

Cracow University of Technology

Course syllabus

binding for the doctoral students of the CUT Doctoral School commencing their studies
in the academic year 2022/2023

Information on the course

Name of the course in Polish	Systemy CAD
Name of the course in English	CAD systems
Number of the ECTS points	1
Language of instruction	Polish
Category of the course	Choosable
Field of education	Engineering and technology
Discipline of education	Mechanical engineering
Person responsible for the course Contact	Prof. Edward Lisowski, <i>doctor habilitatus</i> edward.lisowski@pk.edu.pl

Type of course, number of hours in the study programme curriculum

Semester	Credit type (G / NG)*	Lecture	Practical classes	Laboratory	Computer Lab	Project Class	Seminar
2, 3, 4, 5	G	15	0	0	0	0	0

*G – graded credit, NG – non-graded credit

Course objectives

Code	Objective description
Objective 1	Expanding the knowledge of CAD systems with advanced functions necessary to conduct scientific research.
Objective 2	Acquiring practical skills in the construction of geometric models and simulation in technique.

Learning outcomes

Code	Description of the learning outcome adjusted to the specific characteristics of the discipline	Learning outcome symbol in the CUD DS	Methods of verification
OUTCOMES RELATED TO KNOWLEDGE			
EUW1	The graduate knows and understands CAD systems to a degree enabling the use of global achievements in the field, including the tool, theoretical basis, as well as general issues and selected complex issues.	E_W01, E_W02	Involvement in class activities, completing sample tasks.
EUW2	The graduate knows the main development trends of CAD systems and their applications.	E_W01, E_W02	Involvement in class activities.
OUTCOMES RELATED TO SKILLS			

EUU1	The graduate is able to use knowledge from various fields of science or art to creatively identify and solve complex problems or perform research tasks, in particular: - define the purpose and subject of research, - formulate a research hypothesis, - develop methods, techniques and research tools and use them creatively.	E_U01	Self-made presentation models.
EUU2	The graduate is able to make an assessment and make conclusions on the basis of conducted scientific research.	E_U01	Presentation of research results.
OUTCOMES RELATED TO SOCIAL COMPETENCES			
EUK1	The graduate has the ability to critically assess existing CAD systems and their practical application.	E_K01, E_K03	Involvement in class activities.

Course outline

No.	Contents	Learning outcomes for the course	No. of hours
LECTURE			
W1	3D modelling of structures and mechanical devices.	EUW1, EUW2,	3
W2	Modelling and simulation of machinery mechanisms.	EUW1, EUW2	5
W3	Surface modelling of airfoils.	EUU1	3
W4	Surface modelling of structures.	EUU2, EUK1	2
W5	Free surface modelling of closed surfaces.	EUW2	2

The ECTS points statement

WORKING HOURS SETTLEMENT	
Type of activity	Average number of hours (45 min.) dedicated to the completion of an activity type
SCHEDULED CONTACT HOURS WITH AN ACADEMIC TEACHER	
Hours allotted in the syllabus	15
Consultations	1
Examination / course credit assignment	2
HOURS WITHOUT THE PARTICIPATION OF AN ACADEMIC TEACHER	
Independent study of the course contents	8
Preparation of a paper, a report, a project, a presentation, a discussion	4
ECTS POINTS STATEMENT	
Total number of hours	30
The ECTS points number	1

Preliminary requirements

No.	Requirements
1	None specified.

Course credit assignment conditions / method of the final grade calculation

No.	Description
COURSE CREDIT ASSIGNMENT CONDITIONS	
1	Active participation in class, completion of assigned individual projects.
METHOD OF THE FINAL GRADE CALCULATION	
Weighted average from the grades for the projects.	

Additional information

None specified

The course reading list

1	Lisowski E., <i>Automatyzacja i integracja zadań projektowania z przykładami...</i> , Kraków, 2007.
2	Lisowski E., <i>Integracja modelowania 3D, kinematyki i wytrzymałości w programie CRO Parametric</i> , Kraków, 2013.