

<b>STUDY MODULE DESCRIPTION FORM</b>		
Name of the module/subject <b>Computer Aided Design</b>		Code <b>1010702111010722573</b>
Field of study <b>Chemical and Process Engineering</b>	Profile of study (general academic, practical) <b>(brak)</b>	Year /Semester <b>1 / 1</b>
Elective path/specialty <b>Chemical Engineering</b>	Subject offered in: <b>Polish</b>	Course (compulsory, elective) <b>obligatory</b>
Cycle of study: <b>Second-cycle studies</b>	Form of study (full-time, part-time) <b>full-time</b>	
No. of hours Lecture: - Classes: - Laboratory: - Project/seminars: <b>2</b>		No. of credits <b>2</b>
Status of the course in the study program (Basic, major, other) <b>(brak)</b>		(university-wide, from another field) <b>(brak)</b>
Education areas and fields of science and art <b>technical sciences</b> <b>Technical sciences</b>		ECTS distribution (number and %) <b>2 100%</b> <b>2 100%</b>
<b>Responsible for subject / lecturer:</b> dr inż. Piotr Tomasz Mitkowski email: piotr.mitkowski@put.poznan.pl tel. +48 61 6652789 Faculty of Chemical Technology ul. Piotrowo 3 60-965 Poznań		<b>Responsible for subject / lecturer:</b> dr inż. Szymon Woziwodzki email: szymon.woziwodzki@put.poznan.pl tel. +48 61 6652147 Faculty of Chemical Technology ul. Piotrowo 3 60-965 Poznań
<b>Prerequisites in terms of knowledge, skills and social competencies:</b>		
1	<b>Knowledge</b>	- the basis of mathematical and engineering calculations, - the principles of flowsheets drawing according to PN ISO 10628, - the principles of engineering drawing
2	<b>Skills</b>	- the ability to use software to create flowsheets and process schemes (i.e. MS Visio) and to design of industrial equipment (i.e. AutoCAD) - the ability to solve design and process engineering problems
3	<b>Social competencies</b>	- student is aware of the advantages and limitations of individual work in solving the problems of an industrial character and design, - student knows the limits of his knowledge and sees the need for the exploration of knowledge.
<b>Assumptions and objectives of the course:</b> The aim of the course is to acquaint students with the integrated solutions serving the design of industrial installations as well as chemical plant and their implementation, combined with open and flexible solutions supporting lifecycle management		
<b>Study outcomes and reference to the educational results for a field of study</b>		
<b>Knowledge:</b>		
1. A student knows methods of design of process installations as well as plant facility - [K_W01; K_W03]		
2. A student knows methods of 3D design of plant facility based on the reservation of space - [K_W02; K_W04]		
<b>Skills:</b>		
1. A student can create simple as well as intelligent flowsheets using specialized software (MS Visio, AVEVA Diagram). - [K_U07]		
2. A student can create 3D models of industrial installations based on P&ID schemes (AVEVA E3D) - [K_U09]		
3. A student can make design changes in existing installation models (AVEVA Diagram, E3D). - [K_U20]		
<b>Social competencies:</b>		
1. A student has the awareness and understanding of aspects of the practical application of knowledge and skills in 3D design - [K_K01]		
2. A student has formed awareness of the limitations of modelling - [K_K02]		
3. A student is aware of the of lifelong learning - [K_K04]		

<b>Assessment methods of study outcomes</b>		
Knowledge Project realization (1-3)		
Skills Activity in courses (1-3)		
Social competencies Exam project (1-3)		
<b>Course description</b>		
<p>The course includes: the principles of design of plant facility as well as industrial installations using specialized software i.e. 3D AutoCAD Plant, AVEVA Plant.</p> <p>During the course students perform design project, beginning from an industrial plant flowsheet up to the creation of graphical representation (3D model) of plant installation.</p> <p>Students use specialized software to create technological schemes: AVEVA Diagrams and to create a 3D model of the installation AVEVA E3D.</p>		
<b>Basic bibliography:</b>		
1. Materials delivered by the supervisors.		
<b>Additional bibliography:</b>		
1. AVEVA technical documentation		
<b>Result of average student's workload</b>		
Activity	Time (working hours)	
<b>Student's workload</b>		
Source of workload	hours	ECTS
Total workload	75	2
Contact hours	40	1
Practical activities	30	1