MODULE DESCRIPTION

Module code	**Z-0397**
Module name	**Historia Matematyki**
Module name in English	**History of Mathematics**
Valid from academic year	**2016/2017**

A. MODULE PLACEMENT IN THE SYLLABUS

Field of study	**Management and Production Engineering**
Level of education	**1st degree** *(1st degree / 2nd degree)*
Studies profile	**General** *(general / practical)*
Form and method of conducting classes	**Full-time** *(full-time / part-time)*
Specialisation	**All**
Unit conducting the module	**The Department of Applied Computer Science and Applied Mathematics**
Module co-ordinator	**Prof. Arkadiusz Płoski**
Approved by:	

B. MODULE OVERVIEW

Type of subject/group of subjects	**Other HES** *(basic / major / specialist subject / conjoint / other HES)*
Module status	**Non-compulsory** *(compulsory / non-compulsory)*
Language of conducting classes	**English**
Module placement in the syllabus - semester	**2nd semester**
Subject realisation in the academic year	**Summer semester** *(winter / summer)*
Initial requirements	**No requirements** *(module codes / module names)*
Examination	**No** *(yes / no)*
Number of ECTS credit points	**1**

Method of conducting classes	Lecture	Classes	Laboratory	Project	Other
Per semester	**15**				

C. TEACHING RESULTS AND THE METHODS OF ASSESSING TEACHING RESULTS

Module target	The aim of the module is to present the development of mathematical ideas with reference to historical periods considering the connections of mathematics with logic, philosophy, and physics. In order to gain a general understanding as regards mathematics learnt in a secondary school.

Effect symbol	Teaching results	Teaching methods *(l/c/lab/p/other)*	Reference to subject effects	Reference to effects of a field of study
W_01	A student has knowledge as regards the development of mathematical ideas with reference to historical periods.	l	K_W01	S1A_W01
W_02	A student has basic knowledge of the achievements of the Polish School of Mathematics.	l	K_W01	S1A_W01
U_01	A student is able to correctly analyse the connections of mathematics with logic, philosophy, and physics.	l	K_U01	S1A_U01
K_01	A student is able to improve the acquired knowledge of mathematics and the history of its development.	l	K_K01	S1A_K06

Teaching contents:

1. Teaching contents as regards lectures

Lecture number	Teaching contents	Reference to teaching results for a module
1	Antiquity: the development of mathematics in Ancient Egypt and Babylon. The beginnings of science in Ancient Greece: Thales of Miletus.	K_W01 K_U01 K_K01
2	Ancient Greek science. The School of Pythagoras. Euclid and Archimedes of Syracuse. The algebra of Diophantus of Alexandria.	K_W01 K_U01 K_K01
3	The Renaissance. The development of algebra, solving third- and fourth-order equations. The discovery of complex numbers.	K_W01 K_U01
4	Scientific revolution of the modern times: the great 17th century and the Enlightenment. Cartesian algebra and geometry. The discovery of logarithms. Pierre de Fermat and the number theory.	K_W01 K_U01 K_K01
5	The discovery of the differential and integral calculus. Newton and Leibniz. The development of mathematical analysis. Euler, D'alembert, and Laplace. Cauchy and complex analysis.	K_W01 K_U01 K_K01
6	The selected issues from the history of mathematics in the 19th and 20th centuries: the discovery of non-Euclidean geometries. Gauss and the number theory. Reimann and the mathematics of the 19^{th} century. Formulating the set theory. Hilbert's program and Gödl's discovery. The Polish School of Mathematics.	K_W01 K_U01 K_K01

2. Teaching contents as regards classes

Class number	Teaching contents	Reference to teaching results for a module

3. Teaching contents as regards laboratory classes

Laboratory class number	Teaching contents	Reference to teaching results for a module

4. The characteristics of project assignments

The methods of assessing teaching results

Effect symbol	Methods of assessing teaching results *(assessment method, including skills – reference to a particular project, laboratory assignments, etc.)*
W_01	An oral test.
W_02	An oral test.
U_01	An oral test.
K_01	An oral test.

D. STUDENT'S INPUT

ECTS credit points		
	Type of student's activity	**Student's workload**
1	Participation in lectures	**15**
2	Participation in classes	
3	Participation in laboratories	
4	Participation in tutorials (2-3 times per semester)	**3**
5	Participation in project classes	
6	Project tutorials	
7	Participation in an examination	
8		
9	**Number of hours requiring a lecturer's assistance**	**18** *(sum)*
10	**Number of ECTS credit points which are allocated for assisted work** *(1 ECTS point=25-30 hours)*	**0.6**
11	Unassisted study of lecture subjects	**8**
12	Unassisted preparation for classes	
13	Unassisted preparation for tests	**4**
14	Unassisted preparation for laboratories	
15	Preparing reports	
15	Preparing for a final laboratory test	
17	Preparing a project or documentation	
18	Preparing for an examination	
19		
20	**Number of hours of a student's unassisted work**	**12** *(sum)*
21	**Number of ECTS credit points which a student receives for unassisted work** *(1 ECTS point=25-30 hours)*	**0.4**
22	**Total number of hours of a student's work**	**30**
23	**ECTS points per module** *1 ECTS point=25-30 hours*	**1**
24	**Work input connected with practical classes** *Total number of hours connected with practical classes*	**15**
25	**Number of ECTS credit points which a student receives for practical classes** (1 ECTS point=25-30 hours)	**0.5**

E. LITERATURE

Literature list	1. Kordos M., *Wykłady z historii matematyki*, WSiP, Warszawa 1994, 2. Kuratowski K., *Pół wieku matematyki polskiej 1920-1970*, Wiedza Powszechna, Warszawa 1973 3. Mioduszewski J., *Ciągłość. Szkice z historii matematyki*, WSiP, Warszawa 1976 4. Steinhaus H., *Między duchem a materią pośredniczy matematyka*, Wydawnictwo Naukowe PWN, Warszawa-Wrocław 2000.
Module website	