



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	<input checked="" type="checkbox"/> Bachelor academic <input type="checkbox"/> Master's <input type="checkbox"/> Doctoral
Type of course	<input checked="" type="checkbox"/> Obligatory <input type="checkbox"/> Elective
Semester	<input checked="" type="checkbox"/> Autumn <input type="checkbox"/> 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	<input checked="" type="checkbox"/> Lectures <input checked="" type="checkbox"/> Group tutorials <input type="checkbox"/> Individual tutorials <input type="checkbox"/> Laboratory work <input type="checkbox"/> Project work <input type="checkbox"/> Seminar <input type="checkbox"/> Distance learning <input type="checkbox"/> Blended learning <input checked="" type="checkbox"/> 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