



RTU Course "Analysis and Synthesis of Aircraft Power Supply System"

15E02 Avionikas katedra

General data

Code	TAA529
Course title	Analysis and Synthesis of Aircraft Power Supply System
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	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	The course observes basic questions of power supply system structure scheme synthesis, operation in different modes and it characteristics of power supply system, structure scheme analyzing of different aircraft power supply system.
Goals and objectives of the course in terms of competences and skills	To acquire skills to analyze operation of power supply system in different modes. To acquire the optimal synthesis type of structure scheme of aircraft power supply system.
Structure and tasks of independent studies	Independently prepare report on the topic: elements and structure scheme of different aircraft power supply system. Work with specialized literature. Lessons in specialized auditorium of Aeronautical institute.
Recommended literature	1. Tooley M., Wyatt D. Aircraft Electrical and electronic Systems. Butterworth-HEINMANN Ltd, 2008g. 424 p. 2. J.Dirba, K.Ketnetrs un citi. Transporta elektriskās mašīnas. Rīga. RTU, 2001. 328 lpp. 3. Elektrical Systema. Colorado: Jeppesen Sanderson, Inc. 1992. 269 p.
Course prerequisites	Avionic systems, power supply systems.

Course outline

Theme	Hours
DC sources of aircraft. Construction. Parameters.	4
Aviation accumulators. Basics of operation, parameters of the construction.	4
Regulation blocs of DC power supply system. Operation modes.	4
Structure scheme analyzing and synthesis of DC power supply system of civil aircraft.	4
AC sources of aircraft. Construction. Parameters.	4
Regulation blocs of AC power supply system. Analyzing of different modes.	4
Structure scheme analyzing and synthesis of AC power supply system of civil aircraft.	4
Functioning control of power supply system.	4

Learning outcomes and assessment

Learning outcomes	Assessment methods
The student knows the operation of elements of different power supply systems.	Practical work: Aviation power supply system. Exam.
The student understands the structure scheme functioning of aircraft power supply in different modes.	Practical work: Aviation power supply system. Exam.
The student is able to synthesize elements of aircraft power supply system.	Individual work, seminars. Exam.
The student is able to synthesize structure schemes of different aircraft power supply system.	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	1.0	0.5	0.5		*	