

Course code

Course item

1. INFORMATION ABOUT THE COURSE

a. Basic information

Course title	CAD
Field of study	<i>Mechanical Engineering</i>
Cycle	<i>first degree</i>
Study profile	<i>practical</i>
Study mode	<i>full-time</i>
Specialisation	
Unit responsible for the field of study	<i>Faculty of Mechanical Engineering, Department of Design</i>
Lecturer	<i>Michał Stopel PhD eng.</i>
Introductory courses	<i>Technical drawing, Machine design</i>
Prerequisites	<i>The scope of knowledge / skills / social competences resulting from the introductory subjects</i>

b. Semester/ weekly timetable

Semester	Lectures (W)	Classes (C)	Laboratories (L)	Project classes (P)	Seminars (S)	Fieldwork (T)	ECTS credits ECTS*
winter	15		45				

C. Assumed outcomes and aims - aims bind the course programme with the study programme and are referred to in learning outcomes point 2

2. LEARNING OUTCOMES (acc. to National Qualifications Framework)

No.	Description of learning outcomes	Reference to learning outcomes for the field of study	Reference to learning outcomes for the area of study
KNOWLEDGE			
W1	has knowledge in the field of construction and engineering graphics	K_W07	P6S_WG
Skills			
S1	is able to prepare technical documentation of the completed project task	K_U02	P6S_UW
S2	has the ability to use CAD-CAM-CAE programs	K_U03	P6S_UW

S3	is able to design simple systems for the operation of machines and devices	K_U07	P6S_UW
SOCIAL COMPETENCES			
SC1	is aware of the importance and understands the non-technical aspects and effects of the activities of a mechanical engineer, including its impact on the environment, and the related responsibility for decisions made	K_K04	P6S_KO
SC2	is aware of the social role of a graduate of a technical university, and in particular understands the need to formulate and pass on to the society - e.g. through the mass media information and opinions on the achievements of technology and other aspects of the activity of a mechanical engineer; endeavors to provide such information and opinions in a generally understandable way	K_K05	P6S_KO
SC3	is aware of the importance of the role of a mechanical engineer in innovative activities	K_K06	P6S_KO
SC4	is aware of the importance of behaving in a professional manner, observing the rules of professional ethics and respecting the diversity of views and cultures	K_K07	P6S_KO

3. TEACHING METHODS

multimedia lecture, work with the software in the lab, instructional videos

4. METHODS OF EXAMINATION

checking tasks in the classroom, grading homework

5. COURSE CONTENT

Specify the content separately for each type of classes in accordance with point I.B.	<i>Lecture:</i> Discussion of computer-aided design, software presentation, and design methodology discussion. Basic knowledge of engineering drawing preparation with the use of CAD
	<i>Laboratory:</i> Practical drawing and modeling with the use of CAD software, basic knowledge of drawing tools and Boolean operations, creating two-dimensional and three-dimensional geometry, modifying the geometry, the management features of objects.

6. VALIDATION OF LEARNING OUTCOMES

(Each learning outcome from the list requires validation methods to ensure that it was achieved by a student.)

Learning outcome	Form of assessment (for example:)					
	Oral examination	Written examination	Test	Project	Report	Class attendance
W1				x		x
S1 – S3				x		x
SC1-SC4				x		x

7. LITERATURE

Basic literature	Randy H. Shih, Autodesk Inventor 2023 and Engineering Graphics
Supplementary literature	Luke Jumper, Randy H. Shih, Parametric Modeling with Autodesk Inventor 2023

8. TOTAL STUDENT WORKLOAD REQUIRED TO ACHIEVE EXPECTED LEARNING OUTCOMES EXPRESSED IN TIME AND ECTS CREDITS

Student's activity		Student workload– number of hours (for example:)
Classes conducted under a direct supervision of an academic teacher or other persons responsible for classes	Participation in classes indicated in point 2.2	60
	Supervision hours	5
Student's own work	Preparation for classes	10
	Reading assignments	5
	Other (preparation for exams, tests, carrying out a project etc)	20
Total student workload		100
Final number of ECTS credits		4