., 785, Amer. Math. Soc., [Providence], RI, [2023], ©2023. *MathSciNet : Mathematical Reviews on the Web*. [Spletna izd.]. 2024, 1 spletni vir (mr4586441). ISSN 2167-5163. [COBISS.SI-ID [215992579](#)]
5. EREMITA, Daniel. Tiwari, S. K. (6-IITPT-DM): Product and commuting generalized derivations in prime rings. (English summary). - Rend. Circ. Mat. Palermo (2) 72 (2023), no. 2, 1377-1397. *MathSciNet : Mathematical Reviews on the Web*. [Spletna izd.]. 2024, 1 spletni vir (mr4559105). ISSN 2167-5163. [COBISS.SI-ID [200564227](#)]