

STUDY MODULE DESCRIPTION FORM		
Name of the module/subject Modern methods and tools in construction management		Code 1010101171010115399
Field of study Civil Engineering First-cycle Studies	Profile of study (general academic, practical) general academic	Year /Semester 4 / 7
Elective path/specialty -	Subject offered in: Polish	Course (compulsory, elective) elective
Cycle of study: First-cycle studies	Form of study (full-time, part-time) full-time	
No. of hours Lecture: 30 Classes: - Laboratory: - Project/seminars: -		No. of credits 4
Status of the course in the study program (Basic, major, other) other		(university-wide, from another field) from another field
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. Marcin Gajzler email: marcin.gajzler@put.poznan.pl tel. +48 61 665 2454 Civil and Environmental Engineering Piotrowo 5, 60-965 Poznan		
Prerequisites in terms of knowledge, skills and social competencies:		
1	Knowledge	He knows fundamentals of the organization of construction projects, basic structures and mechanisms associated with functioning of a building enterprise
2	Skills	He is able to use tools and methods in planning of the project organization
3	Social competencies	He is conscious of the need of broadening his knowledge to the purpose of the possibility of the problem solving compound
Assumptions and objectives of the course: Meeting chosen methods and tools in managing the construction project. Detailed meeting methods of the data analysis and using them in the accumulation of the useful knowledge in managing the construction project. Purchasing practical abilities of using data and knowledge, as well as making of the own workshop in the management.		
Study outcomes and reference to the educational results for a field of study		
Knowledge:		
1. he knows applications of modern techniques and technologies assisting in managing construction projects - [K_W14; K_W17] 2. he knows bases of an analysis of quality and quantitative data - [K_W22] 3. he knows the specificity of managing in the construction - [K_W13; K_W14; K_W15; K_W16]		
Skills:		
1. he is able to take advantage of available computer programs assisting the management - [K_U12] 2. he is able to make selection of sources of knowledge, to make analysis for her and to express conclusions - [K_U27; K_U29] 3. he is able to take advantage of quality and quantitative methods of the data analysis for the simplest case - [K_U01, K_U12; K_U27]		
Social competencies:		
1. he is able to think and to act in the comprehensive way taking into account the complexity of extrinsic factors influencing the construction - [K_K08] 2. he is identifying problems associated with performed engineering activity correctly - [K_K02, K_K04] 3. he is aware of a need to raise own engineering competence, in it in the technology of information - [K_K03]		

Assessment methods of study outcomes		
-lecture: 90 minute's test, in frames which the student is describing 5 detailed issues associated with the scope of the object and independent drawing up the case study of the object associated with the scope		
Course description		
Specificity of the construction in the aspect of the management. Elements of the theory of the decision support. Data and the knowledge. Sources of knowledge in the construction. Manners of the knowledge acquisition and her formalization. Data analysis quantitative but quality. Using the artificial intelligence in the data analysis. Review of computer systems assisting the management.		
Basic bibliography:		
1. Zieliński J.: Inteligentne systemy w zarządzaniu. PWN, Warszawa , 2000		
2. Kapliński O.(red.): Metody i modele badań w inżynierii przedsięwzięć budowlanych. PAN KILiW IPPT, Warszawa, 2007		
Additional bibliography:		
1. Januszewski A.: Funkcjonalność informatycznych systemów zarządzania. PWN, Warszawa, 2008		
2. Hand D., Mannila H., Smyth P: Eksploracja danych. WNT, Warszawa, 2005		
Result of average student's workload		
Activity	Time (working hours)	
1. Participation in lectures	30	
2. Homework	30	
3. Preparation to the test	10	
Student's workload		
Source of workload	hours	ECTS
Total workload	100	4
Contact hours	30	1
Practical activities	40	2