COURSE DESCRIPTION CARD - SYLLABUS

Course name
VFR Flight Planning [S1Lot2-ORL>PLVFR]

Course

Field of study
Aviation

Year/Semester
2/3

Area of study (specialization)
Air Traffic Organisation

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
15

Projects/seminars
15

Number of credit points

5,00

Coordinators

mgr inż. Katarzyna Pietrzak
katarzyna.pietrzak.1@put.poznan.pl

Lecturers

Prerequisites

Knowledge: Basic knowledge of aviation Skills: Can analyze the presented data as well as legal regulations and requirements. Can implement data in new environments Social competences: Prepared for independent work with a presentation of its effects

Course objective

Getting acquainted with the principles of visual flight planning, in general aviation, in uncontrolled airspace

Course-related learning outcomes

Knowledge:
1. 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 [L1_W03]
2. has detailed knowledge related to selected issues in the field of manned and unmanned aircraft construction, in the field of on-board equipment, control systems, communication and recording systems, automation of individual systems, has basic knowledge of flight simulation training devices and

simulation methods used to solve problems air transport [L1_W006]
3. has basic knowledge of aviation law, organizations operating in civil aviation and knows the basic principles of state aviation functioning, has basic knowledge of key issues in the functioning of civil aviation [L01_W24]

Skills:
1. can, when formulating and solving tasks related to civil aviation, apply appropriately selected methods, including analytical, simulation or experimental methods [L_U04]
2. is able to assess - at least in the basic scope - various aspects of the risk associated with a logistics undertaking in air transport [L_U06]
3. can analyze the strategies of enterprises and interpret their activities, and can use in practice the basic tools of strategic analysis [L_U08]

Social competences:
1. understands that in technology, knowledge and skills very quickly become obsolete [L_K01]
2. correctly identifies and resolves dilemmas related to the profession of aerospace engineer [L_K05].

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Lecture - written test, exercises - final test, project - presentation of the completed project

Programme content

Lecture: Flight Planning for General Aviation Aircraft, Including Specifically:
1. Airspace analysis - minimum conditions for performing VFR flights.
2. Verification of airport infrastructure availability - analysis of information found on maps, AIP analysis.
3. Meteorological analysis - reading weather reports, determining wind components.
4. Route determination and llotting - navigation waypoints along the route, course correction due to wind.
5. Distance, speed, fuel - calculations for flight segments.
6. Performance monitoring - factors influencing aircraft performance in different phases of flight.
7. Mass and balance control - determining the center of gravity, maximum and minimum weight.
Exercises:
1. Searching for information in AIP - basic information about airports and procedures.
2. Meteorological analysis
3. Tasks related to determining aircraft course - based on formulas and using an aviation calculator.
4. Distance, speed, fuel - calculations for flight segments.
5. Determining take-off distance and landing distance.
6. Determining aircraft center of gravity and balance control.
Project:
Developing a flight route. Students will be required to find regulations and fee policies for selected airports. The instructor will provide the main guidelines, and students will complete the projects independently. At the end of the semester, they will present their work.

Course topics

1. Airspace analysis
2. Airport infrastructure analysis
3. Meteorological analysis
4. Route determination and plotting
5. Distance, speed, fuel - segment calculations
6. Performance monitoring
7. Mass and balance control

Teaching methods

Informative (conventional) lecture (providing information in a structured way) - may be of a course (introductory) or monographic (specialist) character
The exercise method (subject exercises, practice exercises) - in the form of auditorium exercises (application of acquired knowledge in practice - may take various forms: solving cognitive tasks or

training psychomotor skills; transforming a conscious activity into a habit through repetition)
Project method (individual or team implementation of a large, multi-stage cognitive or practical task, the effect of which is the creation of a work)

Bibliography

Basic:
1. Flight Planning & Monitoring - EASA | Aviationexam, wyd. Jeppsen
2. Osiągi, wyważenie i planowanie lotu szkolenie EASA, wyd. Pileus
3. Szutowski L., Poradnik pilota samolotowego, Poznań 2007
4. Compa T., Zarządzanie przestrzenią powietrzną, AON, Warszawa 2003
5. Domicz J., Szutowski L., Podręcznik pilota samolotowego, Poznań 2008

Additional:
1. Zarządzanie ruchem lotniczym w przestrzeni powietrznej RP, WLOP, Warszawa 2002.
2. Ustawa Prawo Lotnicze.

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