

Study program : Mechanical Engineering				
Type and level of studies: Master Academic Studies				
Course unit: Calculation Methods in Product Development				
Teacher in charge : Mirko Blagojević, Miloš Matejić				
Language of instruction: English				
ECTS: 6				
Prerequisites: None				
Semester: Winter Semester				
Course unit objective The aim of this course is that the candidates next analytical methods enable the successful implementation modern numerical methods and software tools in the calculations of mechanical constructions in stage of their development.				
Learning outcomes of Course unit After mastering the program and passing the exam, the student will know the basic analytical and numerical calculation methods and will be able to apply them in the early stage of product development.				
Course unit contents <i>Theoretical classes</i> Introduction, Calculation of machine design and product development, Calculation methods of machine construction, Analytical methods, Numerical methods, Analytical calculation of machine elements and machine design using modern software, Finite element method. <i>Practical classes</i> Completing assignments related to of machine design calculation using analytical methods, modern software and finite element method using ready-made software packages.				
Literature 1. M. Blagojevic, CALCULATION METHODS IN PRODUCT DEVELOPMENT, Handouts, Faculty of Engineering, 2016. 2.F. Ebrahimi, FINITE ELEMENT ANALYSIS – APPLICATIONS IN MECHANICAL ENGINEERING, InTech, 2012. 3. Autodesk Inventor Simulation Tutorial, Autodesk, 2013.				
Number of active teaching hours				Other classes 0
Lectures: 3	Practice: 2	Other forms of classes: <i>mentoring system</i>	Independent work: 0	
Teaching methods				
Examination methods (maximum 100 points)				
Exam prerequisites	No. of points:	Final exam	No. of points:	
Student's activity during lectures	10	oral examination		
practical classes/tests	20 (2x10)	written examination	30	
Seminars/homework	20		
Project	20 (2x10)			
Other				
Grading system				
Grade	No. of points	Description		
10	91-100	Excellent		
9	81-90	Exceptionally good		
8	71-80	Very good		
7	61-70	Good		
6	51-60	Passing		
5	≤ 50	Failing		