RTU Course "Special Electrical Machines of Aviation Automatics"

15E02 Avionikas katedra

General data

Code	TAA527
Course title	Special Electrical Machines of Aviation Automatics
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	Belavin Oleg
Volume of the course: parts and credits points	1 part, 2.0 Credit Points, 3.0 ECTS credits
Language of instruction	LV, EN, RU, DE
Possibility of distance learning	Not planned
Abstract	Operating principles of automatic system of electrical machines , design and characteristics.
Goals and objectives of the course in terms of competences and skills	To learn the principles of operation of automatic system of electrical machinery and construction. To learn specific electrical operation of machine in different modes.
Structure and tasks of independent studies	To independently prepare reports on the topic - automatic system of electric machines for operation under different conditions. Work with special literature. Classes in Aviation institute specialized room.
Recommended literature	1. Dirba J., Ketnetrs K. un citi. Transporta elektriskās mašīnas. Rīga. RTU, 2001. 328 lpp. 2. Moir I., Seabridge A. Civil Avionics Systems. Wiley-Blackwell. 2006. 396 p. 3. А.Серебряков. Электрические микромашины. Рига РАУ. 1998. 136 стр. 4. А.Серебряков. Н.Левин. Специальные электрические машины. Рига. РАУ. 1993. 157 стр.
Course prerequisites	Physics. Theoretical electrical engineering.

Course outline

Theme	Hours
Automatic system of direct current motors.	4
Two-phase induction motors.	3
Gyroscopic asynchronous motors.	4
Gyroscopic devices correction engines.	4
Magnesins and mikrosins.	4
Tagus synchronous generator.	5
Tagus inducer generator.	4
Bench engine.	4

Learning outcomes and assessment

Learning outcomes	Assessment methods
The student knows special electric motor design and characteristics.	Pract. work: Automatic system engines. Exam.
The student knows the tagus generators design and characteristics.	Pract. work: Synchronous and inducer tagus generators. Exam.
The student is able to draw the conclusions about various special electric engine operation in different modes.	Individual work, seminar. Exam.
The student is able to draw conclusions about tracking system with magnesins and mikrosinis operation 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	1.5	0.0	0.5		*	