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	7
Name of lecturer/lecturers	Ratko Stanković, Ph.D, full professor; Saša Bubanj, Ph.D,associate 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**			