Course title: BIOMECHANICS
Lecturer or lecturers (last name, middle name)**:** Slobodan Jarić; Mirkov M. Dragan
Course status: Elective
ECTS: 10
Condition: Completed courses: Measurement and Evaluation in Physical Education and Sport and Data Acquisition and Analysis
Course objectives: Review of biomechanical methodology and their application in typical biomechanical research problems. Establishing connections between classical anatomical and physiological knowledge on locomotor apparatus and kinesiological properties various human movement structures. Introduction to biomechanical instrumentation and their application in routine biomechanical measurements. Data acquisition and analysis of biomechanical measurements.
Course outcome: After successfully completing the course, students will be able to**:** Select and routinely perform biomechanical measurements, apply methods and interpret obtained findings.
Course description Definitions. Mechanics of musculoskeletal systems. Anthropometry. Biomechanical properties of muscles. Neuromechanical muscle systems. Functional electrical stimulation. Gait. Fatigue assessment. Assessment of segmental Forces, moments impulses. Regressional and geometrical models. Signal to noise ratio in signal processing of biomechanical measurements. Motion Capture systems. Presenting results of biomechanical measurements.
References: 1. Peter M. McGinnis. Biomechanics of Sport and Exercise-2nd Edition. Champaign, IL: Human Kinetics; 2005. 2. Gordon E. Robertson, Graham Caldwell, Joseph Hamill, Gary Kamen, Sandy Whittlesey. Research Methods in Biomechanics. Champaign, IL: Human Kinetics; 2004. 3. Joseph Hamill, Kathleen M. Knutzen. Biomechanical Basis of Human Movement. USA: Wiliams & Wilkins; 1998.

No. of active classes	Lectures: **4**	Study research work: **4**

Teaching method: **Small groups; Seminars**
Knowledge assessment (maximum score 100)
Class Activites - 10 Practical Activities - 20 Colloquium -30 Final Exam - 40