POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)
pl. M. Skłodowskiej-Curie 5, 60-965 Poznań

COURSE DESCRIPTION CARD - SYLLABUS

Course name
Computer support for airport processes

Course

Field of study	Year/Semester
Aerospace Engineering	1/2
Area of study (specialization)	Profile of study
–	general academic
Level of study	Course offered in
Second-cycle studies	polish
Form of study	Requirements
full-time	compulsory

Number of hours

Lecture	Laboratory classes	Other (e.g. online)
15	15	0
Tutorials	Projects/seminars	
0	0	

Number of credit points

2

Lecturers

Responsible for the course/lecturer:

Waldemar Walerjańczyk

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tel. 616652775

Faculty ofr Civil and transport Engineering

ul. Piotrowo 3, 60-965 Poznań

Responsible for the course/lecturer:

Prerequisites

Knowledge: Basic knowledge of physics and geography.

Skills: He can analyze the interdependencies between the effects and causes of phenomena and events resulting from the laws of physics

Social competences: Prepared for teamwork.

Course objective

Getting to know the possibilities of computer aided airport operations, the principles of airport operation and typical problems characteristic of such complex structures. Mastering the theoretical foundations of the identification, modeling and optimization of the most important airport subsystems.

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Course-related learning outcomes

Knowledge

1.has basic knowledge necessary to understand social, economic, legal and other non-technical determinants of engineering activity

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

3. has an organized and theoretically founded knowledge of computer-aided manufacturing methods and their application in industry

Skills

1. is able to assess the usefulness and use the tools integrated with the spatial modeling packages, and correctly interpret their results

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

Social competences

1. is able to properly define the priorities for the implementation of the task set by himself or others

2. is able to interact and work in a group, assuming various roles in it

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Knowledge of the scope covered by the theoretical part will be verified by a semester written work (colloquium), and laboratory classes each time on the basis of the presented report on the implementation of tasks.

Programme content

As part of the course, students will learn the basic principles of airport operation, both in theoretical and practical terms, based on the example of the Poznań-Ławica airport. Issues related to the development of air traffic in Poland and its impact on the development of airports and methods of their management and control will be discussed. Typical operations in the airport area, take-off and landing procedures, passenger and baggage handling and related hazards will be characterized. Particular attention will be paid to the functioning of the passenger terminal, airport infrastructure and airport facilities. Students will learn the methods of modeling selected processes and traffic flows as well as the tools used in issues related to the problems of airport capacity. As part of the laboratory classes, they will carry out a number of computational experiments using the most modern systems supporting the modeling and simulation of airport processes (including RAMS Plus recommended by the European Organization for the Safety of Air Navigation Eurocontrol)

Teaching methods

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

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Laboratory (experiment) method (students conduct experiments independently)

Bibliography

Basic

1. Aneks 14 ICAO (International Civil Aviatoin Organization) do Międzynarodowej Chicagowskiej Konwencji Lotnictwa Cywilnego 2. Zarządzanie ruchem lotniczym (PL-4444), Urząd Lotnictwa Cywilnego Warszawa 2006 3. M. Malarski, Inżynieria ruchu lotniczego, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2006 4. Ludomir M. Laudański 15 wykładów aeromechaniki. Wstęp do specjalności lotniczych. Oficyna Wydawnicza Politechniki Rzeszowskiej , Wydanie II 2005 5. Basiewicz T. , Gołaszewski A., Rudziński L., Infrastruktura transportu, Oficyna Wydawnicza Politechniki Warszawskiej, 200 6. Compa T., Zarządzanie przepływem ruchu lotniczego., Dęblin, Wydawnictwo Wyższej Szkoły Szkoły Oficerskiej Sił Powietrznych 2008, Arch. 444583

Additional

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam) [1]	20	1,0

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[1] delete or add other activities as appropriate