University of Gdańsk

Subject card

Subject name and code	History of Mathematics I, PG_00204251		
Field of study	Mathematics		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
Education level	Bachelor's studies	Subject group	Obligatory subject group in the field of study Subject group related to scientific research in the field of study
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	2	ECTS credits	2.0
Learning profile	academic	Assessment form	credit
Conducting unit	Institute of Mathematics -> Faculty of Mathematics, Physics and Informatics -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Agnieszka Demby	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	0.0	0.0	0.0	0.0	30

E-learning hours included: 0.0

Learning activity and number of study hours

Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
Number of study hours	30	1.0	19.0	50

Subject objectives

- An overview of the development of mathematics from ancient times to the 17th century, including its relationship to the development of civilization and other fields of science.
- An analysis of the development of selected mathematical concepts and methods, the formulations and proofs of selected theorems, and symbolic notations.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[MATL3_W11] knows and understands the fundamental dilemmas of modern civilization in the context of the development of mathematics	- Is able to identify and characterize the main stages of the development of mathematics from the earliest times to the 17th century. - Is able to perceive the development of mathematics in the context of the development of civilization and other fields of science. - Is able to identify examples of difficulties that mathematicians encountered during the development of mathematics, which also occur in human development today.	[SW4] test/exam - oral or written
[MATL3_W06] knows and understands at an advanced level the structure of selected mathematical theories, is able to use mathematical formalism to build and analyze mathematical models	- Is able to identify the main stages of development of selected mathematical concepts and methods. - Is able to identify the initial stages of development of mathematical theories through knowledge of the formulations and proofs of selected theorems and the development of symbolic notations.	[SW4] test/exam - oral or written

<table>
<tr><td>Subject contents</td><td>1. The first traces of the concepts of number and form (Paleolithic). Different ways of representing numbers.
2. The empirical nature of ancient Egyptian and Babylonian mathematics.
3. Ancient Greek mathematics in the Hellenistic period: Thales and the methodological canon of Doric knowledge, the Pythagoreans.
4. Ancient Greek mathematics in the Hellenistic period - Euclid, Archimedes, and others.
5. Eastern mathematics: China, India, the Arabs, and others.
6. European mathematics in the Middle Ages and the Renaissance.
7. Achievements that determined the breakthrough in the 17th century.
8. Information on the development of mathematics in the modern era.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td></td></tr>
<tr><td>Assessment methods and criteria</td><td><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Final assessment</td><td>51.0%</td><td>100.0%</td></tr>
<tr><td>Observation of student's attitude</td><td>51.0%</td><td>0.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>1. Burton, D.M.:Historia matematyki, PWN, Warszawa, 2023.
2. Juszkiewicz, A.P. (red.): Historia matematyki, PWN, Warszawa, 1975 (t.I), 1976 (t.II), 1977 (t.III).
3. Kordos, M.: Wykłady z historii matematyki, SCRIPT, Warszawa, 2005.
4. Więsław, W.: Matematyka i jej historia, Wydawnictwo NOWIK, Opole, 1997.
5. Online resources on the history of mathematics, including: Mac Tutor of Mathematics, University of St Andrew, Scotland; R.Duda - Matematyka a dzieje myśli, Uniwersytet Jagielloński Bez Granic.</td></tr>
<tr><td>Supplementary literature</td><td>1. Bondecka-Krzykowska, I.: Przewodnik po historii matematyki, Wydawnictwo Naukowe UAM, Poznań, 2006.
2. Boyer, C. B., Merzbach, U. C.: A history of Mathematics, John Wiley and Sons, New York Chichester Brisbane Toronto Singapore, 1989.
3. Eves, H.: An Introduction to the History of Mathematics, The Saunders Series, Cengage Learning, 1990.
4. Ifrah, G.: Dzieje liczby, czyli historia wielkiego wynalazku, Zakład Naukowy im. Ossolińskich, Wrocław Warszawa Kraków Gdańsk Łódź, 1990.
5. Stewart, I.: Oswajanie nieskończoności. Historia matematyki, Prószyński i S-ka, Warszawa, 2010.</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">Characterize the problems with infinity in the reasoning of the ancient Greeks.</td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
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