STUDY MODULE DESCRIPTION FORM

Name of the module/subject **Computer Aided Design**		Code **1010134221010130660**
Field of study **Environmental Engineering Extramural First-**	Profile of study (general academic, practical) **(brak)**	Year /Semester **1 / 2**
Elective path/specialty **-**	Subject offered in: **Polish**	Course (compulsory, elective) **obligatory**
Cycle of study: **First-cycle studies**	Form of study (full-time,part-time) **part-time**	
No. of hours Lecture: **15** Classes: **-** Laboratory: **24** 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**	Basic knowledge about information technology, according to college education.
2	**Skills**	Ability to work with personal computer, including basic office software suite.
3	**Social competencies**	Awareness of the need to continually update and supplement one's knowledge and skills.

Assumptions and objectives of the course:

To acquaint students with the methods of computer-aided design, with particular emphasis on it's application in environmental engineering.

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

Knowledge:

1. The student knows the use of a spreadsheet in solving engineering problems - [K_W07]
2. The student knows popular software for engineering calculations in Environmental Engineering - [K_W07]
3. The student knows general characteristics and use of software for numerical simulations - [K_W07]
4. Student knows general characteristics and use of Building Information Modeling software - [K_W07]

Skills:

1. Student is able to exchange technical information in electronic form - [K_U02]
2. The student can choose the application that corresponds to the task in the field of environmental engineering - [K_U07, K_U09]
3. The student is able to use computer-aided design software in the field of environmental engineering - [K_U15]

Social competencies:

1. The student is aware of the value of information and knowledge - [K_K07]

Assessment methods of study outcomes

Basic method for checking the effects of education: (lecture) multiple choice test performed on the last class, (laboratory exercises) ability test performed on the last class.

Course description
Basic course on the software and computer methods used in engineering practice, focusing on the use of spreadsheets and engineering software for designing water distribution, heating and ventilation systems, also including numerical simulation and Building Information Modeling.
Basic bibliography: 1. An overview of currently available software (www).
Additional bibliography:

Result of average student's workload	
Activity	**Time (working hours)**
1. Lectures	15
2. Laboratory classes	24
3. Preparation for laboratory classes	10
4. Preparation for final tests	5

Student's workload		
Source of workload	**hours**	**ECTS**
Total workload	54	2
Contact hours	39	2
Practical activities	24	1