

NAME OF THE COURSE		Machine elements II					
Code	PMT163	Year of study	3				
Course teacher	Tomislav Matic	Credits (ECTS)	5				
Associate teachers	Endri Garafulić	Type of instruction (number of hours)	L	S	E	F	
			30		30		
Status of the course	Compulsory	Percentage of application of e-learning					
COURSE DESCRIPTION							
Course objectives	Adopting knowledge necessary to understand the principles of machine elements operation and their design.						
Course enrolment requirements and entry competences required for the course	None.						
Learning outcomes expected at the level of the course (4 to 10 learning outcomes)	1. Describe the working principle of spur and helical gears. 2. Design of spur gears. 3. Describe the working principle of bevel gears and worm gears. 4. Describe roller bearings. 5. Select the appropriate roller bearing. 6. Explain the working principle of slide bearings. 7. Describe the couplings. 8. Describe the belt drive. 9. Describe the elements of the pipeline. 10. List the types of seals.						
Course content broken down in detail by weekly class schedule (syllabus)	Week 1: Types of gear drive. Law of toothed gearing. Spur gears. Week 2: Methods of gears manufacturing. Tooth corrected spur gears. Week 3: Helical gears. Tooth corrected helical gears. Week 4: Load on gear tooth and determination of bearing loads. Week 5: Design of gears to prevent failure. Materials for gears. Week 6: Bevel gears. Week 7: Colloquium. Week 8: Worm gears. Forces on worm and wheel, and loading of shaft. Design of worm gear set. Week 9: Classification and properties of the bearing. Roller bearings. The selection of roller bearings. Week 10: Slide bearings. The principle of operation of radial slide bearings. Week 11: Vertical slide bearings. Lubricants. Materials for making sleeve bearing. Design of slide bearings. Week 12: Couplings. Types of coupling. Rigid coupling, compensation coupling, elastic coupling, safety coupling. Hydrodynamic coupling. Week 13: Belt drive. Flat belt. V belt. Design of V belt drive. Week 14: Pipeline. Materials for pipelines. Pipe connections. Valves. Seals. Week 15: Colloquium.						
Format of instruction	<input checked="" type="checkbox"/> lectures <input type="checkbox"/> seminars and workshops <input checked="" type="checkbox"/> exercises <input type="checkbox"/> <i>on line</i> in entirety <input type="checkbox"/> partial e-learning <input type="checkbox"/> field work		<input type="checkbox"/> independent assignments <input type="checkbox"/> multimedia <input type="checkbox"/> laboratory <input type="checkbox"/> work with mentor <input type="checkbox"/> (other)				
Student responsibilities	Class attendance, accomplishing design project, independent study and literature reading, accessing colloquia and/or written and oral examination.						
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)	Class attendance	1,5	Research		Practical training		
	Experimental work		Report		Attending the exercises	1,5	
	Essay		Seminar essay		Homework (programs)	0,5	
	Tests		Oral exam		Independent learning	1,5	
	Written exam		Project		(Other)		
Grading and evaluating student work in class and at the final exam	Design project have to be successfully completed. Two colloquiums or written and oral exams in the examination period. Students which achieve more than 50% result of each colloquium or at written/oral exam will have successfully completed the course. Depending of the achieved result percentage at colloquium or at written/oral exam final grades are as follows: 50 - 62% - sufficient (2) 63-75% -						

good (3) 76-87% - very good (4) 88-100% - excellent (5)			
	<b>Title</b>	<b>Number of copies in the library</b>	<b>Availability via other media</b>
Required literature (available in the library and via other media)	1. Krstulović A., Elementi i mehanizmi strojeva, interna skripta (predavanja)		
Optional literature (at the time of submission of study programme proposal)	1. Jelaska D., Elementi strojeva I dio, FESB - Split, Udžbenici Sveučilišta u Splitu, Split, 2007. 2. Decker K.H., Elementi strojeva, Golden marketing-Tehnička knjiga, Zagreb, 2006. 3. Krstulović A., Jerčić I., Zbirka zadataka iz elemenata strojeva, Liber, Zagreb, 1981.		
Quality assurance methods that ensure the acquisition of exit competences	Conducting an anonymous student surveys, talk with students, analyses the success of students on tests and exams, self-assessment.		
Other (as the proposer wishes to add)			