STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Intergrated management in building life cycle**		Code **1010101161010117436**
Field of study **Civil Engineering First-cycle Studies**	Profile of study (general academic, practical) **(brak)**	Year /Semester **3 / 6**
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				No. of credits
Lecture: **30** Classes: **15** Laboratory: **-** Project/seminars: **15**				**5**

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 %**)** **5 100%**

Responsible for subject / lecturer:

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Responsible for subject / lecturer:

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Prerequisites in terms of knowledge, skills and social competencies:

1	**Knowledge**	He knows the basic tools of computer aided, knows the concepts of the investment cycle and the life cycle of the object
2	**Skills**	He is able to use tools and methods in the design and planning of construction projects
3	**Social competencies**	Is aware of the need to deepen knowledge in order to be able to solve complex problems later and awareness of the development of modern CAD and BIM technologies

Assumptions and objectives of the course:

Getting to know selected methods and tools helpful in designing and planning the implementation of construction projects at various stages of the facility life cycle - from initial concepts through architectural and construction design through implementation planning to support maintenance and operation.

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

Knowledge:

1. knows the use of modern techniques and technologies supporting the object's life cycle - [K_W15; K_W17]

2. knows the basics of designing in accordance with BIM technology - [K_W01]

3. knows the specificity of management in construction - [K_W15; K_W16]

Skills:

1. can use the available computer programs to support design - [K_U06]

2. is able to select sources of knowledge, analyze it and draw conclusions - [K_U17]

3. can create simple BIM models and use their potential - [K_U05]

Social competencies:

1. can think and act in a comprehensive way taking into account the complexity of external factors affecting the construction industry - [K_K09]

2. correctly identifies problems related to the performed engineering activity - [K_K09]

3. is aware of the need to improve own engineering competence, including information technology - [K_K06]

Assessment methods of study outcomes

- lecture: a written test in which the student describes 2-3 practical issues, in particular related to the life cycle and the possibilities of using BIM modeling at individual stages of the life cycle

Course description
The specificity of construction in terms of the duration of the life cycle. Object lifecycle - characteristics of individual stages. The specificity of multi-branch design. Basics of BIM technology in design. BIM in supporting the preparation of implementation. Estimate at BIM. Tools of economic analysis in the object's life cycle. Supporting the process of operation and maintenance of construction works
didactic methods - information / problem lecture, exercise / demonstration method, project method

Basic bibliography:

1. Tomana A.:BIM. Innowacyjna technologia w budownictwie, PWB Kraków , 2015

2. Brad H.: BIM and Construction Management. Wiley, 2015

Additional bibliography:

Result of average student's workload	
Activity	**Time (working hours)**
1. Udział w wykładach	30
2. Rozwiązywanie zadań praktycznych (studium przypadku) poza uczelnią	70
3. Przygotowanie do zaliczenia wykładów	50

Student's workload		
Source of workload	**hours**	**ECTS**
Total workload	150	5
Contact hours	30	2
Practical activities	70	3

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