MODULE DESCRIPTION

Module code	full-time studies:	**Z-ZIP1-E-211a**
	part-time studies:	**Z-ZIPN1-E-211a**
Module name	**History of Mathematics**	
Module name in Polish	**Historia matematyki**	
Valid from academic year	**2019/2020**	

MODULE PLACEMENT IN THE SYLLABUS

Field of study	**MANAGEMENT AND PRODUCTION ENGINEERING**
Level of education	**1st degree**
Studies profile	**General**
Form and method of conducting classes	**Full-time and Part-time**
Specialisation	**All**
Unit conducting the module	**Department of Mathematics and Physics**
Module co-ordinator	**Monika Skóra, PhD**
Approved by:	**Dariusz Bojczuk, PhD, DSc**

MODULE OVERVIEW

Type of subject / group of subjects	**Basic**
Module status	**Non-compulsory**
Language of conducting classes	**English**
Module placement in the syllabus - semester	**Semester II**
Initial requirements	**No requirements**
Examination (YES/NO)	**NO**
Number of ECTS credit points	**1**

Method of conducting classes		**Lecture**	**Classes**	**Laboratory**	**Project**	**Other**
Per semester	full-time studies:	**15**				
	part-time studies:	**9**				

TEACHING RESULTS AND THE METHODS OF ASSESSING TEACHING RESULTS

Category	Symbol	Learning outcomes	Assignations to the directional learning outcomes
Knowledge	W01	A student has knowledge as regards the development of mathematical ideas with reference to historical periods.	ZIP1_W01
	W02	A student has basic knowledge of the achievements of the Polish School of Mathematics.	ZIP1_W01
Social competences	K01	A student is ready to supplement the knowledge of mathematics with the history of its development.	ZIP1_K01

TEACHING CONTENTS

Method of conducting classes	Teaching contents
Lecture	Antiquity: the development of mathematics in Ancient Egypt and Babylon. The beginnings of science in Ancient Greece: Thales of Miletus. Ancient Greek science. The School of Pythagoras. Euclid and Archimedes of Syracuse. The algebra of Diophantus of Alexandria. The Renaissance. The development of algebra, solving third- and fourth-order equations. The discovery of complex numbers. 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. 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. 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 19th century. Formulating the set theory. Hilbert's program and Gödl's discovery. The Polish School of Mathematics.

METODS OF ASSESSING TEACHING RESULTS

Symbol	Methods of checking the learning outcomes *(select X)*					
	Oral exam	Written exam	Test	Project	Statement	Other
W01						X
W02						X
K01						X

FORM AND CONDITIONS OF PASSING

Form of classes	Form of credit	Passing conditions
Lecture	Credit with grade	Obtaining a positive grade from an oral answer.

STUDENT WORKLOAD

Balance of ECTS points												
No.	Type of student's activity	Student's workload										Unit
		full-time					part-time					
1.	Participation in the activities	Lc	C	Lb	P	O	Lc	C	Lb	P	O	h
		15					9					
2.	Other (consultation, exam)	2					2					h
3.	**Number of hours of a student's assisted work**	**17**					**11**					h
4.	**Number of ECTS credit points which are allocated for assisted work**	**0,7**					**0,4**					ECTS
5.	**Number of hours of a student's unassisted work**	**8**					**14**					h
6.	**Number of ECTS credit points which a student receives for unassisted work**	**0,3**					**0,6**					ECTS
7.	**Work input connected with practical classes**	**0**					**0**					h
8.	**Number of ECTS credit points which a student receives for practical classes**	**0,0**					**0,0**					ECTS
9.	**Total number of hours of a student's work**	**25**					**25**					h
10.	**Punkty ECTS za moduł** *1 ECTS=25 hours*	**1**										ECTS

LITERATURE

1. Bourbaki N.(1999), *Elements of the History of Mathematics*, Springer.
2. Kline M(1990), *Mathematical Thought from Ancient to Modern Times*, Volume 1, Volume 2, Volume 3, OUP USA.
3. Stillwell J.(2010), *Mathematics and Its History*, Springer-Verlag New York Inc.