RTU Course "Civil Aviation Engines"

15E01 Aeronautikas tehnoloģiju katedra

General data

Code	TAD521
Course title	Civil Aviation Engines
Course status in the programme	Compulsory/Courses of Limited Choice
Course level	Undergraduate Studies
Course type	Professional
Field of study	Transport
Responsible instructor	Ozoliņš Ilmārs
Volume of the course: parts and credits points	1 part, 3.0 Credit Points, 4.5 ECTS credits
Language of instruction	LV, EN, RU
Possibility of distance learning	Not planned
Abstract	Large and small contour ratio two rotor and three rotor two dual turbo engine features. Some company engine operating and design features.
Goals and objectives of the course in terms of competences and skills	To master aero gas turbine engine construction and system. To study the Pratt & Whitney, General Electric, Rolls-Royce, SNECMA aero engines.
Structure and tasks of independent studies	To work with literature and internet. To master in detail particular gas turbine engine system construction and operation.
Recommended literature	Apgūstamo dzinēju tehniskie apraksti.
Course prerequisites	Gas turbine engine theory and design.

Course outline

Theme	Hours
The turbofan structure. Systems of the turbofan. Automatic control system of the turbofan.	6
The turboprop structure. Systems of the turboprop. Automatic control system of the turboprop.	6
Instrumentation and diagnostic equipment.	6
Pratt & Whitney engines.	6
General Electric engines.	6
CFM International engines.	6
Rolls-Royce engines.	4
International AeroEngines engines.	4
Snecma engines.	4

Learning outcomes and assessment

Learning outcomes	Assessment methods
A student knows gas turbine engine construction and parameters.	Practical lessons, test, exam.
A student is able to calculate gas turbine engine main parameters.	Practical lessons, test, exam.
A student knows the turboprop engine construction and parameters.	Practical lessons, test, exam.
A student is able to calculate turboprop engine main parameters.	Practical lessons, test, exam.
A student knows turbofan engine construction and parameters.	Practical lessons, test, exam.
A student is able to calculate turbofan engine main parameters.	Practical lessons, test, exam.
A student knows Pratt & Whitney, General Electric, Rolls-Royce, SNECMA, and the joint companies' engine constructions and operating features.	Practical lessons, test, exam.

Study subject structure

Part	CP	ECTS	Hours per Week			Tests		
			Lectures	Practical	Lab.	Test	Exam	Work
1.	3.0	4.5	1.0	2.0	0.0		*	