



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Human Performance and Limitations 2

Course

Field of study

Aviation

Area of study (specialization)

Flight Training For Civil Aviation

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

2/3

Profile of study

general academic

Course offered in

polish

Requirements

compulsory

Number of hours

Lecture

15

Laboratory classes

Other (e.g. online)

Tutorials

15

Projects/seminars

Number of credit points

1

Lecturers

Responsible for the course/lecturer:

dr n. med. Karol Szymański

Responsible for the course/lecturer:

Wydział Inżynierii Środowiska i Energetyki

email: rofe@tlen.pl

+48 602 631 428

Prerequisites

A student starting this subject should have a basic knowledge of general and aviation psychology, the nature and functioning of human cognitive, emotional and motivational processes. He should also have the ability to apply the scientific method in solving problems and be ready to cooperate within a team.

Course objective

To acquaint the student with the emotional and motivational processes of man functioning in normal, difficult and extreme situations. Basic human cognitive processes - perception and attention and their importance in the process of information management in the human - technical object system. The dynamics of small social groups and its application in the process of constructing effective task teams in aviation. Crew / team resource management (CRM).



Course-related learning outcomes

Knowledge

1. the student has knowledge of aviation safety and management. The student knows the concept of the human factor and methods of assessing human reliability, has detailed knowledge related to selected issues in the field of human capabilities and limitations during aircraft operation in flight, its impact on health and the ability to perform air operations, as well as the possibility of improving physical condition
2. has basic knowledge of environmental protection in transport, is aware of the risks associated with environmental protection and understands the specificity of the impact of mainly air transport on the environment as well as social, economic, legal and other non-technical conditions of engineering activities
3. has a basic knowledge of the mechanisms and laws governing human behavior and psyche

Skills

1. is able to organize, cooperate and work in a group, assuming various roles in it, and is able to properly define priorities for the implementation of a task set by himself or others

Social competences

1. correctly identifies and resolves dilemmas related to the profession of an aerospace engineer

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture:

- assessment of knowledge and skills demonstrated on the written test - 1.5 hour exam

Exercises:

- knowledge acquired during the exercises is verified by two 45-minute colloquia carried out during 3 and 7 classes

Programme content

Lecture:

Basics of flight physiology. Respiratory and circulatory system. Hypertension and hypotension. Coronary artery disease. Hypoxia. Hyperventilation. Decompression sickness/illness. High-altitude environment. People and the environment: the sensory system. Problem areas for pilots.

Exercises:

Radiation. Humidity. The different senses. Central, peripheral and autonomic nervous system. Vision. Hearing. Equilibrium. Health and hygiene.

Teaching methods



1. Lecture: multimedia presentation, illustrated with examples given on the board.
2. Exercises: examples given on the board and performance of tasks given by the teacher - practical exercises.

Bibliography

Basic

1. Szajnar S.: „Czynnik ludzki w obsłudze urządzeń technicznych”, Skrypt WAT, Warszawa 2010.
2. Janowska Z.: „Zarządzanie zasobami ludzkimi”, Polskie Wydawnictwo Ekonomiczne, 2010
3. Scott W. E., Cummings L. L.: “Zachowanie człowieka w organizacji”, Państwowe Wydawnictwo Naukowe, 1983
4. www.faa.gov
5. www.easa.europa.eu

Additional

Breakdown of average student's workload

	Hours	ECTS
Total workload	40	1,0
Classes requiring direct contact with the teacher	30	0,5
Student's own work (literature studies, preparation for written tests) ¹	10	0,5

¹ delete or add other activities as appropriate