

<b>Study program:</b> Electrical and Computing Engineering – Module: Computer and software engineering				
<b>Type and level of studies:</b> Master studies (second level of studies)				
<b>Course unit:</b> Intelligent Sensors				
<b>Teacher in charge :</b> Uroš Pešović				
<b>Language of instruction:</b> English				
ECTS: 6				
<b>Prerequisites:</b> -				
<b>Semester:</b> Winter semester				
<i>Course unit objective:</i> Acquaintance of students with the structure and functionalities of intelligent sensors and the way of information exchange between intelligent sensors. Acquiring integrative and multidisciplinary knowledge in this area through the realization of multisensory intelligent systems.				
<i>Learning outcomes of Course unit</i> The student should explain the structure of intelligent sensor systems, the functionality of individual blocks and their characteristics. The student should design systems for data acquisition from sensors and realize these systems using modern sensor and computer devices and software tools for collecting, visualizing and analyzing data from intelligent sensors.				
<b>Course unit contents</b>				
<i>Theoretical teaching</i> Introduction to intelligent sensor systems: definition, structure, functionality of components intelligent sensor. Acquisition of sensor data, processing and transmission. Networks of intelligent sensors. Wired and wireless protocols for data exchange between intelligent sensors. Collecting, storage, visualization and analysis of data from remote intelligent sensors.				
<i>Practical teaching</i> Practical examples of intelligent sensors. Practical work with systems based on intelligent sensors. Development of software support for intelligent sensors.				
<b>Literature</b>				
[1] C. Huddelston, Intelligent Sensor Design Using the MICROCHIP dsPIC, Newnes, Elsevier, Inc. 2007.				
[2] N.Kirianaki, Data acquisition and signal processing for smart sensors, John Wiley Sons, 2002.				
[3] D.Swansom, Signal Processing for Intelligent Sensor Systems, Marcel Dekker, 2000.				
[4] M. Ilyas, I. Mangoub, Handbook of sensor networks : compact wireless and wired systems, CRC Press, 2005				
<b>Number of active teaching hours</b>				<b>Other classes</b>
Lectures: 2	<i>Practice:</i> 2	<i>Other forms of classes:</i>	<i>Independent work:</i>	
<b>Teaching methods:</b> consultations, independent work				
<b>Examination methods ( maximum 100 points)</b>				
<b>Exam prerequisites</b>	<b>No. of points:</b>	<b>Final exam</b>	<b>No. of points:</b>	
Student's activity during lectures	<b>0</b>	oral examination	<b>0</b>	
Practical classes	<b>15</b>	written examination	<b>35</b>	
Seminars/homework	<b>25</b>	.....		
Project	<b>25</b>			
<b>Grading system</b>				
<b>Grade</b>	<b>No. of points</b>	<b>Description</b>		
<b>10</b>	<b>91-100</b>	Excellent		
<b>9</b>	<b>81-90</b>	Exceptionally good		
<b>8</b>	<b>71-80</b>	Very good		
<b>7</b>	<b>61-70</b>	Good		
<b>6</b>	<b>51-60</b>	Passing		
<b>5</b>	<b>less than 50</b>	Failing		