



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Flight performance and planning 2

Course

Field of study

Aerospace Engineering

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:

mgr inż. Tomasz Duda

Responsible for the course/lecturer:

Prerequisites

The student starting this subject should have a basic knowledge of flight planning. 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 rules of flight planning and monitoring in accordance with applicable regulations, developing an operational flight plan and flight plan for air navigation services.

Course-related learning outcomes

Knowledge

1. has detailed knowledge related to selected issues in the field of the most important phenomena occurring in the Earth's atmosphere, the possibility of their prediction, recognition, research, as well as limiting the negative impact of human activities on the surrounding environment.
2. has detailed knowledge related to selected issues in the field of flight rules, its preparation, as well as related operational procedures.



3. has expanded knowledge necessary to understand profile subjects and specialist knowledge about construction, methods of construction, manufacture, operation, aircraft control, safety systems, economic, social and environmental impact in the field of aviation engineering for selected specialties:

1. Piloting of aircraft
2. Aero engines and airframes.

Skills

1. has the ability to self-study using modern teaching tools, such as remote lectures, websites and databases, teaching programs, e-books.
2. is able to communicate using various techniques in a professional environment and other environments using the formal record of construction, technical drawing, concepts and definitions of the scope of the studied field of study.
3. can obtain information from literature, the Internet, databases and other sources. Is able to integrate obtained information, interpret and draw conclusions from them.

Social competences

1. is able to properly define priorities for the implementation of tasks specified by himself or others based on available knowledge.
2. is aware of the importance and understands the non-technical aspects and effects of engineering activities, including its impact on the environment, and the associated responsibility for the decisions taken.
3. Understands the need for critical assessment of knowledge and continuous learning.

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
- Exercises:
 - knowledge acquired as part of the exercises is verified by two 45-minute colloquia carried out in 3 and 7 classes

Programme content

Lecture:

semester 3:

PERFORMANCE - AEROPLANES

GENERAL

Performance legislation



Applicability of airworthiness requirements of CS-23 and CS-25

Operational regulations and safety

Performance and safety

Performance definitions and safety factors

General performance theory

Definitions and terms

Variables influencing performance

Level flight, range and endurance

Steady level flight

Range

Maximum endurance

Climbing

Climbing (climb performance)

Descending

Descending (descent performance)

Exercises:

semester 3:

FLIGHT PLANNING AND MONITORING

FLIGHT PLANNING FOR VFR FLIGHTS. Remark: Using the GSPRM VFR charts.

VFR navigation plan

Airspace, communication, visual and radio-navigation data from VFR charts

Planning courses, distances and cruising levels with VFR charts

Aerodrome charts and aerodrome directory

Completion of navigation plan

FLIGHT PLANNING FOR IFR FLIGHTS. Remark: Using the GSPRM IFR charts.

IFR navigation plan



Air traffic service (ATS) routes

Courses and distances from en-route charts

Altitudes

Standard instrument departure (SID) and standard instrument arrival (STAR) routes

Instrument-approach charts

Communications and radio-navigation planning data

Completion of a manual navigation plan

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

Additional

Breakdown of average student's workload

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

¹ delete or add other activities as appropriate