



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Diploma seminar

### Course

Field of study

Aerospace Engineering

Area of study (specialization)

Aviation safety and management

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

4/7

Profile of study

general academic

Course offered in

polish

Requirements

elective

### Number of hours

Lecture

0

Laboratory classes

0

Other (e.g. online)

0

Tutorials

0

Projects/seminars

15

### Number of credit points

20

### Lecturers

Responsible for the course/lecturer:

Jerzy Merkisz

Responsible for the course/lecturer:

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### Prerequisites

Knowledge: Basic knowledge of physics, mathematics, economics, major subjects

Skills: Ability to use basic MS Office, CAD and other computer programs depending on the interest and the problem undertaken

Social competences: Teamwork skills

### Course objective

Theoretical and practical preparation to write a diploma thesis (engineering) with each graduate

### Course-related learning outcomes

Knowledge

1. has a basic knowledge of the life cycle of technical devices, facilities and systems, as well as the methods of their technical description - [[K1A\_W22]]
2. has basic knowledge necessary to understand social, economic, legal and other non-technical determinants of engineering activity.- [[K1A\_W24]]
3. knows the general principles of creating and developing forms of individual entrepreneurship, also taking into account time management, as well as the skills of correct self-presentation, using knowledge in the field of science and scientific disciplines relevant to aviation and astronautics - [[K1A\_W26]]

Skills

1. can organize and substantively manage the process of designing and operating a simple on-board device, machine or technical flying object from the group covered by the selected specialty - [[K1A\_U15]]
2. is able to assess the usefulness and use the tools integrated with the spatial modeling packages, and correctly interpret their results - [[K1A\_U17]]

Social competences

1. understands the need for lifelong learning; can inspire and organize the learning process of other people - [[K1A\_K01]]
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 related responsibility for decisions- [[K1A\_K02]]

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:



Discussion during the classes, with the use of individual analyzes and studies of the student on the issue raised in the field of air transport. Final work

### Programme content

Structure of an engineering thesis: method of literature analysis to determine the state of knowledge in the issue covered by the topic of the thesis, formulation of the research problem (main theses), methodology of research (analytical, experimental) and their results, formulation of observations and conclusions. Principles of quoting foreign studies. Discussion of (consecutively) completed diploma theses: the speaker should demonstrate the knowledge of the latest achievements in a given field of science and technology (domestic and foreign publications). General discussion on the subject of the presented work and the adopted method of its implementation. General characteristics of the diploma thesis. Formal and editorial requirements of the thesis. The structure and types of theses. Selection of literature. Development of source materials and links. Development of a work plan. Subject, purpose, schedule of implementation. Develop a research program. Research model. Experimental research. Simulation research. Optimization and verification of research results. Initial reporting of the thesis. Discussion of the results of work to date. Formulating conclusions. Second reporting of work. Topic, final goal, scope of work. Student discussion. Editorial notes. Final presentation of the work. Preparation and development of guidelines for the defense of the thesis. Completion of the diploma seminar.

### Teaching methods

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. Żylicz. M .Międzynarodowe prawo lotnicze , Lexis, Warszawa 2011
2. B. Branowski - Metody twórczego rozwiązywania problemów inżynierskich, Wielkopolska Korporacja Techniczna NOT, Poznań 1999
3. Lewitowicz J. (red) Problemy badań i eksploatacji techniki lotniczej. Wydawnictwo ITWL, Warszawa 2006.

#### Additional

1. Zb. Kłós (red.) Rozprawy naukowe. Wydawnictwo Politechniki Poznańskiej, Poznań 2011



### Breakdown of average student's workload

	Hours	ECTS
Total workload	500	20,0
Classes requiring direct contact with the teacher	100	4,0
Student's own work (literature studies, thesis preparation) <sup>1</sup>	400	16,0

<sup>1</sup> delete or add other activities as appropriate