



RTU Course "Certification and Standards on Aviation Transport"

15E04 Transporta sistēmu un loģistikas katedra

General data

Code	TAS218
Course title	Certification and Standards on Aviation Transport
Course status in the programme	Compulsory/Courses of Limited Choice
Course level	Undergraduate Studies
Course type	Professional
Field of study	Transport
Responsible instructor	Pavelko Vitālijs
Academic staff	Pavelko Igors
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	The design of an aircraft is a synthesis of different disciplines like aerodynamics, flight mechanics, aeronautical structures, etc. Furthermore, to allow an aircraft to be operational in normal air traffic, it is necessary to demonstrate that its design and construction are in compliance with the applicable requirements: the verification of such compliance is entrusted to the competent authorities. Designers, manufacturers and operators, on the one hand, and airworthiness authorities, on the other, should work jointly in two disciplines, aiming at a common goal - the flight safety.
Goals and objectives of the course in terms of competences and skills	To obtain knowledge for expedience of aircraft requirements currently existing in the world, in Europe and separate countries. To be able to plan the procedure of aircraft certification and to prepare the required documents with due quality, as well as to be able to check their conformity and validity. To obtain knowledge of aircraft standards and to be able using it in practical work.
Structure and tasks of independent studies	Homework on the theme: "Aircraft safety assignment" (Part 1), "Design organization" (Part 2). Work with technical literature and internet.
Recommended literature	1. Airworthiness. An Introduction to Aircraft Certification: A Guide to Understanding JAA, EASA and FAA Standards. By Filippo De Florio. First edition. Elsevier, 2006, 247pp. 2. V.Pavelko. Sertifikācija un standarti aviācijas transportā// Lekciju konspekts. - Rīga, RTU, 2006. 3. Internet resursi: - EASA: www.easa.eu.int - FAA: www.faa.gov - ICAO: www.icao.int - JAA: www.jaa.nl
Course prerequisites	Fundamentals of Aviation, Civil Aviation Application.

Course outline

Theme	Hours
Civil aviation authorities. The Joint Aviation Authorities (JAA) and the European Aviation Safety Agency (EASA).	2
Flight safety, airworthiness and certification.	2
Airworthiness of aircraft. Requirements. JAR/FAR list related to airworthiness certification.	2
Certification procedures for aircraft and related products and parts (JAR 21).	4
Sailplanes and powered sailplanes (JAR 22). Very light aeroplanes (JAR-VLA).	2
Normal, utility and aerobatic category aeroplanes (JAR 23).	2
Large aeroplanes (JAR 25).	4
Small rotorcraft (JAR 27). Large rotorcraft (JAR 29).	2
Engines (JAR-E). Propellers (JAR-P).	4
Aircraft noise (JAR-36).	4
Commercial air transportation (JAR-OPS1, aeroplanes and JAR-OPS3, helicopters).	4

Learning outcomes and assessment

Learning outcomes	Assessment methods
The student knows the fundamentals of airworthiness and can use this knowledge for analysis of the certification problems.	Part 1 of homework and the final examination questions.
The student is able to describe the procedures of aircraft certification.	Homework and the final examination questions.
The student knows the structure of the aircraft airworthiness standards and is able to use them in practice.	Part 1 of homework and the final examination questions.
The student knows types of the certification process and is able to prepare general documentation for all types.	Part 2 of homework and the final examination questions.

The student knows the basic problems of the design organization.	Part 2 of homework and the final examination questions.
The student knows the forms and content of certificates of airworthiness and is able to use this knowledge.	Final examination questions.

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		*	