Course Unit Descriptor

Study Programme: Computing and Control Engineering			
Course Unit Title: Automatic Control Systems			
Course Unit Code: 06 - E226			
Name of Lecturer(s): Milan Rapaic, Filip Kulic			
Type and Level of Studies: Bachelor Level			
Course Status (compulsory/elective): compulsory			
Semester (winter/summer): summer			
Language of instruction: English			
Mode of course unit delivery (face-to-face/distance learning): face-to-face			
Number of ECTS Allocated: 8			
Prerequisites: None			
Course Aims: Students learn about theoretical and practical bases of science of system control.			
Learning Outcomes: The acquired knowledge can be used in solving practical engineering problems and forms a basis for future engineering subjects. Internship			
Syllabus: Basic notions and principles of automatic control systems. Mathematical description of continual linear and non linear systems.Laplace transform. Block diagram models. Signal flow graph models. Quality evaluation and of control in stationary and transition regime. Analysis of system stability using analytical methods. Root locus. Analysis and syntheses of system in frequency domain. Nyquist stability criteria, Bode method, Concept of space of system state. Choice and adjusting of parameters of industrial regulators. PID regulators, Elements of digital control systems. Introduction to computer application in control.			
Required Reading: Relevant literature in English			
Weekly Contact Hours: 2	**Lectures: 2**	**Practical work: 0**	
Teaching Methods: Lectures, calculation, laboratory, computer and computer-laboratory practice. Consultations. Part of the course which forms a logical whole can be taken in the form of a colloquium. Colloquium and examinationsare oral and written. Both parts are taken in written form. The final grade is formed on the bases of performance at the colloquium, computer-laboratory practice and the written and oral examination.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	**Final exam**	points
Group assignment		Examination Assignment	
Exercises			
Test			
Test			
The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.			