Subject basic data	
Academic unit:	**Faculty of Management**
Subject title:	**Metering Technique**
Study level:	**Bachelor**
Subject status:	**Elective**
Year of study:	**II**
Number of hours per week:	**2+2**
Value of credits – ECTS:	**5**
Lecturer of the subject:	**Naim Ostogllava**
Contact details:	**naim.ostrogllava@ushaf.net**
Subject description:	The Meaning of measurement and measurement accuracy control; Accuracy of measurements and sources of errors; General knowledge and division of metrology; Measuring Instruments and Metering Methods; Separation of measurement methods and measuring instruments; Metrological characteristics of instruments; The way of reading the measuring instruments; Transformer meters; Measuring equipment; Measuring systems; Errors and Causes of Metering During Measurement; Measurement errors and correction of measurement results; Processing of measurement results; Meters and measuring instruments for measuring length; Separation of length meters according to constructive characteristics and use; Measuring machines; Measuring and checking filetos; Measuring and controlling the parameters of the mechanical gear; Methods for measuring and controlling the shape and position of the working surface of the workpiece; Measuring and controlling the roughness and level of the surfaces; Methods of Measurement and Control of Roughness of Surface; Characteristics and controls of the geometric parameters of the metering coordinating machines; Angle and slope measurement; Trigonometric measuring methods; Bubble levels (level sticks); Measurement of the angle with the help of the spectrometer with the collimator.
Purpose of subject:	Familiarization of students with the meaning of measurement and control, accuracy of measurements and error sources. Metrological characteristics of instruments, the way of reading the value in measuring instruments. Errors and

	causes of errors during measurement and correction of measurement results as well as processing of measurement results. Students should also be familiar with measuring machines; Measurement and control of thread, pincers parameters, metering methods and shape control and position of working surfaces. Measurement of angles and slope. Trigonometric Measurement Methods, Leveling (Libelat); Measurement of the angle with the assistanceof the spectrometer with a collimator. Characteristics and controls of geometrical parameters of metering coordinating machines, etc.
Expected learning outcomes:	After completion of this module, students will be able to: • Know the meaning of measurement and control, accuracy of measurements and error sources. Metrological characteristics of instruments, the way of reading of measuring instruments. • Know the errors and causes of errors during measurement and correction of measurement results as well as the processing of measurement results. • Measure and control the thread, pins parameters, measuring and checking the shape and position of the work surface. • Measure the angle with the assistance of the colormative spectrometer and recognize the characteristics and controls of the geometric parameters of the metering coordinating machines, etc.

Contribution to student workload (which should correspond to the students learning outcomes)			
Activity	**Hours**	**Days/week**	**Total**
Lectures	2	15	30
Theoretical / laboratory exercises	2	15	30
Practical work	-	-	-
Contacts to the Lecturer / Consultations	1	3	3
Field exercises	2	1	2
Tests, student seminars	2	2	4
Home work	1	15	15

Time of self-study (in the library or home)	2	12	24
Final preparation for the exam	1	15	15
Time spent in assessment (tests, quiz, final exam)	1	2	2
Total			**124**

Teaching methodology:	**Lectures, seminar, discussions, team work**
Assessment methods:	First assessment according to written test: **15** % Second Assessment according to Written Test: **20** % Homework or other asignments: **15** % Regular attendance: **5** % Final exam: **45%** Total: **100** %
Literature	
Basic literature:	➢ *Dr. Avdyl Bunjaku: ,,TEKNIKAT MATËSE", ligjërata të autorizuara, Prishtinë, 2004*
Additional literature:	➢ *Proizvodno – tehničko obrazovanje,,MERENJE I KONTROLA U MAŠINSTVU"priručnjk za organizovanu nastavu u samostalno učenje* ➢ *Mr. sc. Sreqko Nikoliq ,,KONTROOLLI TEKNIK I PRODHIMIT"* ➢ *Dr. K. Koljozov: MERENJE I KONTROLA, Skopje, 1980.* ➢ *Dr. J. Stankov: MERENJE U PROIZVODNJI, Novi Sad, 1984.* ➢ *T. Pfeifer: PRODUCTION METROLOGY, Oldenbourg, 2002.*

Designed plan of teaching:

Weeks	**Lecture to be held**
First week	Introduction. Meaning of measurement and measurement accuracy control; Accuracy of measurements and sources of errors;
Second week:	General knowledge and division of metrology; Measuring instruments and measuring methods; Separation of measurement methods and instruments of measuring;
Therd week:	Metrological characteristics of instruments;
Fourth week:	Transformer meters; Measuring equipments; Measuring systems;
Seventh week:	Mistakes and causes of metering during measurements; Measurement mistakes and correction of measurement results; Processing of measurement results;
Sixth week:	Processing of measurement results;

Seventh week:	Meters and measuring instruments for measuring length;
Eighth week:	Types of measuring instruments for measuring lengths and measuring methods with measuring instruments;
Ninth weeek:	Separation of length meters according to constructive characteristics and use;
Tenth week:	Measuring machines; Measuring and checking threads;
Eleventh week:	Measuring and controlling the parameters of the mechanical gear; Methods for measuring and controlling the shape and position of the working surface of the piece which is being processed;
Twelvth week:	Measuring and controlling the parameters of the mechanical gear; Methods for measuring and controlling the shape and position of the working surface of the part being processed (workpiece);
Therteenth week:	Measurement and control of roughness and surface roughness; Methods of Measuring and Controlling the Roughness and Leveling of Surfaces
Fourthteen week:	Angle and slope measurement; Trigonometric measuring methods; Creators (Libelat); Measurement of the angle with the asisstance of a spectrometer with a collimator;
Seventeenth week:	Characteristics and controls of the geometric parameters of the metering coordinating machines;
Academic Policies and Rules of Conduct:	
Regular attendance, keeping calm and active engagement in dialogue during lectures and exercises is mandatory.	