



## RTU Course "Electrical Power Supply Systems of Aircraft"

15E02 Avionikas katedra

### General data

Code	TAA212
Course title	Electrical Power Supply Systems of Aircraft
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
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	Goals and classification of aircraft electrical power supply systems. Principles of operation of aircraft electrical power supply system accessories. Aircraft electrical power supply system structure schemes and it's characteristics.
Goals and objectives of the course in terms of competences and skills	Acquire principles and construction of aircraft electrical power supply system structure schemes and accessories. Being able to analyze the work of electrical power supply system in different modes.
Structure and tasks of independent studies	Independently prepare presentations on various topics of aircraft electrical system, design of aggregates and their operation in various modes. Working with professional literature. Lesson in the Aviation Institute's specialized lecture hall.
Recommended literature	1. Tooley M., Wyatt D. Aircraft Electrical and electronic Systems. Butterworth-HEINMANN Ltd, 2008g. 424 lpp. 2. Moir I., Seabridge A. Aircraft Systems. Wiley-Blackwell. 2008. 546 lpp. 3. Z. Bunžs, S. Miesniece. Bezkontakta komutācijas aparāti. RTU. 2008.g. 308 lpp.
Course prerequisites	Electrotechnics, Aviation electrical machines and devices.

### Course outline

Theme	Hours
Goals and classification of aircraft electrical power supply systems.	2
On-board batteries.	3
Voltage regulation of AC and DC generators.	4
Automatical frequency regulation of synchro generator.	6
Safety equipment and systems.	6
Current and frequency static converters.	4
Electrical energy separator systems.	4
Energy source of airdrome.	3

### Learning outcomes and assessment

Learning outcomes	Assessment methods
The student knows the aircraft power supply system structures and the construction of the scheme.	Lab. works: Learning of operation of typical electrical power supply systems. Exam.
The student understands design and operation of the power system units.	Independent work, seminars. Exam.
The student is able to analyze functioning of the structure scheme of aircraft typical electrical systems in different modes.	Lab. works: Learning of operation of typical electrical power supply systems structural schemes. Exam.
The student is able to analyze operation of the power system units under different conditions.	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	0.5	0.0		*	