

## ABSTRACT OF THE SUBJECT

1. Name of subject: Automation technology
2. Identification code in the plan of study PC.V
3. Educational program track 140100 “Thermal power and Thermal engineering”
4. Educational program specialization “Automation of technological processes and production in thermal power and thermal engineering”
5. Qualification bachelor
6. Providing department Department of automation of heat power processes, Power Institute
7. Faculty member associate professor Medvedev V.V., phone 56-33-86, E-mail [atptef@tpu.ru](mailto:atptef@tpu.ru)
8. Result of studying the discipline  
Students should know the classification of technical means of automation, electrical technical means of automation and their application area, technical means content for typical automatic control systems and automatic control systems, principles of construction of the main units and the implementation of major functional changes in the technical means of automation, element base of analog and digital automation hardware, characteristics of actuating devices and automatic controllers, methods of choice of automation means for automatic and automated process control systems. They should be able to determine the static and dynamic characteristics of the technical means of automation, evaluate the impact of parameters of information conversion devices and automatic regulators on the dynamics of automatic control systems, choose the technical means of automation for the implementation of control algorithms specified, carry out their inspection and adjustment. They must have experience in the analysis of the documentation of technical means of automation, development and design of the circuit documentation of automation systems, the choice of technical means of automation for implementation of the setted control algorithms, based on the requirements of the control system; organization of relations between the technical means of automation in automatic and automated control of technological processes, the choice of means of implementation of communication lines between the technical means of automated control systems.
9. Discipline content (*list of the main topics (sections)*)  
Characterization of the composition of the technical means of automation systems.  
Analog technical means of automatic process control systems.  
Digital technical means of automatic process control systems.  
Technical means of controlling computer complexes.
10. Year 4 session 7 amount of credits 3
11. Prerequisites “Information technologies”, “Electrical engineering and Electronics”, “Technical measurements and Instrumentations”.
12. Co-requisites “Programming the microprocessor controllers”, “Microprocessor controllers”, “Logic control and protection”.
13. Type of assessment (examination, final test) examination

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