POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

pl. M. Skłodowskiej-Curie 5, 60-965 Poznań

COURSE DESCRIPTION CARD - SYLLABUS

Course name
Product Design Systems 2

Course

Field of study	Year/Semester
Product Lifecycle Engineering	1/2
Area of study (specialization)	Profile of study
	general academic
Level of study	Course offered in
Second-cycle studies	English
Form of study	Requirements
full-time	elective

Number of hours

Lecture	Laboratory classes	Other (e.g. online)
30	30	
Tutorials	Projects/seminars	

Number of credit points

4

Lecturers

Responsible for the course/lecturer:

Phd eng. Przemysław Zawadzki

email: przemyslaw.zawadzki@put.poznan.pl

tel. 61 665 27 39

Wydział Inżynierii Mechanicznej

ul. Piotrowo 3, 60-965 Poznań

Responsible for the course/lecturer:

Prerequisites

The student has basic knowledge in the field of engineering graphics and information technology, as well as in the area of designing technological processes and the importance of using CAx systems in the product development process. In addition, the student knows at the medium level at least one CAD type program, the basics of 3D solid modeling and assembly models preparing.

Course objective

The aim of the course is to acquaint students with the techniques of building surface CAD models, the basics of reverse engineering, and the idea of developing intelligent CAD models in CAx systems.

Course-related learning outcomes

Knowledge

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1. Describes engineering software systems to support the technical preparation of product production in the enterprise

2. Describes surface modeling methods in CAx systems

3. Describes the methods of developing intelligent CAD models

Skills

1. Studnet makes a 3D surface model with various techniques

2. Student is able to describe engineering knowledge and integrate it with the CAD model

Social competences

1. Student is open to the implementation of information technologies in engineering activities

2. Student is able to independently develop knowledge in the subject

3. Student is able to work in a design team using computer systems supporting engineering work

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

In the field of lectures - test - questions regarding materials discussed during lectures.

In the field of laboratory classes - final test in the scope of materials discussed in the classes.

Programme content

Lectures:

- Modern CAx systems in the concept of intelligent production.

- Surface modeling techniques.

- Reverse engineering.

- Knowledge management in engineering processes.

- Intelligent CAD models.

Laboratory classes:

- Surface modeling techniques.

- Reverse engineering in the CAD system.

- Intelligent models in the CAD system.

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Teaching methods

- word-based methods - lecture,

- methods based on practical activities - exercises,

- acquisition methods - independent student's work, consultations, discussion.

Bibliography

Basic

Amit Vaidya, "CIM - A CAD, CAM, CAE Approach in Economical Tractor Manufacturing ", LAP LAMBERT Academic Publishing (August 23, 2019), ISBN-10 : 6200288496, ISBN 13: 9786200288493

Kunwoo Lee, "Principles of CAD/CAM/CAE", Addison-Wesley Longman Publishing Co., Inc., 75 Arlington Street, Suite 300 Boston, MA United States, ISBN:978-0-201-38036-1

Additional

Sham Tickoo, "Autodesk Inventor Professional 2018 for Designers", CADCIM Technologies; 18th Edition (July 11, 2017), ISBN-10 : 1942689888

Sham Tickoo, "CATIA V5-6R2019 for Designers, 17th Edition", CADCIM Technologies (January 2, 2020), ISBN-10: 1640570861

Breakdown of average student's workload

	Hours	ECTS
Total workload	100	4,0
Classes requiring direct contact with the teacher	60	2,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam)[1]	40	2,0

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[1] delete or add other activities as appropriate