



SUBJECT DATASHEET

AIRLINE TRANSPORT PILOT LICENCE

BMEGT52S801

I. SUBJECT DESCRIPTION

1. SUBJECT DATA

Subject name

AIRLINE TRANSPORT PILOT LICENCE

ID (subject code)

BMEGT52S801

Type of subject

contact lessons

Course types and lessons

<i>Type</i>	<i>Lessons</i>
Lecture	3
Practice	0
Laboratory	0

Type of assessment

exam

Number of credits

4

Subject Coordinator

<i>Name</i>	<i>Position</i>	<i>Contact details</i>
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Educational organisational unit for the subject

Department of Ergonomics and Psychology

Subject website

<https://edu.gtk.bme.hu>

Language of the subject

magyar - HU

Curricular role of the subject, recommended number of terms

Direct prerequisites

Strong None

Weak None

Parallel None

Exclusion None

Validity of the Subject Description

Pre-2017, next review September 2021.

2. OBJECTIVES AND LEARNING OUTCOMES

Objectives

The human physiology and psychology from the perspective of aeronautics is extracted during this class. Students expected to be familiar with the basic principles of the human respiratory system, heart and blood, the side effects of rapid decompression or working in low pressure environment. Regarding psychology students learn how to cooperate with their flight instructor and how the cognitive system works. In order to carry out duties on board of a pressurized aircraft at high altitudes, basic understanding of human physiology and psychology shall be introduced. From the physiological perspective circulatory system, oxygen and respiration, nervous system, ear, hearing and balance, eye and vision are extracted. Special effects of rapid decompression on the cognition system as well as the respiratory system are also inevitable. The psychological part of this class gives insight on various factors effecting cockpit synergy such as information processing, human error and learning process, behaviors and motivation, cognition in aviation, sleep and fatigue, man and machine, decision making and risk. Introduction to crew resources management is also begun extracted as a preparation for a multi-pilot environment.

Academic results

Knowledge

1. They have comprehensive knowledge of the physiological effects of aviation on the human body.
2. They have comprehensive knowledge of the psychological effects of aviation on the human body.
3. They have comprehensive knowledge of how human information is processed.
4. They have comprehensive knowledge of crew resources management and about the preparation for a multi-pilot environment.

Skills

1. They are able to recognize when unexpected physiological phenomena (eg. hypoxia) in flight affect the pilot's or passengers' body.
2. They are able to recognize when unexpected psychological phenomena (eg. hyperventilation) in flight affect the pilot's or passengers' body.
3. They are able to make the right decision and take action when the above phenomena occur.

Attitude

1. They are characterized by sensitivity to human needs. They are characterized by a user-centric thinking and approach.
2. They are characterized by continuous learning skills, broad and thorough education, interdisciplinary interest.
3. They are characterized by a system-level thinking and approach.
4. They are characterized by a strong critical and self-critical sense.

Independence and responsibility

1. To solve various professional problems, they have awareness of various human performance and external factors affecting the human body in flight.
2. They are open to independently monitor technical, technological and human developments in his / her field.
3. In order to ensure the safety of flight, it mobilizes its theoretical and practical knowledge and skills in an autonomous manner, if necessary in cooperation with the other members of the flight deck.

Teaching methodology

Lectures

Materials supporting learning

- Oxford Aviation Academy ATPL Ground Training Series Book 8 – Human Performance & Limitations

II. SUBJECT REQUIREMENTS

TESTING AND ASSESSMENT OF LEARNING PERFORMANCE

General Rules

The assessment of the learning outcomes set out in point 2.2 is based on two mid-term exams.

Performance assessment methods

Detailed description of assessments performed during the semester: summative assessment of learning performance: complex, written way of assessment of knowledge and skill types of competence elements of the subject in the form of end-term exams.

Percentage of performance assessments, conducted during the study period, within the rating

Percentage of exam elements within the rating

- written exam: 100%
- sum: 100%

Conditions for obtaining a signature, validity of the signature

To obtain the signature, resulting at least 40% of the score of the dissertation, its presentation and the oral exam according to section 3.3 is necessary. The obtained signature is valid for the period according to the general rules of the university.

Issuing grades

Excellent	> 90
Very good	80–89
Good	70-79
Satisfactory	60-69
Pass	40-59
Fail	< 40

Retake and late completion

Coursework required for the completion of the subject

42
78
120

Approval and validity of subject requirements

Pre-2017, next review September 2021.

III. COURSE CURRICULUM

THEMATIC UNITS AND FURTHER DETAILS

Topics covered during the term

To achieve the learning outcomes specified in section, 2.2, the subject consists of the following thematic blocks. The syllabus of the specific course announced in each semester shall schedule these elements of topics according to the calendar and other circumstances.

- 1 Human performance and limitations
- 2 The circulation system
- 3 Oxygen and respiration
- 4 Hearing and balance – and illusion
- 5 Sight and visual illusion
- 6 Introduction to crew resource management
- 7 Decision-making and risk

Additional lecturers

Pulay Márk Ágoston tanársegéd pulay.mark@gtk.bme.hu

Approval and validity of subject requirements

Beyond Part I and II of the Subject Datasheet, Part III is approved by the head of the Department of Ergonomics and Psychology indicated

in section 1.8 in consultation with the director(s) of the programme(s) concerned.