Course Unit Descriptor

Study Programme: Biomedical engineering
Course Unit Title: Basics of medical robotics
Course Unit Code: BM116A
Name of Lecturer(s): Nikolić Milutin
Type and Level of Studies: Bachelor
Course Status (compulsory/elective): elective
Semester (winter/ summer): winter
Language of instruction: english
Mode of course unit delivery (face-to-face/distance learning): face-to-face
Number of ECTS Allocated: 4
Prerequisites: none
Course Aims:. The outcome of this course is to studentsunderstanding of robots working principles in biomedicine, as well as teach students to apply acquired knowledge in design of new robots.
Learning Outcomes: - Understanding of working principles of varuius medical robots, - appropriate use of various medical robots, -ability to design simpler medical robots.
Syllabus. History and application overwiev, Basic concepts and definitions of kinematic chain structure which are basis for more complex structures, kinematics of robots (direct and inverse problems), dynamics of robots, robot control, Specificities of medical robots, robots in surgery, prothedtics, orthosis, Robots as assistive technology, robots for diabled, handicaped and old people. Robotic pets. Special robotic devices
Required Reading:

Weekly Contact Hours: 2	**Lectures: 2**	**Practical work: 0**

Teaching Methods: Lectures. practicing, consultations
Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	**Final exam**	points
Attendance			
Computer exercises			
Tests (4x)			