



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Fundamentals of management [S2MwT1>PH-POiZ]

### Course

Field of study

Mathematics in Technology

Year/Semester

1/2

Area of study (specialization)

Modelling in Technology

Profile of study

general academic

Level of study

second-cycle

Course offered in

Polish

Form of study

full-time

Requirements

elective

### Number of hours

Lecture

30

Laboratory classes

0

Other (e.g. online)

0

Tutorials

0

Projects/seminars

0

### Number of credit points

2,00

### Coordinators

dr hab. inż. Joanna Kałkowska prof. PP  
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### Lecturers

### Prerequisites

The student has a general knowledge of organization management and is able to integrate and use the acquired knowledge in practice. In addition, he is ready to work as part of team structures.

### Course objective

The aim of the course is to interest and familiarize students with the basic concepts used to identify and describe management processes as well as models, methods and principles explaining contemporary aspects of managing organizations.

### Course-related learning outcomes

Knowledge:

1. Student has extended general knowledge of various branches of higher mathematics, including theorems and evidence as well as advanced detailed knowledge about the application of mathematical techniques, methods and tools used in forecasting economic phenomena
2. Student has detailed knowledge necessary to understand the social, ethical, economic or other non-technical conditions of engineering activities that are reflected in contemporary organizations
3. Student knows and understands legal and economic conditions related to professional activity,

including the principles of creating and developing forms of individual entrepreneurship in a turbulent and unpredictable environment

#### Skills:

1. Student, when formulating and solving engineering tasks or research problems, can see their non-technical aspects, including environmental, economic, ethical and legal issues and integrate these aspects for the purpose of solving decision problems
2. Student is able to put into practice the detailed knowledge and appropriate methods and tools to solve typical engineering tasks or simple research problems
3. Student is aware of the importance of team effort for the success of various projects, is able to interact with other people within team structures and is able to effectively organize and manage the teamwork
4. Student is able to independently acquire knowledge and develop professional skills, independently designs the learning path and consistently strives to achieve it, as well as is able to orient others in this field by setting short and long-term goals

#### Social competences:

1. Student is aware of the role and importance of knowledge in solving cognitive and practical problems typical of the professions and jobs appropriate for graduates of the studied major; is aware of the need to deepen and expand knowledge in order to integrate it
2. Student is aware of the importance of intellectual honesty in their own and other people's activities; is ready to demonstrate reliability, impartiality, professionalism and an ethical attitude in solving selected management problems
3. Student is aware of his social role as a graduate of a technical university, he is ready to pass on popular science content to the public and to identify and resolve basic decision problems related to the field of study

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

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Knowledge acquired during the lecture is verified by a test carried out after the last lecture. The test consists of 20 closed questions. Assessment threshold: 50% of the points (satisfactory).

### Programme content

Management - its essence and meaning. Organization as a socio-technical system and its goals (including: management concepts in organizations, enterprise management system and process, organizational structures). Business management paradigms in an economy based on smart and sustainable development. Enterprise culture, identity and social intelligence. Company image. Intelligent organization - features and models. Selected concepts of enterprise management: elements of information and knowledge management, lean and agile enterprise, enterprise based on intelligent digital technologies. Basics of managing human teams in the enterprise.

### Course topics

none

### Teaching methods

Monographic lecture in the form of a multimedia presentation, with elements of a conversational lecture

### Bibliography

Basic

1. Griffin R.W., Podstawy zarządzania organizacjami, Wydawnictwo Naukowe PWN, Warszawa 2017
2. Stabryła A., Podstawy organizacji i zarządzania. Wybrane problemy i przykłady praktyczne, Wydawnictwo Uniwersytetu Ekonomicznego, Kraków 2013
3. Sudoł S., Przedsiębiorstwo. Podstawy nauki o przedsiębiorstwie. Zarządzanie przedsiębiorstwem, PWE, Warszawa 2006

#### Additional

1. Pawłowski E., Trzcieleński S., Zarządzanie Przedsiębiorstwem. Funkcje i struktury. Wydawnictwo Politechniki Poznańskiej, Poznań 2011

2. Trzcieleński S., Przedsiębiorstwo zwinne, Wydawnictwo Politechniki Poznańskiej, Poznań 2011

#### Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,00
Classes requiring direct contact with the teacher	30	1,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	20	1,00