



RTU Course "Human Life and Safety Providing Systems"

15E03 Lidaparātu teorijas un konstrukcijas katedra

General data

Code	TAK204
Course title	Human Life and Safety Providing Systems
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	Hauka Māris
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	Human life and safety providing systems in aircraft that fly above the altitude of 3 km require human airworthiness in sealed cabin aircraft. Therefore it is necessary to have an air conditioning system, that provides air cooling or heating, flow temperature and moisture control system. To ensure necessary atmospheric pressure in cabin it must have an automatic pressurization control system with indication equipment. To avoid complexity of handling security and warning systems for crew members are provided. For emergencies oxygen system and emergency equipment for passenger evacuation is provided. Device construction and description is introduced. Oxygen storage, its filling and distribution. System equipment in cabin. Aircraft unit inspection and description. Studying aircraft units in airfield.
Goals and objectives of the course in terms of competences and skills	The aim is to provide students with knowledge about the environmental impact onto human physical and mental abilities. To point to these problems in variety of specific situations thus making the topicality and the necessity of updating the system and operational tasks. To provide knowledge about the human life-support system operation and structure.
Structure and tasks of independent studies	Group and individual work. To perform a literature research. To accomplish available unit research and demonstrate knowledge in material presentation.
Recommended literature	1. A&P Technician AIRFRAME. Textbook. Colorado. Jeppesen Sanderson Inc. 2002.- 650p. 2. Lidmašīnas SAAB 340 rokasgrāmatas, 46 sējumi. Linkoping: Saab Aircraft AB. 1984-1999.g.
Course prerequisites	Secondary education.

Course outline

Theme	Hours
Airworthiness requirements for the viability of security systems.	2
Safe environment and physical conditions, environmental impact on human.	4
Conditioning systems in aircraft construction, operation and control.	4
Aircraft pressure control system construction, operation and control.	4
Oxygen system and monitoring of passenger actions.	4
Prevention of emergencies. Emergency and emergency equipment.	4
Crew action in system technical maintenance and control.	5
Practical work.	5

Learning outcomes and assessment

Learning outcomes	Assessment methods
A student knows the environmental and physical conditions under which human is able to function normally and to make decisions.	Test, examination, discussions.
A student knows and is able to analyze potential risks and causes of fatality.	Test, examination, discussions.
A students knows and is able to analyze systems in aircraft responsible for the environment.	Test, examination, discussions.
A student is able to analyze the structure of an aircraft and system features.	Test, examination, discussions.
A student knows emergency equipment.	Test, examination, discussions.

Study subject structure

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