



# UNIVERSITY OF NIŠ

**Course Unit Descriptor**

**Faculty**

Faculty of Mechanical Engineering

## GENERAL INFORMATION

Study Program	<b>Mechanical Engineering</b>
Study Module (if applicable)	-
Course Title	Virtual design process
Level of Study	<input checked="" type="checkbox"/> Bachelor <input type="checkbox"/> Master's <input type="checkbox"/> Doctoral
Type of Course	<input type="checkbox"/> Obligatory <input checked="" type="checkbox"/> Elective
Semester	<input type="checkbox"/> Autumn <input checked="" type="checkbox"/> Spring
Year of Study	III
Number of ECTS Allocated	6
Name of Lecturer/Lecturers	Dragan S. Milčić
Teaching Mode	<input checked="" type="checkbox"/> Lectures <input type="checkbox"/> Group tutorials <input type="checkbox"/> Individual tutorials <input type="checkbox"/> Laboratory work <input checked="" type="checkbox"/> Project work <input checked="" type="checkbox"/> Seminar <input type="checkbox"/> Distance learning <input type="checkbox"/> Blended learning <input type="checkbox"/> Other

## Purpose and Overview (max. 5 sentences)

To familiarize students with the process of designing, methods and tools in the design process. In the exercises, students will apply CAx tools and methods of the virtual design process by working terms of reference in the field of gear power transmitters, using tools for calculation of machine elements and CAD / CAE software Autodesk Inventor.

## Syllabus (brief outline and summary of topics, max. 10 sentences)

The aim and content of the process of constructing. Definition of terms of reference. Technical and economic incentives for the development of new mechanical systems. Development needs, products and technologies. Creating new ideas. A list of demands. The concept conceptual design. Development of forms and dimensions of machine parts place and role of computers in the design process. Concurrent Engineering. Calculation of machine elements using a computer (gears, pulleys, shafts, roller and plain bearings, shaft-hub connections, springs, screws). Tools for calculation of machine elements: PTD, KISSsoft. Modeling the mechanical parts. Parametric modeling.

## Language of Instruction

- Serbian (complete course)       English (complete course)       Other \_\_\_\_\_ (complete course)  
 Serbian with English mentoring       Serbian with other mentoring \_\_\_\_\_

## Assessment Methods and Criteria

Pre exam Duties	Points	Final Exam	Points
Activity During Lectures	10	Written Examination	0
Practical Teaching	60	Oral Examination	30
Teaching Colloquia	0	Overall Sum	100

\*Final examination mark is formed in accordance with the Institutional documents