RTU Course "Propulsion"

15E01 Aeronautikas tehnoloģiju katedra

General data

Code	TAD213
Course title	Propulsion
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
Academic staff	Kleinhofs Mārtiņš
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	Classification of gas turbine engines, performances, structure, main systems. Gas turbine engine indicating systems.
Goals and objectives of the course in terms of competences and skills	Learn different types of the gas turbine engine operation, structure, major systems and indication systems, modern software for determining the gas turbine engine parameters.
Structure and tasks of independent studies	Work with literature and internet. Some indication systems, an independent study and analysis. Determining gas turbine engine parameters using modern software.
Recommended literature	1. A&P Technician Powerplant Textbook. Colorado: Jeppesen Sanderson, Inc. 1994. 550p. 2. Тихонов Н. Рабочий процесс и эксплуатационные характеристики авиационных ГТД. Тексты лекций. Рига, 1991.
Course prerequisites	In Physics.

Course outline

Theme	Hours
Structure and operation of turbojet, turbofan engines.	4
Structure and operation of turboprop and turboshaft engines.	4
Engine control and fuel metering system basic principles.	4
Engine indication systems.	4
Exhaust gas temperature.	2
Engine thrust indication.	4
Oil pressure, temperature and flow.	4
Manifold pressure.	2
Propeller speed.	4

Learning outcomes and assessment

Learning outcomes	Assessment methods
A student understands and is able to analyze different types of gas turbine engine schemes and technical drawings.	Test, exam.
A student knows design, operation and construction special features of gas turbine engine and its main systems.	Test, exam.
A student is able to analyze construction special features of the gas turbine engine main systems.	Independent work, test.
A student is able to apply modern software for determining gas turbine engine parameters.	Independent work, exam.
A student knows and is able to determine parameters of the indicating systems.	Independent work, test, 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		*	