STUDY MODULE DESCRIPTION FORM

Name of the module/subject		Code
Mathematics		**1011105311011000063**
Field of study	Profile of study (general academic, practical)	Year /Semester
Engineering Management - Part-time studies -	**(brak)**	**1 / 1**
Elective path/specialty	Subject offered in:	Course (compulsory, elective)
-	**Polish**	**obligatory**
Cycle of study:	Form of study (full-time,part-time)	
First-cycle studies	**part-time**	
No. of hours		No. of credits
Lecture: **10** Classes: **10** Laboratory: **-** Project/seminars: **-**		**4**
Status of the course in the study program (Basic, major, other)	(university-wide, from another field)	
(brak)	**(brak)**	
Education areas and fields of science and art		ECTS distribution (number and %)

Responsible for subject / lecturer:

Instytut Matematyki PP;
email: office_@math.put.poznan.pl.
tel. (0-prefiks-61) 6652 320
Wydzial Elektryczny
ul. Piotrowo 3A, 60-965 Poznań;

Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Basics of mathematics - secondary school level.
2	**Skills**	Efficient calculating
3	**Social competencies**	Logical and scientific thinking

Assumptions and objectives of the course:

The subject is aimed at introducing basic terms from the area of mathematics, giving skills and competences for solving fundamental mathematic topics and for using mathematics in management

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. has the basic knowledge on the character of managerial science and it?s place in relations with contextual and ergological sciences. - [K1A_W01]
2. knows methods and instruments for collecting data, processing and selecting it and for distributing information - [K1A_W11]
3. knows methods and instruments of descriptive statistics, as well as their application in models of processes and phenomena occurring in organizations - [K1A_W12]
4. knows methods and instruments for shaping processes that take place between actors of the market - [K1A_W13]

Skills:

1. is able to use own knowledge of mathematics in order to make simulations and then, make a logical concluding and interpret results - [K1A_U12]
2. is able to use analytical and simulation methods in forming and solving engineer tasks - [K1A_U13]
3. is able to solve engineer project tasks with use of mathematical rules - [K1A_U17, K1A_U18]

Social competencies:

1. understands the necessity of expanding own mathematical knowledge - [K1A_K01]
2. is able to prepare and realize different engineer ventures individually and in a team - [K1A_K02, K1A_K07]

Assessment methods of study outcomes

Forming assessment:
a) exercises: on basis of the current progress of the realization of topics evaluated during written
b) lectures: on basis of responses to questions referring to topics from previous lectures,
final assessment:
a) exercises: on basis of the average from partial grades obtained for the forming assessment
b) lectures: written exam. It is possible to enter the examination after passing exercises.

Course description

Function for one, two or many variables and their application in management. Account of vectors and matrixes,
Sets of equations and irregularities - examples from the field of the management.

Basic bibliography:

1. Foltyńska, Z. Ratajczak, Z. Szafrańsk Matematyka dla studentów uczelni technicznych WPP Poznań 2000

Additional bibliography:

1. W. Krysicki, L. Włodarski Analiza matematyczna w zadaniach PWN Warszawa 1999

Result of average student's workload

Activity	Time (working hours)
1. lectures	15
2. exercises	30
3. consultations	15
4. Preparation for exercise classes	20
5. Preparation for the credit of lectures	20
6. Preparation for the credit of exercise classes	25
7. the credit of lectures	2
8. the credit of exercise classes	2

Student's workload

Source of workload	hours	ECTS
Total workload	129	5
Contact hours	64	2
Practical activities	47	2