Course Unit Descriptor

Study Programme: Mechanization And Construction Engineering

Course Unit Title: Mechanisms

Course Unit Code: M2525

Name of Lecturer(s): Čavić Maja

Type and Level of Studies: bachelor

Course Status (compulsory/elective): elective

Semester (winter/ summer): winter

Language of instruction: english

Mode of course unit delivery (face-to-face/distance learning): face-to-face

Number of ECTS Allocated: 4

Prerequisites: none

Course Aims:.

Expanding knowledge in the field of mechanism and machine theory.

Learning Outcomes:

Ability for analysis, designing and construction of various types of mechanisms in practical problems and real conditions

Syllabus.

Assembly possibility, mobility and efficiency of planar and spatial mechanisms. Vector methods of kinematic and dynamic mechanism analysis. Kinematic and dynamic analysis of mechanisms with kinematic group of higher class. Introduction to matrix methods of kinematic and dynamic mechanism analysis. Kinematic and dynamic analysis of spatial mechanisms. Mechanisms with multiple degrees of freedom. Reduced mass and inertia moment. Reduced force and moment. Equation of movement mechanism. Friction in mechanism – fundamental principles. Dynamic model development and evaluation of machine facility behavior.

Required Reading:

Norton, R.L. Design of Machinery: an introduction to the synthesis and analysis of mechanisms and machines McGraw-Hill, Boston 2004

Erdman, A. Sandor, G. Mechanism design Vol. 1: analysis and synthesis Prentice Hall, New Jersey 1984

Suh, C.W. Radcliffe Kinematics and mechanism Design JohnWiley and Sons Inc, New York

Weekly Contact Hours:2	**Lectures: 2**	**Practical work: 1**

Teaching Methods:

Lectures, graphic and computer practical classes, consultation

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Attendance			
Computer exercises			
Tests (4x)			