



UNIVERSITY OF NIŠ

Course Unit Descriptor

Faculty

Faculty of Mechanical Engineering

GENERAL INFORMATION

Study Program	Mechanical Engineering
Study Module (if applicable)	-
Course Title	Computer Systems for Acquisition and Control
Level of Study	<input type="checkbox"/> Bachelor <input type="checkbox"/> Master's <input checked="" type="checkbox"/> Doctoral
Type of Course	<input type="checkbox"/> Obligatory <input checked="" type="checkbox"/> Elective
Semester	<input checked="" type="checkbox"/> Autumn <input type="checkbox"/> Spring
Year of Study	II
Number of ECTS Allocated	10
Name of Lecturer/Lecturers	Žarko Čojbašić
Teaching Mode	<input checked="" type="checkbox"/> Lectures <input type="checkbox"/> Group tutorials <input type="checkbox"/> Individual tutorials <input checked="" type="checkbox"/> Laboratory work <input checked="" type="checkbox"/> Project work <input checked="" type="checkbox"/> Seminar <input type="checkbox"/> Distance learning <input type="checkbox"/> Blended learning <input type="checkbox"/> Other

Purpose and Overview (max. 5 sentences)

Introduction of students to various techniques of analysis and design of contemporary computer systems for acquisition and control, for diverse classes of mechatronic objects. Provide students with ability to define and design computer systems for acquisition and control for diverse classes of mechatronic objects.

Syllabus (brief outline and summary of topics, max. 10 sentences)

Theory classes * Application of computers in process industry, in CNC machines and in communal systems control. * Process visualization–SCADA. Activity detection and recognition. * Acquisition and processing of measured data. Application of PLCs in process control. * RTEthernetTCP/IPand Internet based automation concept. Operator and touch panels. * Problems of control of complex technological processes. Centralized control. Distributed control. * Application of microprocessors in design and implementation of control systems. Hierarchical control. Choice of computer for real time control. Input-output devices. * Software support for real time systems control. Computer coupling with technological processes.

Guided independent research * Preparation of students for independent research into the written literature, scientific journals, and web portals within the field of application of computer systems for acquisition and control in mechatronics, laboratory research.

Language of Instruction

- Serbian (complete course) English (complete course) Other _____ (complete course)
 Serbian with English mentoring Serbian with other mentoring _____

Assessment Methods and Criteria

Pre exam Duties	Points	Final Exam	Points
Activity During Lectures	0	Written Examination (2 term papers)	50
Practical Teaching	0	Oral Examination	50
Teaching Colloquia	0	Overall Sum	100

***Final examination mark is formed in accordance with the Institutional documents**