

a) General			
<i>School</i>	ENGINEERING		
<i>Academic unit</i>	MECHANICAL ENGINEERING		
<i>Level of studies</i>	Undergraduate		
<i>Course code</i>	MM004Y05	<i>Semester</i>	3
<i>Course title</i>	Machine elements II		
<i>Independent teaching activities</i>	<i>Weekly teaching hours</i>		<i>ECTS</i>
Lectures	5		6.5
Laboratory exercises	-		
<i>Course type</i>	Special background		
<i>Course category</i>	Compulsory		
<i>Prerequisite courses</i>	-		
<i>Language of instruction and examinations</i>	Greek		
<i>Is the course offered to Erasmus students</i>	No		
<i>Course website (url)</i>	https://eclass.uniwa.gr/courses/MECH135/		
b) Learning outcomes and general competences			
b1. Learning outcomes			
Upon completion of the course, students will be able to:			
<ul style="list-style-type: none"> - Describe and identify the main gears. - Design and develop the appropriate gear for each application. - Analyze the stress-strain state of power transmission train gears loading. - Calculate the strength of each case study. - Select materials and processing method of non-standard gears. - Design and analyze Mechanical multiple-element arrangements. - Design and calculate multistage gear reducers.. - Analyze and make kinematic and dynamic calculations of planetary systems mechanisms - Predict potential failure conditions - Specify maintenance program of every element - Make damage assessment 			
b2. General competences			
<ul style="list-style-type: none"> - Search, Analysis and Synthesis of data and information with the use of new technologies - Decision Making - Production of new research ideas 			
c) Syllabus			
Introduction, Fundamentals of gear meshing, Spur gears, Helical gears, Conical gears, Worm gears, Epicyclic mechanisms, Power flow			
d) Teaching and learning methods - Evaluation			
<i>Delivery</i>	Face-to-face		
<i>Use of information and communications technology</i>	<ul style="list-style-type: none"> - Multimedia applications - MS Teams/Moodle/eclass - Open courses 		
<i>Teaching methods</i>	<i>Activity</i>	<i>Semester workload</i>	
	Lectures	65	
	Tutorials	0	
	Laboratory exercises	0	

	Computational exercises	0
	Individual work	91
	Course total	156
Student performance evaluation	Written examination	
e) Suggested bibliography		
<ol style="list-style-type: none"> 1. Kostopoulos Th.: "Gears and gear reducers" Simeon. Athens 1991.(in Greek) 2. Fridakis M.: "Machine Elements III". Synchroni Ekdotiki. Athens 2004.(in Greek) 3. Stergiou J, Stergiou K.: "Machine Elements II". Synchroni Ekdotiki. Athens 2004.(in Greek) 4. R.C.Juvinall,K.M.Marshek: Fundamentals of Machine Component Design,2nd ed. John Wiley & Sons. Toronto 		