COURSE DESCRIPTION CARD - SYLLABUS

Course name

Construction Engineering and Management

Course

Field of study

Environmental Engineering

Year/Semester

2 / 4

Area of study (specialization)

Heating, Air Conditioning and Air Protection

Profile of study

general academic

Level of study

Second-cycle studies

Course offered in

Polish

Form of study

part-time

Requirements

compulsory

Number of hours

Lecture

10

Laboratory classes

Other (e.g. online)

Tutorials

Projects/seminars

10

Number of credit points

3

Lecturers

Responsible for the course/lecturer:

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Faculty of Civil and Transport Engineering

Piotrowo 5, 60-965 Poznań

Responsible for the course/lecturer:

Prerequisites

The student has basic knowledge in the field of building engineering related to technology and organisation of works.

The student can evaluate the suitability of routine methods and tools dedicated to solve simple practical engineering tasks. The student can choose and apply an appropriate method and tool.

Awareness of the need to constantly update and supplement knowledge and skills.

Course objective

The aim of the course is to provide students with knowledge of the structure of the construction

investment process and construction planning methods considering technological, organizational and economic aspects.

Course-related learning outcomes

Knowledge

1. The student has basic knowledge on management of the construction investment process - [KIS2_W09]

2. The student knows basic methods, techniques and tools applied to solve complex engineering tasks in construction planning and organization - [KIS2_W07]

3. The student knows the rules of preparing a construction site development plan - [KIS2_W07]

Skills

1. The student in order to formulate and solve engineering tasks is able to apply analytic and simulation methods for planning construction processes including technological, organizational and economic aspects - [KIS2_U04]

2. The student can evaluate the usefulness and limitations of methods and tools for scheduling and analysis of resources to perform construction works - [KIS2_U12]

3. The student can cooperate and work in a team, taking different roles. The student can correctly define priorities for performing tasks - [KIS2_U19]

Social competences

1. The student is aware of non-technical aspects and effects of engineering activity, including its environmental impact - [KIS2_K01]

2. The student is aware of responsibility for taking decision - [KIS2_K03]

3. Student is aware of the social role of technical university graduate. The student is prepared to formulate and transfer information and opinions concerning the achievements of technology and other aspects of engineering activity - [KIS_K05]

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Examination: test or writing assignment on selected issues

Rating scale:

91-100 very good

81-90 good plus

71-80 good

61-70 sufficient plus

51- 60 sufficient

below 50 insufficient

Project: consultations, project defence

Programme content

The specificity of the construction investment process. Organisation of the investment proces. Rights and obligations of participants in the investment process. The investment life cycle. Types of organisational structures. Introduction to the theory of organisation and management. Management styles and techniques. Construction planning methods. Schedules and network methods in the organization and planning of construction. Planning and control of construction processes including technological, organisational and economic aspects. Time-cost analysis. Construction logistics. Planning constrcution site development.

Project: Developing a conception for the investment project implementation, preparing a construction site development plan

Teaching methods

Lecture: Informative lecture, problem lecture, lecture with multimedia presentation

Project: consultations, project work in teams, project defence

Bibliography

Basic

Jaworski K..M.: Metodologia projektowania realizacji budowy. Wydawnictwo Naukowe PWN. Warszawa 2009

Kietliński W., Janowska J., Woźniak C.: Proces inwestycyjny w budownictwie. Oficyna Wydawnicza Politechniki Warszawskiej. Warszawa 2007

Meszek W., Żywica A.: Organizacja procesu inwestycyjnego. Wydawnictwo Politechniki Poznańskiej, Poznań 2003

Połoński M. (red.): Kierowanie budowlanym procesem inwestycyjnym. Wydawnictwo SGGW, Warszawa 2009

Rak A.: Budowlane przedsięwzięcia inwestycyjne. Środowiskowe uwarunkowania przygotowania i realizacji. Wydawnictwo Naukowe PWN, Warszawa 2014

Griffin, R.W.: Podstawy zarządzania organizacjami, Wydawnictwo Naukowe PWN, Warszawa 2017

Robbins S. P., Decenzo D.A., Podstawy zarządzania, Polskie Wydawnictwo Ekonomiczne, Warszawa 2002

Additional

Dyżewski A.: Technologia i organizacja budowy, Tom 1 i 2, Arkady, Warszawa 1989/1991

Eaton D.: Zarządzanie zasobami ludzkimi, Wydawnictwo Poltex, Warszawa 2009

Werner W.A.: Zarządzanie w procesie inwestycyjnym. Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2008

Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,0
Classes requiring direct contact with the teacher	40	1,5
Student's own work (literature studies, preparation for exam, project preparation)[1]	35	1,5

[1] delete or add other activities as appropriate