



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Diploma Seminar

### Course

Field of study

Aerospace Engineering

Area of study (specialization)

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Level of study

Second-cycle studies

Form of study

full-time

Year/Semester

2/3

Profile of study

practical

Course offered in

Polish

Requirements

elective

### Number of hours

Lecture

0

Laboratory classes

0

Other (e.g. online)

0

Tutorials

30

Projects/seminars

### Number of credit points

12

### Lecturers

Responsible for the course/lecturer:

prof. dr hab. inż. Krzysztof Wiślocki

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Instytut Silników Splainowych i Napędów

Wydział Inżynierii Lądowej i Transportu

Responsible for the course/lecturer:

### Prerequisites

Knowledge: Has the knowledge necessary to understand the profile subjects and specialist knowledge about the construction, methods of construction, manufacturing, operation, air traffic management, safety systems, impact on the economy, society and the environment in the field of aviation and aerospace for selected specialties: Civil Aviation

Skills: has the ability to self-educate using modern teaching tools, such as remote lectures, websites and databases, teaching programs, e-books is able to 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: understands the need for lifelong learning; can inspire and organize the learning process of other people

### Course objective

Theoretical and practical preparation for writing a master's thesis with each graduate. Discussing the rules of writing a thesis, setting the aim and scope of the master's thesis. Training of self-presentation and preparation and conducting of a scientific presentation

### 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 knowledge of how to develop research methodology.

#### Skills

1. has the ability to self-educate with the use of modern teaching tools, such as remote lectures, websites and databases, teaching programs, e-books.
2. can obtain information from literature, the Internet, databases and other sources. Can integrate the obtained information, interpret and draw conclusions from it, and create and justify opinions.
3. can use formulas and tables, technical and economic calculations with the use of a spreadsheet, programming tools of his own authorship, specialized software
4. is able to prepare and present a short verbal and multimedia presentation devoted to the results of an engineering task

#### Social competences

1. Understands the need for lifelong learning; can inspire and organize the learning process of other people.
2. Is ready to critically evaluate the knowledge and content received, recognize the importance of knowledge in solving cognitive and practical problems, and consult experts in case of difficulties in solving the problem on its own.
3. is able to properly define priorities for the implementation of a task set by himself or others.

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Discussion during the course, using individual analyzes and studies of the student in the matter of the issue taken in the field of air transport. Presentations of the students' achievements so far as part of the master's thesis. Final work. Presentation of progress in the form of a multimedia presentation of a scientific nature.

### Programme content



The structure of the master's thesis: the way of analyzing the literature to determine the state of knowledge in the issue covered by the topic of the thesis, the formulation of the research problem (fundamental thesis thesis), the method of presenting the research methodology (analytical, experimental) and their results, formulating observations and conclusions. Rules for citing foreign studies. Discussing (in succession) the diploma theses: the referrer should demonstrate knowledge of the latest developments in a given field of science and technology (domestic and foreign publications). General discussion on the subject of the presented work and the way of its implementation. General characteristics of the diploma thesis. Formal and editorial requirements for the diploma thesis. Structure and types of theses. Selection of literature. Development of source materials and links. Preparation of a work plan. Subject, goal, implementation schedule. Development of a research program. Research model. The essence and principles of an appropriate selection of a research method. Simulation methods with the indication of sample computer programs. Data analysis methods. Field work, preparation of material for the diploma thesis (cooperation with the company). Interpretation of the obtained results in the context of the problems posed. Development of the concept of a solution, projects and other achievements based on research results. Experimental research. Simulation tests. Optimization and verification of test results. Initial reporting of work. Discussing current work results. Formulation of applications. The second report of work. Subject, final goal, scope of work. Discussion of students. Editorial comments. The final presentation of the work. Preparation and development of guidelines for defense of thesis. Passing the diploma seminar.

### Teaching methods

Informative (conventional) lecture (providing information in a structured way) - may be of a course (introductory) or monographic (specialist) character

Problem method, workshop method, simulation method

### Bibliography

Basic

1. Wiślocki K.: Metodologia i redakcja prac naukowych. Wyd. Politechniki Poznańskiej, Poznań 2013
2. B. Branowski - Metody twórczego rozwiązywania problemów inżynierskich, Wielkopolska Korporacja Techniczna NOT, Poznań 1999
3. Zb. Kłós (red.) - Rozprawy naukowe. Wydawnictwo Politechniki Poznańskiej, Poznań 2011

Additional



### Breakdown of average student's workload

	Hours	ECTS
Total workload	300	12,0
Classes requiring direct contact with the teacher	50	2,0
Student's own work (literature studies, preparation Master thesis) <sup>1</sup>	250	10,0

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