STUDY MODULE DESCRIPTION FORM

Name of the module/subject	Code
Modern methods and tools in construction management	**1010101171010115399**

Field of study	Profile of study (general academic, practical)	Year /Semester
Civil Engineering First-cycle Studies	**(brak)**	**4 / 7**
Elective path/specialty	Subject offered in:	Course (compulsory, elective)
-	**Polish**	**elective**

Cycle of study:	Form of study (full-time,part-time)
First-cycle studies	**full-time**

No. of hours	No. of credits
Lecture: **30** Classes: **-** Laboratory: **-** Project/seminars: **-**	**4**

Status of the course in the study program (Basic, major, other)	(university-wide, from another field)
(brak)	**(brak)**

Education areas and fields of science and art	ECTS distribution (number and %)

Responsible for subject / lecturer:

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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