

Subject programme

1. Subject name / subject module: **Computer Aided Design**
2. Lecture language: **English**
3. **The location of the subject in study plans:**
 - Area or areas of the studies: **Computer Engineering and Mechatronics**
 - Degree of the studies: **1st degree studies**
 - Field or fields (implementation of effects standard): **Mechatronics**
4. Supervision of subject implementation:
 - The Institute / Another unit: **Institute of Informatics and Mechatronics**
 - The person responsible for the subject: **Dudziak Piotr, dr inż.**
 - People cooperating in the development of the programme of the subject:
5. The number of hours and forms of teaching for individual study system and the evaluation method

Mode of study	Teaching activities with the tutor																				Total					
	Form of classes																									
	Laboratory work	SOW	ECTS				...	SOW	ECTS				...	SOW	ECTS				...	SOW	ECTS				ECTS	
Full-time studies	32	43	3																							3
Part-time studies																										
Credit rigor		graded assignment																								

6. Student workload – ECTS credits balance
1 ECTS credit corresponds to 25-30 hours of student work needed to achieve the expected learning outcomes including the student's own work

Activity (please specify relevant work for the subject)	Hourly student workload (full-time studies/part-time studies)
Participation in laboratory classes	32
Independent study of the subject – preparing final project for graded assignment	41
Participation in an exam / graded assignment / final grading	2
Total student workload (TSW)	75
ECTS credits	3
* Student's workload related to practical forms	75/0
Student's workload in classes requiring direct participation of academic teachers	32

7. Implementation notes: recommended duration (semesters), recommended admission requirements, relations between the forms of classes:

None

Recommended duration of the subject is taken from the course plan.

8. Specific learning outcomes – knowledge, skills and social competence

Specific learning outcomes for the subject		Form	Teaching method	Methods for testing of (checking, assessing) learning outcomes
Outcome symbol	Outcome description			
Knowledge				
K_W06	Student knows and understands selected specific issues in the field of computer aided design related to designing parts, sheet metal parts as well as creating 2D and 3D documentation. student knows how to apply selected software	Laboratory classes	inquiry methods	Assessment of the mastery of graphic tools available in CAD software. Final project evaluation.
Skills				
K_U02	Student is able to use knowledge and perform tasks typical for design activity in the mechatronics industry	Laboratory classes	inquiry methods	Assessment of the mastery of graphic tools available in CAD software. Final project evaluation.
K_U07	Student is able to use information with particular emphasis on the creation of 2D/3D			

Subject programme



	documentation. Student is able to use selected computer aided design software in purpose of implementing simple designing tasks in the field of mechatronics.			
--	---	--	--	--

9. Assessment rules / criteria for each form of education and individual grades

0% - 50%	ndst	81% - 90%	db
51% - 70%	dst	91% - 93%	db+
71% - 80%	dst+	94% - 100%	bdb

Activity	Grades	Calculation	To Final
Tasks in laboratory	bdb (5)	5*10%	0,5
Attendance	6 out of 8	5*10%	0,5
Final project	bdb (5)	5*80%	4

10. The learning contents with the form of the class activities on which they are carried out

Laboratory work

1. Solid Modeling: parts, sheet metal parts;
2. Surface modeling: parts, sheet metal parts;
3. Creating 3D documentation of assemblies;
4. Creating 2D documentation of assemblies;
5. Creating 2D executive documentation;
6. Frames;
7. Weldment construction.

11. Required teaching aids

Laboratory classes - specialist laboratory

12. Literature:

a. Basic literature:

- Lombard M.: Solid Edge with synchronous technology, Siemens AG, 2017.
- Stroud I., Nagy H.: Solid Modelling and CAD Systems, Springer, 2011.

b. Supplementary literature:

- Gindis E.: Up and Running with AutoCAD 2015, Elsevier, Waltham, 2014.
- Pelleg J.: Mechanical Properties of Materials, Springer, Dordrecht, 2013

c. Internet sources:

Solid Edge resource library, <https://solidedge.siemens.com/en/resources/resource-library/>

13. Available educational materials divided into forms of class activities (Author's compilation of didactic materials, e-learning materials, etc.)

14. Teachers implementing particular forms of education

Form of education	Name and surname
1. Laboratory classes	Dudziak Piotr, dr inż.