

University: University of Žilina in Žilina	
Faculty: Faculty of Mechanical Engineering	
Subject code: 2Y012	Subject name: CAD Systems
Profile subject: yes	
Type, scope and method of educational activities:	
Weekly number of teaching hours in the form of lectures, exercises, seminars, clinical practice.	2 - 0 - 2 (lectures-exercises-laboratory exercises) hours
The method by which the educational activity is carried out	The teaching takes place in person.
Methods of achieving educational results	<p>Lectures: systematic theoretical problem interpretation of the issue, problem-oriented teaching, interactive lecture with multimedia support, consultations in connection with feedback</p> <p>Exercises: model examples, motivational demonstration, explanation, problem-based teaching, continuous practical examination</p>
Number of credits: 3.0	
Student workload: $4h * 13$ (full-time teaching) + $52h$ (self-study) = 104 hours	
Recommended semester / trimester study: summer semester	
Degree of study: 1. and 2.	
Prerequisites:	
<p>Conditions for passing the subject:</p> <p>Exercises: Students prepare semester papers focused on component modeling using the CAD system. The graphic level, complexity, correctness, punctuality and independent solution of work are evaluated - max. 40 points</p> <p>Final rating:</p> <p>Exam: Students create a model of a selected part in the CAD system using professional knowledge from lectures and practical skills acquired in exercises - max. 60 points</p> <p>The resulting classification of the subject:</p> <p>Rating A: 93 - 100 points Rating B: 85 - 92 points Rating C: 77 - 84 points Rating D: 69 - 76 points Rating E: 61 - 68 points FX rating: less than 61 points.</p>	

The specific method of evaluating the student's work during the semester and the exam will be specified at the beginning of the semester by the subject teacher. The final evaluation of the student's study results for completing the course - expressed by a grade - is governed by Art. 9 Directive no. 209 Study Regulations for the first Degree of University Studies at the University of Žilina in Žilina.

Learning Outcome Scoreboard:

Forms and methods of evaluation	Scale	Area of knowledge, skills, competences
Creation of specified models of component assemblies and technical documentation	40%	Practical skills in working with a CAD system.
Examination of acquired knowledge and practical skills	60%	Professional knowledge. Practical skills in working with a CAD system.

Learning outcomes:

By completing the course CAD Systems, the student will acquire:

- overview of CAD systems,
- practical experience and skills for their effective use in the field of component and assembly modeling,
- knowledge to create technical documentation.

Course contents:

Lectures

- History of CAx systems.
- Modular CAD systems, parametric modeling.
- HW and SW requirements for CAD systems.
- Basics of modeling, user environment.
- Modeling principle: - parametric modeling.
- Constructional elements - extrusion, rotation, sketcher - basics of drawing sketches, auxiliary geometry - point, axis, plane, coordinate system.
- Other elements of modeling - holes, rounding, chamfers, cosmetic threads.
- Other constructional elements - dragging a cross-section along a trajectory, connecting cross-sections, shell models.
- Multiplication of elements, copying, mirroring, creating fields.
- Binding of models, editing models in an assembly.
- Creation of constructional elements in assemblies.
- Basics of drawing documentation, user environment.
- Creation of sections in drawings.
- Dimensions, tolerances, symbols.
- Editing of dimensions.
- Creation of tables.
- Creation of assembly drawings, views, sections, list of items.

Exercises

Modeling of components and assemblies in accordance with the lectured topics of CAD systems.

Recommended reading:

Ingham, P.: CAD Systems in Mechanical and Production Engineering, Elsevier 1989

Toogood, R.: Creo Parametric 9.0 Tutorial, SDC Publications, 2022

A language whose knowledge is required to complete the course: english

Notes:

Course evaluation

Total number of evaluated students: 0

A	B	C	D	E	FX
0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Person securing the subject (subject guarantor):

Ing. Peter Weis, PhD.

Teaching:

Name and surname of the teacher, titles	Organizational form provided by the university teacher (Lectures, exercises, laboratory work, field exercises)
Ing. Peter Weis, PhD.	Lectures
Ing. Peter Weis, PhD.	Exercises

Date of last change: 05.12.2022 13:05

Approved: prof. Dr. Ing. Ivan Kuric