COURSE SPECIFICATION

Course code	full-time programme:	**M#2-S1-ME-407**
	part-time programme:	
Course title in Polish	**Komputerowe wspomaganie projektowania I**	
Course title in English	**Computer-Aided Design I**	
Valid from (academic year)	**2024/2025**	

GENERAL INFORMATION

Programme of study	**MECHANICAL ENGINEERING**
Level of qualification	**first-cycle**
Type of education	**academic**
Mode of study	**full-time programme**
Specialism	**all**
Department responsible	**Department of Machine Design and Machining**
Course leader	**dr inż. Urszula Janus-Gałkiewicz**
Approved by	**dr hab. Jakub Takosoglu, prof. PŚk, Dean of the Faculty of Mechatronics and Mechanical Engineering**

COURSE OVERVIEW

Course type		**programme-specific**
Course status		**compulsory**
Language of instruction		**English**
Semester of delivery	full-time programme	**Semester IV**
	part-time programme	
Pre-requisites		**Computer-Aided Engineering Drawing**
Examination required (YES/NO)		**NO**
ECTS value		**2**

Mode of instruction		**lecture**	**class**	**laboratory**	**project**	**seminar**
No. of hours per semester	full-time programme			**30**		
	part-time programme					

LEARNING OUTCOMES

Category of outcome	**Outcome code**	**Course learning outcomes**	**Corresponding programme outcome code**
Knowledge	W01	Has advanced knowledge in the field of engineering graphics that supports solving various types of engineering issues.	MiBM1_W03

	W02	Knows at an advanced level the principles, methods and purposes of creating technical documentation with elements of engineering design using graphic programs.	MiBM1_W09
Skills	U01	Is able to use knowledge from the area of basic sciences to solve tasks at the design stage. Is able to make assessments and express opinions and comments.	MiBM1_U01
	U02	Is able to use computer software in the field of mechanics and machine design.	MiBM1_U02
	U03	Able to cooperate and work in a group during various engineering projects.	MiBM1_U20
Competence	K01	Independently expands his/her knowledge in the field of mechanics and machine design and takes a critical approach to his knowledge.	MiBM1_K03
	K02	Is ready to perform professional roles related to the field of study in mechanics and machine design and to comply with ethical principles.	MiBM1_K06

COURSE CONTENT

Type of instruction lecture	Topics covered
laboratory	Proper preparation of the sketch, adding/removing sketch relations. Application of operations: Extruded boss/base, extruded cut, revolved boss/base, revolved cut, swept boss/base. Modification of parts by adding fillets and chamfers in advanced parts. Simplification by using circular pattern, linear pattern and mirror elements in advanced parts. Application of reference geometry. Creating assemblies from components and using standardized machine parts (Toolbox). Standard and advanced mates. Linear component pattern, circular component pattern, mirror component. Motion study.

ASSESSMENT METHODS

Outcome code	Methods of assessment *(Mark with an X where applicable)*					
	Oral examination	Written examination	Test	Project	Report	Other
W01				X		
W02				X		
U01			X			
U02			X			
U03			X			
K01				X		
K02				X		

ASSESSMENT TYPE AND CRITERIA

Mode of instruction	Assessment type	Assessment criteria
laboratory	non-examination assessment	Passing two tests with a minimum of 50%.

OVERALL STUDENT WORKLOAD

ECTS weighting												
No.	Activity type	Student workload										Unit
		full-time programme					part-time programme					
		L	C	Lb	P	S	L	C	Lb	P	S	
1.	Scheduled contact hours			30								h
2.	Other contact hours (office hours, examination)			2								h
3.	**Total number of contact hours**	**32**										h
4.	**Number of ECTS credits for contact hours**	**1,3**										ECTS
5.	**Number of independent study hours**	**18**										h
6.	**Number of ECTS credits for independent study hours**	**0,7**										ECTS
7.	**Number of practical hours**	**50**										h
8.	**Number of ECTS credits for practical hours**	**2,0**										ECTS
9.	**Total study time**	**50**										h
10.	**ECTS credits for the course** *1 ECTS credit = 25-30 hours of study time*	**2**										ECTS

READING LIST

1. Narayana K.L., Kannaiah P., Venkata K., (2006), Machine drawing, New Age International (P) Ltd.
2. Simmons C.H., Phelps N., Maguire D.E., (2012), Manual of Engineering Drawing, Elsevier
3. Kęska P. (2013), SOLIDWORKS 2013, Modelowanie części, złożenia, rysunki, CADvantage, Warszawa
4. Kęska P. (2018), SOLIDWORKS 2018 Nowości w programie, porady praktyczne oraz ćwiczenia, CADvantage, Warszawa, 2018
5. Domański J. (2020), SolidWorks 2020. Projektowanie maszyn i konstrukcji. Praktyczne przykłady, Helion