STUDY MODULE DESCRIPTION FORM

Name of the module/subject		Code
Construction Engineering and Management		**1010102231010110144**
Field of study	Profile of study (general academic, practical)	Year /Semester
Environmental Engineering Second-cycle	**general academic**	**2 / 3**
Elective path/specialty	Subject offered in:	Course (compulsory, elective)
Heating, Air Conditioning and Air Protection	**Polish**	**obligatory**
Cycle of study:	Form of study (full-time,part-time)	
Second-cycle studies	**full-time**	
No. of hours		No. of credits
Lecture: **15** Classes: **-** Laboratory: **-** Project/seminars: **15**		**2**
Status of the course in the study program (Basic, major, other)	(university-wide, from another field)	
other	**university-wide**	
Education areas and fields of science and art		ECTS distribution (number and %)
technical sciences		**2 100%**
Technical sciences		**2 100%**

Responsible for subject / lecturer:

dr inż. Magdalena Hajdasz
email: email: magdalena.hajdasz@put.poznan.pl
tel. tel. 61 665 21 91
Faculty of Civil and Environmental Engineering
Piotrowo 5, 60-965 Poznań

Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Basic knowledge of building materials, technology and organisation of the construction process
2	**Skills**	Skills in obtaining information from the literature on the subject Skills in analysing engineering activities
3	**Social competencies**	Workteam skills Responsibility for the accuracy of the results of one?s own work

Assumptions and objectives of the course:

Understanding the structure of the investment process, basics of organisation and management in construction. Obtaining skills in scheduling, developing network models and of site layout planning.

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

Knowledge:

1. Familiarity with the structure, rights and obligations of the participants involved in the investment process - [[K2_W08]]
2. Knowledge of the planning and construction organization basics - [-[K2_W08, K2_W09]]
3. Knowledge of the construction documentation - [[K2_W08]]

Skills:

1. Student can specify the structure of the investment process, knows rights and obligations of the participants involved in the construction process - [K2_U01, K2_U02, K2_U05]]
2. Student can develop a construction schedule and network model, estimate the resources in terms of time-cost, can provide alternative solutions - [K2_U01, K2_U02, K2_U05, K2_U09, K2_U10, K2_U17]]
3. Student knows how to develop a concept of the construction site management by taking into account the conditions during the implementation phase - [[K2_U01, K2_U02, K2_U05, K2_U10, K2_U17]]

Social competencies:

1. Student is aware of the significance and understands the non-technical aspects and otcomes of engineering activities - [[K2_K02]]
2. Student can properly determine priorities for the specific task realization - [[K2_K04]]
3. Student recognises the need for a systematic development of competences and engineering knowledge - [[K2_K01]]

Assessment methods of study outcomes

Written exam: 60 minutes test, activity

Presentation

Rating scale:

91-100 very good

81-90 good plus

71-80 good

61-70 dostateczna plus sufficient plus

51- 60 sufficient

below 50 insufficient

project: developing a concept of the construction site management

Course description

Investment process organization. Stages of the investment process. Participants of the investment process and the scope of their duties. Introduction to the theory of organization and management. Schedules and network planning in construction management. Construction management taking into account the construction processes dynamics and variable environmental conditions. Time-cost analysis. Organizational structure. Project delivery systems. Construction site management and construction site layout planning. Human resource management in construction.

Project: The concept of organisation of complex construction tasks

Teaching methods:

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

Project: project design, team work, discussion

Basic bibliography:

1. Jaworski K.M., Metodologia projektowania realizacji budowy, Wydawnictwo Naukowe PWN, Warszawa 2009
2. Robbins.S.P., De Cenzo D.A., Podstawy Zarządzania, Polskie Wydawnictwo Ekonomiczne, Warszawa, 2002
3. Meszek W., Żywica R., Żywica A., Organizacja procesu inwestycyjnego. Politechnika Poznańska 2003
4. Rak A., Budowlane przedsięwzięcie inwestycyjne, PWN, Warszawa 2014

Additional bibliography:

1. Dyżewski A., Technologia i organizacja budowy, Arkady, Warszawa, 1990
2. Werner W., Zarządzanie w procesie inwestycyjnym, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2008
3. Eaton D., Zarządzanie zasobami ludzkimi, Wydawnictwo Poltex, Warszawa 2009
4. Hajdasz M., Flexible management of repetitive construction processes by an intelligent support system, Expert Systems with Applications, 2014, s. 962-973

Result of average student's workload

Activity	Time (working hours)
1. Participation in lectures	15
2. Participation in exercises	15
3. Preparation of the project	10
4. Prepare to pass lectures	10

Student's workload

Source of workload	hours	ECTS
Total workload	50	2
Contact hours	30	1
Practical activities	20	1