



RTU Course "Methods and Technology of Process Control"

15326 Mašīnbūvniecības un industriālā dizaina katedra

General data

Code	MRA320
Course title	Methods and Technology of Process Control
Course status in the programme	Compulsory/Courses of Limited Choice
Course level	Post-graduate Studies
Course type	Professional
Field of study	Mechanics, Mechanical Engineering, Machine Building
Responsible instructor	Kaņeps Jānis
Academic staff	Kovaļska Agrita
Volume of the course: parts and credits points	1 part, 3.0 Credit Points, 4.5 ECTS credits
Language of instruction	LV
Possibility of distance learning	Not planned
Maximum auditorium capacity	30
Maximum number of students per semester	30
Abstract	The essence and types of automation, models of control systems and their classification. Description of process control in different physical systems – mechanical, electrical, thermal, biological etc. Process control and analysis in continuous time and frequency domains. Computer control. Characteristics of discrete time control. Laplace and z-transforms. Process modeling by computers. Electronic control system equipment.
Goals and objectives of the course in terms of competences and skills	
Structure and tasks of independent studies	
Recommended literature	<ol style="list-style-type: none"> 1. J.Golden, A.Verwer: Control system design and simulation, - McGraw-Hill Book Company, 2000 2. H.L.Harrison, J.G.Bollinger: Automatic controls, International Text Book Company, 1965, 3. Rogger E. Ziemer, William H. Trenter, D Ronald Fannin: Signals and systems/continuous and discrete, - Macmillan Publishing Co, 1985; 4. James B. Dabney, Thomas L. Haman: Mastering Simulink 4, - Prentice Hall, Upper Saddle River, 1995, 5. Richard C. Dorf, Robert M.Bishop: Modern control systems, Addison-Wesley, Reading, Massachusetts, 1995, 6. Norman S. Nise: Control system engineering, - Benjamin-Cummings, Rewdwood City,1995.
Course prerequisites	

Course outline

Theme	Hours
	2
	2
	2
	2
	2
	2
	3
	3
	3
	3
	2
	2
	2
	3
	3
	3
	3
	2
	2
	2

Learning outcomes and assessment

Learning outcomes	Assessment methods

Study subject structure

Part	CP	ECTS	Hours per Week			Tests		
			Lectures	Practical	Lab.	Test	Exam	Work
1.	3.0	4.5	2.0	1.0	0.0		*	