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| **UNIVERSITY OF NIŠ** | | | | | | |
| **Course Unit Descriptor** | | **Faculty** | | | **Faculty of Sport and Physical Education** | |
| **GENERAL INFORMATION** | | | | | | |
| Study program | | | | **Basic Academic Studies, Physical Education and Sport** | | |
| Study Module (if applicable) | | | |  | | |
| Course title | | | | Biomechanics | | |
| Level of study | | | | ☒Bachelor academic ☐ Master’s ☐ Doctoral | | |
| Type of course | | | | ☒ Obligatory☐ Elective | | |
| Semester | | | | ☒ Autumn ☐Spring | | |
| Year of study | | | | Second | | |
| Number of ECTS allocated | | | | 6 | | |
| Name of lecturer/lecturers | | | | Ratko Stanković, Ph.D, full professor; Saša Bubanj, Ph.D,full professor | | |
| Teaching mode | | | | ☒Lectures ☒Group tutorials ☐ Individual tutorials  ☐Laboratory work ☐ Project work ☐ Seminar  ☐Distance learning ☐ Blended learning ☒ Other | | |
| **PURPOSE AND OVERVIEW (max. 5 sentences)** | | | | | | |
| *Students are enabled to understand basic functioning of the locomotor system by applying functional anatomy in the area of human movements.* | | | | | | |
| **SYLLABUS (brief outline and summary of topics, max. 10 sentences)** | | | | | | |
| **Theory: The concept and importance of the subject, The development of "the science of motion." Biomechanical principles and methods of research; joints. Kind of motion in the joints. Mechanical properties of joints; bones in the musculoskeletal system. Mechanical properties of bone, Fiber types, Types of muscle, Functional characteristics of muscle. Physiological characteristics of smooth muscle; shape and type of muscular contraction, Muscle work, Torque, Muscle fatigue; muscle force as a vector. Classification of force systems, Linear system power, Parallel forces in a plane. Resultant of: determining the center of gravity of the body, Stacking forces, Decomposition of the force. The overall general system power; Kinematics locomotion, Kinematic methods of research, Basic kinematic scheme of complex movements. General classification of complex movements, Straight, curved and central movement, Oscillation, The dynamics of locomotion. Practicals: Practical teaching follows the theoretical classes. Goniometry - Software MAT, VII; Kinematics - Software and VIDEO TO HUMAN; Densitometry - studying densitometer SAHARA; Dynamometer - Dating Software FORCE STATIC.** | | | | | | |
| **LANGUAGE OF INSTRUCTION** | | | | | | |
| ☒Serbian (complete course) ☒ English (complete course) ☒ Other French and Spanish (complete course)  ☐Serbian with English mentoring ☐Serbian with other mentoring \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | | | |
| **ASSESSMENT METHODS AND CRITERIA** | | | | | | |
| **Pre exam duties** | **Points** | | **Final exam** | | | **points** |
| **Theory** | **10** | | **Final examination** | | | **30** |
| **Colloquium 1** | **25** | |  | | |  |
| **Colloquium 2** | **25** | |  | | |  |
| **Seminar paper** | **10** | | **OVERALL SUM** | | | **100** |
| **\*Final examination mark is formed in accordance with the Institutional documents** | | | | | | |