<table>
<tr><td>COURSE TITLE</td><td colspan="5">HISTORY OF MATHEMATICS</td></tr>
<tr><td>Code</td><td>PMM009</td><td>Year of study</td><td colspan="3">Graduate study II. year</td></tr>
<tr><td>Lecturer(s)</td><td>Željka Zorić, lect.</td><td>ECTS credits</td><td colspan="3">3</td></tr>
<tr><td rowspan="2">Assistants</td><td rowspan="2"></td><td rowspan="2">Teaching methods
(hours per semester)</td><td>L</td><td>S</td><td>E</td><td>F</td></tr>
<tr><td>30</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>Course status</td><td>Compulsory and elective</td><td>e-learning %</td><td colspan="3"></td></tr>
<tr><td colspan="6">COURSE DESCRIPTION</td></tr>
<tr><td>Course objectives</td><td colspan="5">• demonstrate historical development of ideas and methods in mathematics, from the earliest civilizations to the 20th century
• research and describe the biographies of famous mathematicians in history
• research the influence and contribution of famous mathematicians to the development of ideas and methods in mathematics
• prepare students for lifelong learning in mathematics education</td></tr>
<tr><td>Course prerequisites for enrolment and competency requirements</td><td colspan="5">No prerequisites for the course.</td></tr>
<tr><td>Expected learning outcomes on course level
(4-10 learning outcomes)</td><td colspan="5">After finishing the course, students should be able to:
• demonstrate the ways they calculated and proved their theorems as well as the way they solved the tasks through the history of mathematics – regarding a specific civilization
• demonstrate the ways they calculated and proved their theorems as well as the way they solved the tasks through the history of mathematics – regarding the contribution of famous mathematicians
• combine and provide arguments for causes and effects of the development of ideas and methods in math
• report on key events in the lives of famous mathematicians
• interpret their influence and contribution
• combine and interpret the chronology of a specific branch of mathematics
• estimate and suggest which facts, stories and contributions can be used effectively in teaching math in order to foster students' interest and motivation</td></tr>
<tr><td>Detailed course content according to teaching hours</td><td colspan="5">Lectures will include the following topics:
• Mathematics and prehistory
• Mathematics in early civilizations - Babylon and Egypt
• Ancient Greek mathematics – from Thales to the concept of incommensurability
• Ancient Greek mathematics – Hellenistic period
• Ancient Greek mathematics – Post-classical period
• Ancient Greek mathematics – Silver age
• The three classical problems
• Mathematics in the Roman Republic
• Mathematics in non-European nations – China and India
• Arabic mathematics
• Mathematics in the Middle Ages
• Mathematics in the Renaissance
• Development of mathematical analysis
• Development of the Probability theory
• Discovery of analytic geometry
• Discovery of non-Euclidean geometry
• Modern Number theory</td></tr>
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	• Emergence of Set theory • Emergence of Group theory • Women in mathematics
Types of teaching methods	☒ lectures ☒ seminars and workshops ☐ exercises ☐ entirely *online* ☐ e-learning, combination ☐ field work ☐ individual tasks ☐ multimedia ☐ laboratory ☐ mentorship ☐ (fill in)
Student obligations	• regular attendance • write a seminar report on selected topic • submit a written report • present a report • actively participate in the classes

Monitoring students practice *(enter ECTS credits for each activity so that total ECTS credits correspond to subject scores)*						
	Attendance	1	Research		Praxis	
	Experiments		Paper		(fill in)	
	Essays		Report	0,5	(fill in)	
	Preliminary exam		Oral exam	1,5	(fill in)	
	Written exam		Project		(fill in)	

Evaluation and assessment of students performance in the course and on the final exam	Students who were regular in attending classes (over 80%), who wrote and presented a seminar paper and got a passing grade, have the right to obtain the signature. Students with the right to the signature have their grade formed according to the grade of their report – written part, presentation, activity during the seminar (40%) and oral exam grade (60%).

Obligatory literature (available in the library or through other media)	**Title**	**Number of copies in the library**	**Availability through other media**
	M. Bruckler, Povijest matematike 1, Sveučilište J. J. Strossmayara u Osijeku, 2007.		
	M. Bruckler, Povijest matematike 2, Sveučilište J. J. Strossmayara u Osijeku, 2010.		yes
	V. Devide, Matematika kroz kulture i epohe, Školska knjiga, Zagreb, 1979		
	Z. Šikić, Kako je stvarana novovjekovna matematika, Školska knjiga, Zagreb, 1989.		
	Š. Znam i dr., Pogled u povijest matematike, Tehnička knjiga, Zagreb, 1989.		
	G. I. Gleizer, Povijest matematike za školu, Školske novine i HMD, Zagreb, 2003.		
	Ž. Dadić, Povijest ideja i metoda u matematici i fizici, Školska knjiga, Zagreb, 1992.		
	E. T. Bell, Veliki matematičari, Znanje, zagreb, 1972.		

Additional literature	Ž. Dadić, Razvoj matematike, Školska knjiga, Zagreb, 1975. Ž. Dadić, Povijest egzaktnih znanosti u Hrvata 1 i 2, SNL, Zagreb, 1982. The Oxford handbook of the History of mathematics, Oxford University Press F. Burton, The History of Mathematics: An introduction, 6th edition, McGraw – Hill Primis, 2007. D. Berlinski, Beskonačni uspon: Kratka povijest matematike, Alfa, zagreb, 2011. F.M.Bruckler, Matematički dvoboji, Školska knjiga, Zagreb, 2011.

	Evariste Galois – opus, priredio Leon Horvat, Element, Zagreb, 2011. Larousse enciklopedija za mlade: Matematika i informatika, ABC naklada, Zagreb, 2004.
Quality monitoring methods that enable the achievement of course objectives	During the last week of the course in an anonymous survey students will evaluate the quality of the classes.
Other (in the opinion of the proposer)	