	UNIVERSITY OF NIŠ	

Course Unit Descriptor	Faculty	Faculty of Mechanical Engineering

GENERAL INFORMATION

Study Program	**Mechanical Engineering**
Study Module (if applicable)	-
Course Title	Basics of product development
Level of Study	☒Bachelor ☐ Master's ☐ Doctoral
Type of Course	☐ Obligatory ☒ Elective
Semester	☒ Autumn ☐ Spring
Year of Study	IV
Number of ECTS Allocated	7
Name of Lecturer/Lecturers	Miloš D. Milovančević, Aleksandar V. Miltenović
Teaching Mode	☒ Lectures ☐ Group tutorials ☐ Individual tutorials ☒ Laboratory work ☒ Project work ☒ Seminar ☐ Distance learning ☐ Blended learning ☐ Other

Purpose and Overview (max. 5 sentences)

Student who put this course will be able to: successfully define development project; Model technical system in the field of features, physical effects and shapes; develops structural solution and verifies it with the point of execution of the basic functions

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

Theoretical study. Introduction. The position of engineers in the industry. Examples of future technologies. The new principle functioning. The importance of machine elements in product development. Methods. Review and selection methods in product development (planning and analysis objectives: the search for alternative solutions; determining the performance of the product). Mechanical system as an object of product development. Mechanical systems - definition and structure. Hierarchical reading system. Form description and presentation of technical systems. Modelling the structure of technical system. Modelling technical systems in the field of features, physical effects and shapes. Design - the basic rules and principles. The place and role of design in product development. Basic formatting rules. The principles of design. Morphology and conceptual development. Fundamentals develop an overall concept. Methods for determination of total concept. Reconciliation of partial solutions and partial function. The combination of partial solutions. Teamwork (3 to 6 students) students on the development of innovative project assignments concrete products.

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	5	Written Examination	50
Practical Teaching	10	Oral Examination	Max. 35 (depending on Teaching Colloquia)
Teaching Colloquia	35	Overall Sum	100
*Final examination mark is formed in accordance with the Institutional documents			