STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Management of construction projects in civil engineering**		Code **1010102111010118608**
Field of study **Civil Engineering second-cycle studies**	Profile of study (general academic, practical) **(brak)**	Year /Semester **1 / 1**
Elective path/specialty **Road, bridge and railway engineering**	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: **30** Classes: **15** Laboratory: **-** Project/seminars: **-**		No. of credits **2**
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** **Technical sciences**		ECTS distribution (number and %) **2 100%** **2 100%**

Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	Knowledge from area of key subjects contained in educational standard of the first-cycle civil engineer studies, including knowledge of construction techniques.
2	**Skills**	Designing of simpler civil structures at the area of selected branch of civil engineering, having regard operation needs.
3	**Social competencies**	Openness for cooperation, respect for common effects of creative designing work of engineers (authorship, as a result of teamwork).

Assumptions and objectives of the course:

Co-creation of professional civil engineers qualifications, like a designers and managers in construction. Particular significance has integration of design and execution knowledge, specially with aid of network schedules.

Study outcomes and reference to the educational results for a field of study

Knowledge:

1. Project management knowledge areas recognition and connection of them with rest construction knowledge (elements of construction project engineering). - [K_W10]
2. Classification and application of software for project scheduling (PMS), construction facility designing (BIM) and integrated construction planning/design (6D BIM). - [K_W08]
3. Knowledge improvement about construction facilities (specific for given specialty) across structures designing and optimisation of model facilities (concept and details). - [K_W09]

Skills:

1. Project managements systems and understanding of specification-estimate-schedule interdependencies. - [K_U02]
2. Project information structures for purposes of construction planning and scheduling with aid of software - [K_U10]
3. Ability od documentation preparation for procurement purposes (specifications, programming) - [K_U12]

Social competencies:

1. Overall look at project from the recipient (user/orderer/investor) and environment point of view in the aspect of whole life cycle of facility (construction-operation-deconstruction). - [K_K04]
2. Competences for project teamwork (sense of common goal and role of communication and motivation) with taking of other project participants needs (coworkers, cooperants, stakeholders). - [K_K05]
3. Readiness for engage in the professional practice towards independent technical functions with taking of society needs (ethics and professional liability). - [K_K01]

Assessment methods of study outcomes
Base of lecture note is writing test contained up to 10 issues (short tasks of calculate-, describe-, indicate- type) with over 5 fully correct answers; base of laboratories note is project elaboration.
Course description
Lecture: review of project management knowledge areas in construction; financial, procurement, payment and delivery systems of investment projects; formal and law procedures; project design, pre-tender and post-completition documentation (designing as project planing); categorisation of facilities with levels of design supervision and execution inspection; methods of project planning and control (products, processes, resources), computer systems operating rules, practical tips.
Basic bibliography:
1. Gasparski W., Projektowanie. Koncepcyjne przygotowanie działań. PAN PWN, Warszawa 1978.
2. Pawlak M., Zarządzanie projektami. Wydawnictwo Naukowe PWN, Warszawa 2006.
3. Kosecki A., Kontraktowanie realizacji przedsięwzięć budowlanych. PWN, Warszawa 2015.
4. Praca zbiorowa. Podręcznik dla inwestorów przedsięwzięć infrastrukturalnych. MRR, Warszawa 2010.
Additional bibliography:
1. Hendrickson C., Project Management for Construction. Fundamentals Concepts for Owners, Engineers, Architects and Builders. Carnegie Mellon University, Pittsburgh 2008.
2. O-Brien J., Plotnick F., CPM in Construction Management. 6th Edition. McGraw-Hill, 2006.
3. Halphin W. H., Construction Management. Wiley, 2006.
4. Winch G. M., Managing Construction Projects. Blackwell Publishing, 2002.

Result of average student's workload

Activity	**Time (working hours)**
1. Classes participation	45
2. Works preparation	20
3. Computer work	30
4. Works finishing	10

Student's workload

Source of workload	**hours**	**ECTS**
Total workload	90	3
Contact hours	45	1
Practical activities	75	2