

## SYLLABUS

The basic course information:			
Academic unit:	Faculty of Engineering and Informatics		
Title of the subject:	Measurement and control		
Level:	Bachelor		
Course Status:	Elective		
Year of studies:	III		
Number of hours per week:	3		
Value of Credits - ECTS:	4		
Time / location:			
Course lecturer:	Ismet Malsiu		
Contact details:	<a href="mailto:ismet.malsiu@ushaf.net">ismet.malsiu@ushaf.net</a>		
<b>Course description:</b>			
	<i>This course will introduce students to equipment for measuring and controlling parameters of various details in engineering.</i>		
<b>Objectives of the course:</b>			
	<i>The aim of this course is to provide students with the knowledge and skills to apply various measurement methods and measuring instruments.</i>		
<b>Learning outcomes:</b>			
	<p><i>After successful completion of the course, students will be able to:</i></p> <ul style="list-style-type: none"> <li>• <i>know the meaning of measurement and control, measurement accuracy and error sources.</i></li> <li>• <i>know the causes of errors and mistakes in the presentation of measurement and correction of the findings of measurement and processing of measurement results.</i></li> <li>• <i>measure and control the fillet, gears parameters, measurement and control shapes and positions of the material surfaces.</i></li> <li>• <i>measure the angle with the help of spectrometer with collimator and know the features and controls of the geometric parameters of coordinates measuring machines, etc.</i></li> </ul>		
<b>Contribution to the student load (which must correspond with learning outcomes)</b>			
Activity	Hour	Day/week	In total
Teaching (Lectures and exercises)	3	15	45
Internship	-	-	-
Contacts with teacher / consultations	1	4	4
Field exercises			
Midterm, seminars and projects.	2	7	14
Homework			

Self-learning time student (at the library or at home)	3	10	30
Final preparation for the exam	2	4	8
Time spent on evaluation (tests, quiz and final exam)	1	2	2
Projects and presentations.	0.5	2	1
<b>Total</b>			<b>104</b>
<b>Teaching methodology:</b>	<i>Lectures and exercises combined with tutorials and classroom exercises</i>		
<b>Assessment methods:</b>	<i>First assessment 40%</i> <i>Second assessment 40%</i> <i>Project 20%</i> <b>Or through final exam</b> <i>Project 20%</i> <i>Final exam 80 %</i>		
<b>Literature</b>			
<b>Basic Literature:</b>	1. <i>Dr. Avdyl Bunjaku: „TEKNIKAT MATËSE”, ligjërata të autorizuarra, Prishtinë, 2004</i>		
<b>Supplementary Literature:</b>	2. <i>Proizvodno – tehničko obrazovanje</i> 3. <i>„MERENJE I KONTROLA U MAŠINSTVU”</i> 4. <i>priručnjak za organizovanu nastavu u samostalno učenje</i> 5. <i>Mr. sc. Srećko Nikolić</i> 6. <i>„KONTROOLLI TEKNIK I PRODHIMIT”</i> 7. <i>3. Dr. K. Koljozov: MERENJE I KONTROLA, Skopje, 1980.</i> 8. <i>4. Dr. J. Stankov: MERENJE U PROIZVODNJI, Novi Sad, 1984.</i> 9. <i>5. T. Pfeifer: PRODUCTION METROLOGY, Oldenbourg, 2002.</i>		
<b>Designed learning plan:</b>			
<b>Week</b>	<b>Lectures and exercises to be held</b>		
<b>Week one:</b>	<i>Introduction. Measurement and control accuracy of measurement; Accuracy of measurements and sources of errors;</i>		
<b>Week two:</b>	<i>General knowledge and sharing of metrology; Measuring instruments and measuring methods; Separation of measuring methods and measuring instruments;</i>		
<b>Week three:</b>	<i>Metrological characteristics of instruments;</i>		
<b>Week four:</b>	<i>Converters; Measuring equipment; Measuring systems;</i>		
<b>Week five:</b>	<i>Errors and causes of measurement errors; Measurement</i>		

	<i>errors and correction of measurement results; Processing of measurement results;</i>
<b>Java e six:</b>	<i>Processing of measurement results;</i>
<b>Week seven:</b>	<i>Meters and measuring instruments for measuring length;</i>
<b>Week eight:</b>	<i>Types of measuring instruments for measuring lengths and methods of measuring with measuring instruments;</i>
<b>Week nine:</b>	<i>Separation of length meters under construction characteristics and use;</i>
<b>Week ten:</b>	<i>Measuring machines; Fillet measurement and control;</i>
<b>Week eleven:</b>	<i>Measurement and control of dental parameters; Methods for measuring and controlling the shape and position of the details of the work surfaces;</i>
<b>Week twelve:</b>	<i>Measurement and control of dental parameters; Methods for measuring and controlling the shape and position of the details of the work surfaces;</i>
<b>Week thirteen:</b>	<i>Measurement and control of surface roughness and flatness; Methods for measuring and controlling surface roughness and flattening</i>
<b>Week fourteen:</b>	<i>Measuring angles and slope; trigonometric methods of angle measurement; Levelers (Booklets); Angle measurement with collimator spectrometer;</i>
<b>Week fifteen:</b>	<i>Characteristics and controls of the geometric parameters of the measuring coordinate machines;</i>

**Academic policies and rules of conduct:**

*Regular attendance of lectures and exercises is necessary, as well as active participation with discussion and solution of tasks. Not impeding the progress required for learning using mobile phones turned off or in silent mode.*