



RTU Course "Analysis of the System Structure of the Avionics Equipment Automatic Flight Control"

15E02 Avionikas katedra

General data

Code	TAA540
Course title	Analysis of the System Structure of the Avionics Equipment Automatic Flight Control
Course status in the programme	Compulsory/Courses of Limited Choice
Course level	Post-graduate Studies
Course type	Professional
Field of study	Transport
Responsible instructor	Trifonovs-Bogdanovs Pjotrs
Academic staff	Trifonova-Bogdanova Tatjana
Volume of the course: parts and credits points	1 part, 2.0 Credit Points, 3.0 ECTS credits
Language of instruction	LV, EN, RU
Possibility of distance learning	Not planned
Abstract	Avionics automatic control systems and element dynamics analysis. Correction circuit, the effects on the automatic system dynamics. Optimal automatic operation of the system under different conditions.
Goals and objectives of the course in terms of competences and skills	To learn the avionics automatic system dynamics analysis. To understand orrection circuit operation. To develop skills to analyze the optimum automatic operation of the system under different conditions.
Structure and tasks of independent studies	To independently prepare reports on topics – avionics automatic system dynamics analysis. Work with special literature. Classes in Aviation Institute's specialized room.
Recommended literature	1. Jan Moir and Allan Seabridge, Civil Avionics Systems, John Wiley & Sons, Ltd, 2006. 396. lpp. 2. Г.Разоренов. Системы управления летательными аппаратами. Москва. Машиностроение. 2003г. 582 стр. 3. О.Бабич. Обработка информации в навигационных комплексах. Москва. Машиностроение. 1992г. 512 стр.
Course prerequisites	Math. Measuring and automatic control systems.

Course outline

Theme	Hours
Avionics equipment automatic control system of the structure elements.	4
Automatic control system dynamic characteristics.	6
Avionics equipment automatic control system correction circuit.	4
Random processes in automatic control systems.	6
Optimal automatic control system.	6
Avionics equipment automatic control systems with self-regulation.	6

Learning outcomes and assessment

Learning outcomes	Assessment methods
The student knows dynamic characteristics of the avionics automatic control system equipment structural elements.	Pract. work: dynamic characteristics of elements. Exam.
The student is able to analyze automatic control system dynamics.	Pract. work: Automatic system dynamics analysis. Exam.
The student is able to analyze automatic control system adjustment chain operations.	Individual work, seminars. Exam.
The student is able to analyze aircraft avionics automatic control system in different modes.	Individual work, seminars. Exam.

Study subject structure

Part	CP	ECTS	Hours per Week			Tests		
			Lectures	Practical	Lab.	Test	Exam	Work
1.	2.0	3.0	0.5	1.5	0.0		*	