

Study Programme: Computing And Control Engineering			
Course Unit Title: Totally integrated automatic control systems			
Course Unit Code: AU514			
Name of Lecturer(s): Čongradac Velimir			
Type and Level of Studies: master			
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: 6			
Prerequisites: none			
Course Aims: Students gain theoretical and practical knowledge about automation of office-residential buildings.			
Learning Outcomes: The acquired knowledge can be used in solving concrete engineering problems and practical applications in building automation field.			
Syllabus. The history of use of modern automation solutions in the automation of office and residential buildings. Standards in the field of office / residential buildings automation. DCS architecture in building automation systems. Communication protocols (LON, KNX, X10). Control of HVAC systems in office and residential buildings. Lighting in office and residential buildings. The application of modern automation methods in order to increase the energy efficiency of office/residential buildings.			
Required Reading: Relevant literature in English, tbd			
Weekly Contact Hours: 2	Lectures: 3	Practical work: 0	
Teaching Methods: Lectures, computer and laboratory practice, consultations. The theoretical part of the course is evaluated through oral exam where students answer problem questions. The oral part of the exam is worth up to 30 points and based on a set of exam questions. The practical part of the exam is taken in computer laboratory (colloquium and exam) and through homework assignments. The final grade is formed on the bases of the quality of homework assignments and computer assignments and the oral part of the exam.			
Knowledge Assessment (maximum of 100 points):			
Pre-exam obligations	points	Final exam	points
Attendance			
Computer exercises			
Tests (4x)			

