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| **UNIVERSITY OF NIŠ** | | | | | | | | |
| **Course Unit Descriptor** | | | **Faculty** | | Faculty of Mechanical Engineering in Nis | | | |
| **GENERAL INFORMATION** | | | | | | | | |
| Study Program | **Mechanical Engineering** | | | | | | | |
| Study Module (if applicable) | - | | | | | | | |
| Course Title | Basic of Biomedical Engineering | | | | | | | |
| Level of Study | ☒Bachelor | | | ☐ Master’s | | | | ☐ Doctoral |
| Type of Course | ☐ Obligatory | | | ☒ Elective | | | | |
| Semester | ☒ Autumn | | | ☐ Spring | | | | |
| Year of Study | IV | | | | | | | |
| Number of ECTS Allocated | 6 | | | | | | | |
| Name of Lecturer/Lecturers | Miroslav D. Trajanovic | | | | | | | |
| Teaching Mode | ☒ Lectures | | | ☐ Group tutorials | | | | ☐ Individual tutorials |
| ☒ Laboratory work | | | ☐ Project work | | | | ☐ Seminar |
| ☐ Distance learning | | | ☐ Blended learning | | | | ☐ Other |
| **Purpose and Overview (max. 5 sentences)** | | | | | | | | |
| *The aim of the course is to make students familiar with the basis of Biomedical Engineering. Students will learn the principles of engineering, software tools, devices and technologies that are applied medicine and biology for the diagnosis, monitoring and therapy. This way produce engineers who can design new software tools, processes and products that are used in medicine, and to help doctors in their application.* | | | | | | | | |
| **Syllabus (brief outline and summary of topics, max. 10 sentences)** | | | | | | | | |
| Devices for diagnosis, monitoring and therapy. Medical images.  Aids, implants and bionics.  Measurement and monitoring in biomedicine  Modelling bodies and processes  Biomedical materials  Basics of biomechanics  Tissue engineering  Genetic engineering, neural engineering and pharmaceutical Engineering  Design and development of medical devices and systems  Design of implants and prosthetic devices | | | | | | | | |
| **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** | | | **40** | | |
| **Practical Teaching** | |  | **Oral Examination** | | |  | | |
| **Teaching Colloquia** | | **50** | **Overall Sum** | | | **100** | | |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | | | |