

Study program / course: Mechanical Engineering				
Type and level of study: Basic academic studies				
Course: Measurement, control and quality				
Lecturers: Miodrag P. Lazic, Bogdan S. Vasiljevic				
Status of course: Elective for M ₁ , M ₂ and M ₆ , VI semester				
Number of ECTS: 6				
Prerequisite: none				
The course objective: Acquisition of practice knowledge and skills in the field of quality, metrology, measurement and control with special emphasize on measurement equipment and statistical quality control.				
The course outcome: At the end of the course student will be able to: <ul style="list-style-type: none">• Use measurement equipment,• Select measurement equipment and tools for specific measurement,• Design technologies for measurement and control• Implement basic statistic methods for control and quality improvement.				
Syllabus: Theory Metrology and control for the quality, introduction to metrology, legal metrology, industrial – production metrology, measurement and control techniques, methods of measurement and control, instrumentation for measurement and control, errors in measurement, measurement systems (structures, sensors, active and passive measurement systems, pneumatic, laser, photo-electric, computers support in measurement and control), numerical measurement machines, measurement and control robots, CAQ information systems. Quality of production and services (definition, mission of quality, costs), quality as a global phenomenon, modern concepts of quality, quality system ISO 9000:2000. Statistical methods of quality control, tools and methods for quality improvement. Practice: laboratory exercises, project Laboratory exercises ensure training of students for usage of measurement equipment and implementation of statistical methods of quality control as well as development of reports.				
Recommended reading: 1. Lazić M.: Milićević R., <i>Measurement and control, High technical school for mechanical and traffic</i> , Kragujevac, 2000. 2. Lazić M.: <i>Introduction to metrology</i> , Faculty of Mechanical Engineering, Kragujevac, 1987. 3. Lazić M.: <i>Tools, methods and techniques for quality improvement</i> , , Center for quality, Faculty of Mechanical Engineering, Kragujevac, 4. Stanić J.: <i>Management of production quality– Methods I i Methods II</i> , Belgrade, 1997.				
The number of hours of active teaching:				Other classes: 1
Theory: 2	Practical classes: 1,6	Other forms of teaching: 0,4	Research study: 0	
Methods of teaching Classical, frontal lecturing combined with individual and group approach using modern education equipment. Evaluation of knowledge: tests and seminars.				
Evaluation of knowledge (maximal 100 points)				
Pre-final exam obligations	Points	Final exam	Points	
Activities during the classes	10	Written	-	
Activities during the exercises	20	Oral presentation	30	
Tests:	20			
Homeworks:	20			