COURSE DESCRIPTION CARD - SYLLABUS

Course name
Flight planning and monitoring 2 [S1Lot2-PSPL>WiPLs6]

Course

Field of study
Aviation

Year/Semester
3/6

Area of study (specialization)
Aircraft Piloting

Profile of study
general academic

Level of study
first-cycle

Course offered in
Polish

Form of study
full-time

Requirements
elective

Number of hours

Lecture
15

Laboratory classes
0

Other
0

Tutorials
30

Projects/seminars
0

Number of credit points

5,00

Coordinators

Wojciech Nowaczyk

Lecturers

Prerequisites

Basic knowledge of flight planning. Ability to apply the scientific method to problem-solving. Readiness to collaborate in a team environment.

Course objective

To familiarize students with flight planning and monitoring principles in accordance with applicable regulations. To develop skills in operational flight planning and preparing flight plans for air traffic services.

Course-related learning outcomes

Knowledge:
Structured theoretical knowledge of key technical aspects and specialized topics related to air transport, including techniques, methods, and tools used in aviation engineering.
Basic understanding of research methods, conducting scientific studies, and principles of academic writing.
Knowledge of aviation safety and management, including human factors, reliability assessment, and pilot health conditions affecting flight performance.
Proficiency in self-learning using modern educational tools such as online lectures, databases, e-books, and digital learning programs.

Skills:
Ability to gather, analyze, and critically evaluate information from various sources (literature, databases in Polish and English).
Proficiency in using information and communication technologies applicable to different stages of aviation operations.
Ability to plan and conduct experiments, including measurements and computer simulations, and correctly interpret results.
Capability to apply analytical, simulation, and experimental methods in solving civil aviation-related problems.
Competence in probability theory and statistical analysis, with the ability to interpret and apply statistical methods in aviation engineering.
Ability to collaborate and work in a team, taking on various roles and prioritizing tasks effectively.
Capability to plan and pursue lifelong learning, including opportunities for advanced studies and professional development.
Social Competencies:
Awareness of the social role of an aviation engineer, including the responsibility to communicate technical advancements and engineering developments to the public.
Ability to identify and resolve ethical dilemmas in aviation and astronautics.

Social competences:
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Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture: Knowledge and skills are assessed through a 1.5-hour written exam.
Exercises: Knowledge acquired during exercises is assessed through two 45-minute tests conducted during the 3rd and 7th classes.

Programme content

Flight Monitoring and Replanning
Continuous monitoring of flight parameters to ensure compliance with the flight plan and operational optimization.
Flight Path and Time Monitoring
Tracking the aircraft's position and comparing it with the planned route and estimated flight time.
In-Flight Fuel Management
Optimizing fuel consumption based on operational conditions and changing flight parameters.
Plan Modification During Flight
Handling deviations from planned data and making necessary adjustments.

Course topics

ICAO Flight Plan (ATS Flight Plan - FPL)
Individual FPL Format
Repetitive Flight Plan (RPL)
Flight Monitoring and Replanning
Tracking Flight Path and Time
Fuel Management in Flight

Teaching methods

Lecture: Multimedia presentation.
Exercises: Practical examples presented on the board and completion of assigned tasks.

Bibliography

Basic:
Polak Z., Rypulak A., Bilski J., Avionics, Instruments, and Onboard Systems, WSOSP, Dęblin, 1999.

Additional:
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Breakdown of average student's workload

	Hours	ECTS
Total workload	125	5,00
Classes requiring direct contact with the teacher	45	2,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	80	3,00