RTU Course "Technical Operation of Aircraft and Engines"

15E01 Aeronautikas tehnoloģiju katedra

General data

Code	TAE431
Course title	Technical Operation of Aircraft and Engines
Course status in the programme	Compulsory/Courses of Limited Choice
Course level	Undergraduate Studies
Course type	Professional
Field of study	Transport
Responsible instructor	Kleinhofs Mārtiņš
Academic staff	Šestakovs Vladimirs
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	Study subject provides knowledge on: -aircraft maintenance concepts and explanations of terms; -management strategy around copied the technical condition and use; -maintenance of safety management technologies; -maintenance program, fault and error search; -engine system maintenance, and storage procedures; -maintenance control and storage.
Goals and objectives of the course in terms of competences and skills	Mastering the theoretical foundations and skills, students are able: - to study the maintenance organization, procedures, quality control, technical condition and methods of definition of parameters; -to explain the reasons and correlations of the changes of technical condition and parameters. Independently mastering the technology skills, student are able to organize maintenance, to determine the periodicity of maintenance and the adjustment methods.
Structure and tasks of independent studies	Working with the literature, maintenance and repair regulating normative documents. Design and preparation of presentation of practical works.
Recommended literature	1. Kroes M.J. and oth. Aircraft Maintenance and Repair, New York, 1993,-648p. 2. Smirnov N.N. i dr. Tehničeskaja ekspluatacija letateļnih apparatov. Moskva: Transport. 1990.-422s. 3. Šestakovs V. Lidojumu drošība. Gaisa transporta sertifikācija. Rīga, 1997, 85 lpp. 4. FAR Handbook for Aviation Maintenance Technicians. Englewood: Jeppesen Sanderson, Inc. 2002. 5. Acceptable Methods, Techniques, and Practices - Aircraft Inspection and Repair. Advisory Circular. Washington: U.S. Department of Transportation, Federal Aviation Administration. 8 September, 1998. 6. ICAO, EASA dokumenti. PART-66, PART-M, 145; www. easa.com
Course prerequisites	Prior knowledge about the aircraft, engines and its operational management

Course outline

Theme	Hours
Introduction.Issue of the semester individual assignment.Aircraft maintenance,operation and its determination.	2
Aircraft physical and moral obsolescence.Causes and regularities of changes of technical condition.	2
Aircraft maintenance structure.Aircraft maintenance reliability and its ensuring dwith technology.	4
Aircraft technical condition.Aircraft maintenance strategy and methods.	4
Maintenance program, searching of damage, failure and work planning.	4
Aircraft, engine and systems maintenance.	8
Engine maintenance and to start up procedure.	6
Aircraft ground handling and storage procedures.	4
Maintenance process control.Personal working technological map and logbook.	4
Regularities of gradual and sudden changes of technical condition.Wear and fracture types.	2
Practical works: Maintenance planning.Determination maintenance strategy and form.Work and tehnology	8

Learning outcomes and assessment

Learning outcomes	Assessment methods
The student is capable to describe the aircraft technical condition and make aircraft maintenance program analysis.	Questions at the examination
Students will be able to use prepared aircraft maintenance instructions, technical orders, technical directives	Practical works, questions at the seminars
Students will be able to use and to know aircraft, engine and systems maintenance	Practical works, Questions at the examination

Students will be able to assist in maintenance planning and ensuring ground maintenance procedures	Practical works, questions at the seminars
Students will be able to use monitoring of aircraft components and systems in order to select the troubles for in-depth analysis	Practical works, questions at the seminars
Students will be able to use maintenance processes and its control	Questions at the examination

Study subject structure

Part	CP	ECTS	Hours per Week			Tests		
			Lectures	Practical	Lab.	Test	Exam	Work
1.	3.0	4.5	2.0	0.5	0.5		*	