

		Name of course	Fundamentals of automation of production processes					
Lecturer		PhD, Assistant Professor Olexandr Kuchmystenko						
Assistant Lecturer		Senior Engineer Galina Zvarych						
Training direction		Oil and Gas Engineering			Code		6.050304	
Institute	Petroleum Engineering							
Department	Automation of technological processes and environmental monitoring							
Form of study	Full-time		Year		IV		Semester	8
Types of academic hours	Total	Lectures	Practical trainings	Laboratory works	Independent +individual work		Course project	ECTS
	54	16	-	16	17		-	5
Course goal and objectives								
The purpose of the course is to provide students with subject knowledge on the basics of automation of manufacturing processes for the development and implementation of automatic control and process control extraction, gathering and initial preparation of oil and gas and the development of students' skills of independent work.								
Form of control		Test						
Requirements for admission to the final control and the method of final evaluation		Examining is conducted in accordance with applicable regulations of the Ministry of Education and Science of Ukraine and the regulations "On the system of current and final control, students' knowledge evaluation and ranking of students".						
Course of lectures								
Concepts and definitions automation. Generalized scheme of automatic and automated management oil and gas processes. Differential equations describe processes oil and gas profiled. Typical differential link. Stability of automatic control. The criteria for sustainability. Elements of the analysis process quality control. Laws automatic control. Items bases process automation oil and gas industry. Identification of automation of technological schemes according to GOST 21.444-85. Reading schemes. Automatic systems for monitoring and control of technological parameters typical oil and gas industry. Characteristics of drilling and production facility as automatic control. Modern systems of automatic control of drilling.								
The program of studies (practical, laboratory, course projects)								
Foundations of automated production processes. Elements foundations of the theory of automatic control. Investigation of static characteristics typical dynamic links. Determination of the transfer functions of the object. Research amplitude-phase response, frequency response, phase response elements ASK. Research stability ASK criterion for Hurwitz. Research stability ASK criteria for Mikhailov. Items bases process automation oil and gas industry								

The study of complex automatic control of technological parameters of drilling CKУБ - M1. The measurement of drilling fluids, pressure, temperature, level of costs and liquids.