



RTU Course "Devices and Systems of Control of Aircraft Powerplant"

15E02 Avionikas katedra

General data

Code	TAA413
Course title	Devices and Systems of Control of Aircraft Powerplant
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	Žukovska Jekaterīna
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	Aviation gauge typical elements and structures circuits. Powerplant control device operating principles, structures and characteristics.
Goals and objectives of the course in terms of competences and skills	Learn the work of aviation equipment and structures. Acquire the skills to analyze the aviation device performance under different conditions.
Structure and tasks of independent studies	Review about various aircraft equipment and systems. Operating modes. Error analysis. Working with the professional literature. Lessons in the Aviation Institute's specialized lecture halls.
Recommended literature	1. Helfrick A. Principles of Avionics. Avionics Communications Inc. 2007. 426 lpp. 2. Moir I., Seabridge A. Civil Avionics Systems. Wiley-Blackwell. 2006. 396 lpp.
Course prerequisites	Physics, Math.

Course outline

Theme	Hours
Aircraft engine as a control object.	1
Aviation equipment organization charts.	3
Temperature measuring devices.	4
Pressure measuring devices.	3
Engine speed measurement.	3
Fuel quantity measurement.	5
Measurement of fuel consumption.	4
Aircraft vibration meter sensor.	3
Electronic engine control and fuel metering systems.	6

Learning outcomes and assessment

Learning outcomes	Assessment methods
The student knows the physical processes of a typical measuring system design.	Lab. works: Aviation gauge system design. Exam.
The student knows the physical processes of a typical measuring system circuitry.	Lab. works: Aviation gauge circuitry. Exam.
The student is able to analyze the aviation system unit activity under different conditions.	Individual work. Exam.
The student is able to analyze the aviation system performance under different conditions.	Individual work. Exam.
The student is able to make conclusions about aviation devices and systems for weaknesses and errors.	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		*	