

SYLLABUS

Basic data of the subject			
University	University of Applied Sciences in Ferizaj		
Academic unit	Faculty of Engineering and Informatics		
Program	Industrial Engineering with Informatics		
Title of the subject	CAD II		
Level	Bachelor		
Course Status	Obligatory		
Year of studies	II, Semester IV		
Number of hours per week	3		
Value of Credits - ECTS	5		
Time / location	Class 203		
Course lecturer			
Contact details	_____		
Course Description			
	<i>This course will introduce students to 3D drawings with software AutoCAD/Inventor. Through lectures, exercises and drawings, students will be introduced to Computer-Aided Design (CAD) with software AutoCAD/Inventor</i>		
Objectives of the course			
	<i>The aim of the course is to prepare students with the basic and advanced principles of drawing in three-dimensional view (3D) using AutoCAD/Inventor application software.</i>		
Expected learning outcomes			
	<p><i>After the completion of this module, student will be able to:</i></p> <ul style="list-style-type: none"> • <i>understand how to use AutoCAD/Inventor software,</i> • <i>apply commands to AutoCAD/Inventor software for drawing various figures in 3D view,</i> • <i>develop the skills to manage the 3D coordinate system, various engineering lasers, various techniques to create solid 3D models and 3D surfaces, various materials, etc.</i> • <i>create different drawings, texts, etc. in 3D view,</i> • <i>develop successfully engineering projects using AutoCAD/Inventor software.</i> 		
Prerequisites			
	<i>The students must have knowledges on CAD I course.</i>		
Contribution to the student load (which must correspond with learning outcomes)			
Activity	Hour	Day/Week	In total
Lectures with numerical exercises	3	15	45
Internship			
Contacts with teacher / consultations	1	4	4
Field exercises			
Midterm, seminars and projects.	2	10	20
Homework			
Self-learning time student (at the library or at home)	3	12	36
Final preparation for the exam	3	7	21

Time spent on evaluation (tests, quiz and final exam)	2		2
Projects and presentations.		1	1
Total			129
Teaching methodology	<i>Lectures through presentations, as well as using software directly, exercises tasks and examples, seminars, discussions.</i>		
Assessment methods	<p><i>The student can choose to be assessed one of the two forms of assessment, given below:</i></p> <ol style="list-style-type: none"> <i>1. Form 1: Evaluation with test and the Graphic tasks</i> <i>2. Form 2: Evaluation of the final exam.</i> <p>Form 1: <i>In the first form of assessment "Assessment with two test and graphic task" the student is assessed in three activities that are carried out during the lectures:</i></p> <ol style="list-style-type: none"> <i>1. Test (70%), individual assessment</i> <i>2. Class activity (10%), individual assessment</i> <i>3. Graphic task (20%), individual assessment.</i> <p>Additional clarification: <i>If the student in each activity above reaches the maximum points, then he will be evaluated with 100 points.</i></p> <p><i>Students who pass the exam according to Form 1 of the assessment, are released from the obligation to take the final exam. Only if the student is not satisfied with the grade achieved according to form 1, then he can undergo the final exam to obtain a higher grade.</i></p> <p>Form 2: <i>In the second form of evaluation, "Evaluation with the final exam", the student will undergo the exam which will be held after the end of the course lectures and is organized in the exam deadlines, determined by the University Senate.</i></p> <p><i>Through the final exam, the student can achieve a maximum of 70% of the points from the total of 100 points.</i></p> <ol style="list-style-type: none"> <i>1. Final exam (70%), individual assessment</i> <i>2. Class activity (10%), individual assessment</i> <i>3. Graphic task (20%), individual assessment.</i> <p><i>In the Test and the final exam, the evaluation of the students will be done through an evaluation form, which must be</i></p>		

	<p>completed individually by the student. The evaluation form will contain the task of drawing the models in 3D during the test/exam time.</p> <p>Activity in the class means the student's engagement in dealing with the issues discussed in the class, during the lectures.</p> <p>Graphic Task (20%): it is an activity in which students apply the acquired knowledge in a concrete project. It is carried out by one student who is obliged to carry out the activity, document it, and present it to the subject professor.</p> <p>Rating: 91-100 points – graded 10 (ten) 81-90 points – graded 9 (nine) 71-80 points – grade 8 (eight) 61-70 points – grade 7 (seven) 51-60 points – grade 6 (six) 0-50 points – The student repeats the exam.</p>
The ratio of theory and practice	60% theory with exercises and 40% laboratory work.
Literature	
Basic Literature	<p>[1] Avdiu S. Vizatimi me kompjuter (AutoCAD 2008)</p> <p>[2] Avdiu S. Vizatimi me kompjuter (praktikum) 2005</p> <p>[3] Engineering Design Graphics with Autodesk Inventor 2020, James D. Bethune.</p>
Additional Literature	<p>[4] Finkelstein E. AutoCAD 2013 and AutoCAD LT 2013 BIBLE.2012</p> <p>[5] Autodesk Inventor 2019, Basics Tutorial</p>
Designed learning plan	
Week:	Lectures and exercises to be held
Week one	<p>Start working in 3D view (AutocAD). Transition from 2D view to 3D view. How to use the interface (command panels, 3D images, ribbon, etc.)</p> <p>Commands in Solid panel (BOX, SPHERE, CYLINDER, CONE, WEDGE and TORUS)</p>
Week two	<p>Commands in the draw and modify panel (3D polyline, 3D mirror, 3D rotate, 3D align, 3D scale, etc.).</p> <p>Commands: Extrude, Loft.</p>
Week three	<p>Commands in the draw and modify panel (3D array, 3D fillet, chamfer, etc.). Commands: Sweep, Revolve.</p> <p>UCS coordinate system, Viewports. Creating layers.</p>
Week four	<p>Solid Editing Commands (union, slice, subtract, intersect, thickness, separate, etc.)</p>
Week five	<p>MESH commands (mesh box, cylinders etc.). Mesh solids modeling and editing.</p>
Week six	<p>Dimensioning. Materials (RMAT).</p>

Week seven	<i>Visualizing. Rendering.</i>
Week eight	<i>Start working at Autodesk Inventor. Interface. Description of some features (commands) similar to the AutoCAD program.</i>
Week nine	<i>Sketching tools.</i>
Week ten	<i>Basic models in Autodesk Inventor.</i>
Week eleven	<i>Assembly Creating.</i>
Week twelve	<i>Creating complex models</i>
Week thirteen	<i>Dimensioning. Projections. Slicing.</i>
Week fourteen	<i>Visualizing. Materials.</i>
Week fifteen	<i>Simulation of model parts. Test</i>
Academic policies and rules of conduct	
<i>Regular attendance of lectures and exercises is necessary, as well as active participation with discussion and solution of tasks. Not impeding the progress required for learning using mobile phones turned off or in silent mode.</i>	