

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Construction Engineering and Management		Code 1010102231010110144
Field of study Environmental Engineering Second-cycle	Profile of study (general academic, practical) general academic	Year /Semester 2 / 3
Elective path/specialty Heating, Air Conditioning and Air Protection	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: Second-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 15 Classes: - Laboratory: - Project/seminars: 15		No. of credits 2
Status of the course in the study program (Basic, major, other) other		(university-wide, from another field) university-wide
Education areas and fields of science and art technical sciences Technical sciences		ECTS distribution (number and %) 2 100% 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 outcomes 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		
<p>Written exam: 60 minutes test, activity</p> <p>Presentation</p> <p>Rating scale:</p> <p>91-100 very good</p> <p>81-90 good plus</p> <p>71-80 good</p> <p>61-70 dostateczna plus sufficient plus</p> <p>51- 60 sufficient</p> <p>below 50 insufficient</p> <p>project: developing a concept of the construction site management</p>		
Course description		
<p>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.</p> <p>Project: The concept of organisation of complex construction tasks</p>		
<p>Teaching methods:</p> <p>Lecture: informative lecture, problem lecture, lecture with multimedia presentation</p> <p>Project: project design, team work, discussion</p>		
Basic bibliography:		
<p>1. Jaworski K.M., Metodologia projektowania realizacji budowy, Wydawnictwo Naukowe PWN, Warszawa 2009</p> <p>2. Robbins.S.P., De Cenzo D.A., Podstawy Zarządzania, Polskie Wydawnictwo Ekonomiczne, Warszawa, 2002</p> <p>3. Meszek W., Żywica R., Żywica A., Organizacja procesu inwestycyjnego. Politechnika Poznańska 2003</p> <p>4. Rak A., Budowlane przedsięwzięcie inwestycyjne, PWN, Warszawa 2014</p>		
Additional bibliography:		
<p>1. Dyżewski A., Technologia i organizacja budowy, Arkady, Warszawa, 1990</p> <p>2. . Werner W., Zarządzanie w procesie inwestycyjnym, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2008</p> <p>3. Eaton D., Zarządzanie zasobami ludzkimi, Wydawnictwo Poltex, Warszawa 2009</p> <p>4. Hajdasz M., Flexible management of repetitive construction processes by an intelligent support system, Expert Systems with Applications, 2014, s. 962-973</p>		
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