



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Human Performance and Limitations 3

### 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

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

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### 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. has extended and in-depth knowledge of mathematics including algebra, analysis, theory of differential equations, probability, analytical geometry as well as physics covering the basics of classical mechanics, optics, electricity and magnetism, solid state physics, thermodynamics, useful for formulating and solving complex technical tasks related to engineering aeronautical and modeling
2. has ordered and theoretically founded general knowledge in the field of key technical issues and detailed knowledge of selected issues related to air transport, knows the basic techniques, methods and tools used in the process of solving tasks related to air transport, mainly of an engineering nature
3. has basic knowledge of research methods and how to prepare and conduct research, and knows the rules of editing a scientific work
4. has basic knowledge of metal, non-metal and composite materials used in machine construction, in particular about their structure, properties, methods of production, heat and thermo-chemical treatment and the influence of plastic processing on their strength, as well as fuels, lubricants, technical gases, refrigerants e.t.c.
5. 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

### 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

## Programme content

Lecture:

semester 3:

Human factors in aviation. Flight safety concepts. Threat and error management (TEM) model and SHELL model. Safety culture and safety management. Fatigue and stress management.



## Teaching methods

1. Lecture: multimedia presentation, illustrated with examples given on the board.

## 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](http://www.faa.gov)
5. [www.easa.europa.eu](http://www.easa.europa.eu)

### Additional

## Breakdown of average student's workload

	Hours	ECTS
Total workload	26	1,0
Classes requiring direct contact with the teacher	17	0,5
Student's own work (literature studies, preparation for written tests ) <sup>1</sup>	9	0,5

<sup>1</sup> delete or add other activities as appropriate