

NAME OF THE COURSE		Three-dimensional design of physical objects				
Code	PMII70	Year of study				
Course teacher	doc.dr. sc. Hrvoje Kalinić	Credits (ECTS)	5,0			
Associate teachers	Dražen Kustura mag. ing. mech.	Type of instruction (number of hours)	L	S	E	F
			30		30	
Status of the course		Percentage of application of e-learning				
COURSE DESCRIPTION						
Course objectives	Introduction to 3D modeling and object design. Students should be able to use tools for 3D modeling and object design.					
Course enrolment requirements and entry competences required for the course						
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	<ol style="list-style-type: none"> <li>1. Introduction to 3D modeling and object design tools</li> <li>2. 3D object representation: drawing and profile</li> <li>3. Introduction to projections</li> <li>4. Mirroring, symmetry and their use in computer design</li> <li>5. Computer implementation of spline and their use</li> </ol>					
Course content broken down in detail by weekly class schedule (syllabus)	<ol style="list-style-type: none"> <li>1. Drawing as a basis for 3D object</li> <li>2. Profile extrusions &amp; Edit profile</li> <li>3. Profile and drawings</li> <li>4. Degrees of freedom and constraints on profile</li> <li>5. Object rotation and revolution</li> <li>6. Geometric projections</li> <li>7. Line construction, Centerline &amp; Mirror</li> <li>8. Extruded cut</li> <li>9. Multiple object construction</li> <li>10. Screws and screw threads</li> <li>11. Shell</li> <li>12. 2D and 3D splines and their use</li> <li>13. Smoothing: chamfers and fillets</li> <li>14. Introduction to Blender</li> <li>15. 3D printing</li> </ol>					
Format of instruction	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input type="checkbox"/> exercises <input type="checkbox"/> on line in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work		<input type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input checked="" type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> homework assignments			
Student responsibilities	Participate in course activities. Homework. Exam.					

Screening student work (name the proportion of ECTS credits for each activity so that the total number of ECTS credits is equal to the ECTS value of the course)	Name	Ects	Name	Ects	Name	Ects
	Class attendance	1	Research		Experimental work	
	Oral exam		Report	1	Homework assignments	
	Seminar essay		Essay			
	Tests		Practical training	1		
	Written exam	1	Project	1		
Grading and evaluating student work in class and at the final exam	Student activities in class (20%) Project ( 40%) Exam (40%)					
Required literature (available in the library and via other media)	<b>Title</b>			<b>Number of copies in the library</b>	<b>Availability via other media</b>	
	Lecture notes in 3D modeling, Hrvoje Kalinić			0		
Optional literature (at the time of submission of study programme proposal)	Lecture notes available on the Internet including solved problems and additional links Matt Lombard: Solidworks 2009 Bible, Wiley Publishing, Inc Dassault Systems Solidworks Corporation: Solidworks 2010, Solidworks Essentials					
Quality assurance methods that ensure the acquisition of exit competences	Students feedback, students results and self-evaluation					
Other (as the proposer wishes to add)						