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) **(brak)**	Year /Semester **2 / 4**
Elective path/specialty **Heating, Air Conditioning and And**	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) **(brak)**	(university-wide, from another field) **(brak)**	
Education areas and fields of science and art **technical sciences**		ECTS distribution (number and %) **100 4%**

Responsible for subject / lecturer:

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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

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. Construction documentation.

Basic bibliography:

1. Jaworski K.M., Podstawy organizacji budowy, Wydawnictwo Naukowe PWN, Warszawa, 2004
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

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

Result of average student's workload

Activity	Time (working hours)
1. Participation in lectures	20
2. Preparation of the project	10

Student's workload

Source of workload	hours	ECTS
Total workload	30	4
Contact hours	20	2
Practical activities	10	2