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|  **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.*
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| **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.***
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| **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* |