UNIVERSITY OF NIŠ

Course Unit Descriptor	Faculty	Faculty of Mechanical Engineering

GENERAL INFORMATION	
Study program	Mechanical Engineering
Study Module (if applicable)	Manufacturing & Information Technologies
Course title	Integrated Tire Development
Level of study	☐Bachelor ☐ Master's ×Doctoral
Type of course	☐ Obligatory × Elective
Semester	☐ Autumn ×Spring
Year of study	First
Number of ECTS allocated	10
Name of lecturer/lecturers	Dr Milos S. Stojkovic
Teaching mode	☐Lectures ☐Group tutorials × Individual tutorials ☐Laboratory work ☐ Project work × Seminar ☐Distance learning ☐ Blended learning ☐ Other

PURPOSE AND OVERVIEW (max. 5 sentences)

Provide student with the necessary level of knowledge about integrated tire development in order to prepare him for future research and developments in the field. After the course completing and passing the exam, the student will be able to:

1. *Identify existing and/or required components and features of modern tire development systems,*
2. *Recognize the place, the reasons and conditions of IT application for information integration tire development, decision support, and to improve system performance*
3. *Apply the methods and procedures for performance measurement and optimization of integrated tire development system and analyse the results,*
4. *Recognize the challenges faced by modern systems of integrated tire development,*
5. *Design a computer model of the integrated tire development due to simulation and performance analysis.*

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

1. ***Introduction – ITD – processes, organization and goals,***
2. ***Tire planning,***
3. ***Creation and selection of concepts,***

4. ***Tire design,***
5. ***Tire design for manufacturing,***
6. ***Tire design for the environment,***
7. ***Manufacturing and testing of a prototype tire,***
8. ***Managing the tire development project,***
9. ***Actual research challenges in the field.***

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		**Seminar paper (Written examination)**	**70**
Practical teaching		**Discussion (Oral examination)**	**30**
Teaching colloquia		**OVERALL SUM**	**100**

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

Realization of the seminar paper as well as regular attending to lectures are mandatory