

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Construction Engineering and Management		Code 1010135241010110144
Field of study Enviromental Engineering Extramural Second-	Profile of study (general academic, practical) general academic	Year /Semester 2 / 4
Elective path/specialty Water Suply, Water Soil Protection	Subject offered in: Polish	Course (compulsory, elective) obligatory
Cycle of study: Second-cycle studies	Form of study (full-time,part-time) part-time	
No. of hours Lecture: 20 Classes: - Laboratory: - Project/seminars: 10		No. of credits 4
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 %) 4 100% 4 100%
Responsible for subject / lecturer: dr inż. Magdalena Hajdasz email: magdalena.hajdasz@put.poznan.pl 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 ocomes 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 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</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. Project: The concept of organisation of complex construction tasks</p> <p>Teaching methods: Lecture: informative lecture, problem lecture, lecture with multimedia presentation Project: project design, team work, discussion</p>		
Basic bibliography:		
<ol style="list-style-type: none"> Jaworski K.M., Metodologia projektowania realizacji budowy, Wydawnictwo Naukowe PWN, Warszawa 2009 Robbins.S.P., De Cenzo D.A., Podstawy Zarządzania, Polskie Wydawnictwo Ekonomiczne, Warszawa, 2002 Meszek W., Żywica R., Żywica A., Organizacja procesu inwestycyjnego. Politechnika Poznańska 2003 Rak A., Budowlane przedsięwzięcie inwestycyjne, PWN, Warszawa 2014 		
Additional bibliography:		
<ol style="list-style-type: none"> Dyżewski A., Technologia i organizacja budowy, Arkady, Warszawa, 1990 Werner W., Zarządzanie w procesie inwestycyjnym, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2008 Eaton D., Zarządzanie zasobami ludzkimi, Wydawnictwo Poltex, Warszawa 2009 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	20	
2. Participation in exercises	10	
3. Preparation of the project	40	
4. Prepare to pass lectures	30	
Student's workload		
Source of workload	hours	ECTS
Total workload	100	4
Contact hours	40	2
Practical activities	35	2