



RTU Course "Devices and Systems of Airborne Computer"

15E02 Avionikas katedra

General data

Code	TAA306
Course title	Devices and Systems of Airborne Computer
Course status in the programme	Compulsory/Courses of Limited Choice
Course level	Undergraduate Studies
Course type	Professional
Field of study	Transport
Responsible instructor	Trifonovs-Bogdanovs Pjotrs
Academic staff	Smirnovs Igors
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	Aircraft on-board computing system and the structure of block scheme and tasks. Computing unit functioning. On-board computer structure and functioning.
Goals and objectives of the course in terms of competences and skills	To learn on-board computing system and the structure of block scheme. To learn on-board computing system and the principles of block operation. To learn on-board computing system and unit operating skills.
Structure and tasks of independent studies	Independently prepare presentations on the topic - various aircraft on-board computing system and the structure of block scheme. Operating modes. Operating bases. Working with the special literature. Aviation Institute's specialized lecture hall.
Recommended literature	1. Helfrick A. Principles of Avionics. Avionics Communications Inc. 2007. 426 lpp. 2. Wasson J. Avionic Systems. Operation and maintenance. Colorado. Jeppesen. Sanderson. 1994g. 318 lpp. 3. Aviacionnie cifrovie sistemi kontrolja i upravlenija. Pod red. Mjasnikova V. Leningrad. Mašinstroenie. 1990g. 386 lpp.
Course prerequisites	Physics, Mathematics.

Course outline

Theme	Hours
Aircraft computing blocks and system tasks.	2
Aircraft analog computing arrays.	9
Aircraft discrete computing units.	11
On-board computer structure and functioning.	2
On-board computer header structure elements.	6
Computing systems. Structure and functioning.	2

Learning outcomes and assessment

Learning outcomes	Assessment methods
The student knows the computing system and the block structure scheme.	Lab. Works: Computing system and blocks structure scheme, exam.
The student is able to analyze operation of various aircraft analog computing units.	Independent work, seminars, exam.
The student is able to analyze operation of various aircraft discrete computing units.	Independent work, seminars, exam.
The student is able to make conclusions about maintenance of aviation computing blocks and systems.	Independent work, seminars, exam.
The student is able to analyze the computing units and systems in different modes.	Independent work, seminars, exam.

Study subject structure

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