

Study program: Electrical and Computing Engineering – Module: Remote Control				
Type and level of studies: Master studies (second level of studies)				
Course unit: Intelligent Sensors				
Teacher in charge: Sinisa Randjic, Mitrovic Nebojsa				
Language of instruction: English				
ECTS: 6				
Prerequisites: -				
Semester: Winter				
Course unit objective				
Ability to design, analyze and implement signal conditioning circuits for sensors, data acquisition software for sensors and actuators, pattern analysis algorithms for multi-sensor systems				
Learning outcomes of Course unit				
Upon successful completion of the course, the student is able to design, analyze and implement as follows:				
<ul style="list-style-type: none"> – Signal conditioning circuits for sensors – Hardware support for data acquisition, data processing and data communication. – Data acquisition software for sensors and actuators – Pattern analysis algorithms for multi-sensor systems 				
Course unit contents				
<i>Theoretical classes</i>				
The students are introduced to the fundamentals of intelligent sensor systems. The primary target of the course is to provide the students with an integrative and multidisciplinary experience by building a complete multi-sensor intelligent system. The students are enabled to develop instrumentation, data acquisition and pattern analysis software using modern equipment and software tools.				
<i>Practical classes</i>				
Laboratory and computer sessions, case study				
Literature				
1. INTELLIGENT SENSOR DESIGN USING THE MICROCHIP dsPIC Creed Huddelston Newnes, Elsevier, Inc. 2007				
2. INTELLIGENT SENSORS: Handbook od Sensors and Actuators H. Yamasaki (Editor) Elsevier Science, 2001				
Number of active teaching hours				Other classes
Lectures: 2	<i>Practice:</i> 2	<i>Other forms of classes:</i> Mentoring system	<i>Independent work:</i> Case study	
Teaching methods: consultations, independent individual work				
Examination methods (maximum 100 points)				
Exam prerequisites	No. of points:	Final exam	No. of points:	
Student's activity during lectures	10	oral examination	20	
Practical classes		written examination	25	
Seminars/homework	45		
Project				
Grading system				
Grade	No. of points	Description		
10	91-100	Excellent		
9	81-90	Exceptionally good		
8	71-80	Very good		
7	61-70	Good		
6	51-60	Passing		
5	less than 50	Failing		