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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** |