COURSE DESCRIPTION CARD - SYLLABUS

Course name

Airport efficiency and development

Course

Field of study

Aerospace Engineering

Year/Semester

2/3

Area of study (specialization)

Civil Aviation

Profile of study

general academic

Level of study

Second-cycle studies

Course offered in

polish

Form of study

full-time

Requirements

elective

Number of hours

Lecture

15

Laboratory classes

0

Other (e.g. online)

0

Tutorials

0

Projects/seminars

15

Number of credit points

2

Lecturers

Responsible for the course/lecturer:

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Wydział Inzynierii Lądowej i Transportu

ul. Piotrowo 3

60-965 Poznań

Responsible for the course/lecturer:

Prerequisites

Knowledge: The student has a basic knowledge of airports in Poland and the largest airports in the world, knows the basic nomenclature related to the air pore infrastructure.

Skills: The student is able to independently search for information in literature sources and the Internet,

Social competences: The student is able to work in a group and knows the rules of discussion,

Course objective

Familiarizing students with issues related to the efficiency and development of airports. Presentation and determination of the impact of the airport on the development of the region.

Course-related learning outcomes

Knowledge

1.has extended knowledge necessary to understand the profile subjects and specialist knowledge about the construction, construction methods, manufacturing, operation, air traffic management, safety systems, economic, social and environmental impact in the field of aviation and aerospace for selected specialties: Civil Aviation, BSP

2. has an ordered, theoretically founded general knowledge covering key issues in the field of the impact of aviation on the natural environment, emission of toxic compounds in aviation propulsion, acoustic emission of flying objects

3. has basic knowledge of aircraft movement in the air and air traffic services

4. has detailed knowledge related to selected issues in the field of ground handling of aircraft and propulsion systems, taking into account logistics aspects

Skills

1. Can communicate using various techniques in the professional and other environments, using the formal notation of construction, technical drawing, concepts and definitions of the field of study studied

2. has the ability to self-study with the use of modern didactic tools, such as remote lectures, internet websites and databases, teaching programs, e-books

3. Can obtain information from literature, the Internet, databases and other sources. Can integrate the obtained information, interpret and draw conclusions from it, as well as create and justify opinions

Social competences

1. Is ready to critically evaluate the possessed knowledge and perceived content, recognize the importance of knowledge in solving cognitive and practical problems, and consult experts in the event of difficulties in solving the problem on its own

3. Can think and act in an entrepreneurial manner

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

LECTURE: written exam from the content presented during the lecture

PROJECT: assessment of the completed project regarding the impact of the selected port on the region and its defense

Programme content

LECTURE:

1. The global air transport services market (the concept of the market, the genesis and development of the global air transport services market, development trends in the air transport services market, directions of airport development)

2. The air transport services market in Poland (genesis and development of the air transport services market in Poland, development trends in the air transport services market, development directions of Polish airports)

3. Entities operating in the air transport services market: passengers, airlines, airports, handling agents)

4. Specifics of an airport as an enterprise (aviation and commercial activity, airport revenue structure, airport cost structure, long-term investment cycle at airports, economies of scale at airports, break-even point at airports, airport privatization)

5. Methods for measuring airport efficiency and their application in PRACTICE (Partial Factor Productivity (PFP), Total Factor Productivity (TFP), Stochastic Frontier Analysis (SFA), Data Envelopment Analysis (DEA)

6. Research on airport efficiency in the world (based on ratio analysis, based on the DEA method, technical efficiency research, financial efficiency research, mixed efficiency research)

DESIGN:

Subject: Research on the efficiency of airports in Poland

Teaching methods

Informative (conventional) lecture (transfer of information in a systematic way) - can be (propedeutical) or monographic (specialist)

Project method (individual or team implementation of a large, multi-stage cognitive or practical task, which results in the creation of a work)

Bibliography

Basic

1. Regionalny zintegrowany plan policentrycznego rozwoju obszarów wokół Mazowieckiego Portu Lotniczego Warszawa-Modlin / [autor raportu: Marcin Nejman ; współpraca: Piotr Brzeski, Janusz Jeżak, Jakub Błachut ; tłumaczenie: Bartłomiej Matulewicz].Warszawa : Mazowieckie Biuro Planowania Regionalnego, 2016.

2. Praktyczne aspekty bezpieczeństwa w lotnictwie na przykładzie Portu Lotniczego im. Fryderyka Chopina / red. nauk. Tadeusz Compa, Jan Rajchel, Krzysztof Załęski ; Wyższa Szkoła Oficerska Sił Powietrznych. Dęblin : Wydawnictwo Wyższej Szkoły Oficerskiej Sił Powietrznych, 2012.

3. Porty lotnicze - infrastruktura, eksploatacja i zarządzanie / Michał Kozłowski. Warszawa : Oficyna Wydawnicza Politechniki Warszawskiej, 2015.

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	60	2,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (literature studies, preparation for test, studium preparation) [1]	30	1,0

[1] delete or add other activities as appropriate