POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)
pl. M. Skłodowskiej-Curie 5, 60-965 Poznań

COURSE DESCRIPTION CARD - SYLLABUS

Course name
Mathematics

Course

Field of study	Year/Semester
Engineering Management	1/2
Area of study (specialization)	Profile of study
	general academic
Level of study	Course offered in
First-cycle studies	English
Form of study	Requirements
full-time	compulsory

Number of hours

Lecture	Laboratory classes	Other (e.g. online)
15		
Tutorials	Projects/seminars	
30		

Number of credit points

5

Lecturers

Responsible for the course/lecturer:	Responsible for the course/lecturer:
Ph.D., Grzegorz Grzegorczyk	

Mail to: grzegorz.grzegorczyk@put.poznan.pl

Phone: 61 665 26 87

Faculty of Automatic Control, Robotics and
Electrical Engineering

ul. Piotrowo 3A, 61-138 Poznań

Prerequisites

The basic knowledge obtained in the first semester.

The ability to think logically.

The ability to describe simple mathematical problems.

Course objective

The acquisition and consolidation of examples of basic mathematical concepts and acquire the ability to use the mathematical apparatus

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Course-related learning outcomes

Knowledge

The student knows the methods and tools of data collection, their processing and the selection and distribution of information [P6S_WG_08]

The student knows the methods and tools of mathematics and their application to modeling processes and phenomena occurring in organizations [P6S_WG_09]

The student knows the basic methods, techniques and tools used to solve simple engineering tasks in the field of mathematics [P6S_WG_16]

The student has basic knowledge necessary to understand non-technical determinants of engineering activity [P6S_WG_18]

Skills

The student is able to use analytical, simulation and experimental methods to formulate and solve engineering tasks [P6S_UW_10]

The student is able to identify tasks and solve simple tasks in the field of mathematics [P6S_UW_14]

The student is able to apply typical methods of solving simple problems in the field of mathematics [P6S_UW_15]

Social competences

The student is able to prepare and implement business ventures [P6S_KO_03]

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: The knowledge acquired during the lecture is verified on the basis of a 90-minute zero exam at the last meeting or similar in the exam session. The exam covers material from both semesters. The final grade also includes students' activity during the classes. Passing threshold: 50% of the points.

Classes: The knowledge acquired during the exercises is verified during two, 75-minute tests carried out in 7 and 14 classes. Passing threshold: 50% of the points.

Programme content

Integral calculus of functions of one variable:

- indefinite integral,

- definite integral,

- applications of definite integral,

- improper integral and numerical series.

Ordinary differential equations - introduction.

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Teaching methods

Lecture: oral presentation with examples and formulas, which are presented using a visualizer.

Tutorials: presentation of exemplary tasks on the blackboard and individual solving of similar examples by students - practical exercises.

Bibliography

Basic

Foltyńska, Szafrański, Ratajczak, Matematyka cz I, cz II, Wydawnictwo Politechniki Poznańskiej, Poznań 2004

Additional

W. Krysicki, L. Włodarski, Analiza matematyczna w zadaniach 1, Wydawnictwo Naukowe PWN, Warszawa, 2013.

F. Leja, Rachunek różniczkowy i całkowy. Państwowe Wydawnictwo Naukowe, Warszawa 1978.

Breakdown of average student's workload

	Hours	ECTS
Total workload	125	5,0
Classes requiring direct contact with the teacher	50	2,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) [1]	75	3,0

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[1] delete or add other activities as appropriate