



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Introduction to scientific research

Course

Field of study

Aerospace Engineering

Area of study (specialization)

-

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

3/6

Profile of study

general academic

Course offered in

Polish

Requirements

compulsory

Number of hours

Lecture

15

Laboratory classes

0

Other (e.g. online)

0

Tutorials

0

Projects/seminars

0

Number of credit points

1

Lecturers

Responsible for the course/lecturer:

Responsible for the course/lecturer:

dr inż. Wojciech Karpiuk

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Wydział Inżynierii Lądowej i Transportu

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Prerequisites

Knowledge: The student has basic technical knowledge in the field of aviation.

Skills: The student is able to obtain information from literature, databases and other, properly selected sources.

Social competencies: The student understands the need for lifelong learning, can inspire and organize the learning process of other people, understands the need and ability to self-education, has the ability to work in a team.



Course objective

Preparation for conducting scientific research, including the preparation of promotional thesis - the main goal.

Other goals:

- presentation of basic terms in the field of scientific research methodology,
- learning the ability to formulate research problems
- describing the methodological basis of writing scientific and promotional thesis (basic issues of their technical editing).

Course-related learning outcomes

Knowledge

has basic knowledge necessary to understand social, economic, legal and other non-technical conditions of engineering activities

Skills

can obtain information from literature, the Internet, databases and other sources. Can integrate the information obtained and interpret conclusions and create and justify opinions

Social competences

understands the need to learn throughout life; can inspire and organize the learning process of others

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Passing the lecture - one-choice test.

Programme content

- definitions in the field of scientific research (science, knowledge, scientific work, methodology, method),
- scientific works, promotional works (engineering, master's, doctoral, habilitation),
- methodology and construction of the implementation of scientific works (functional and material sense),
- principles of conducting scientific research (processing of materials, preparation of results, etc.),
- research methods in scientific works (experiment, modeling, simulation),
- editing of scientific papers.

Teaching methods

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



Bibliography

Basic

1. Leszek W.: Wybrane zagadnienia metodyczne badań empirycznych. Wyd. Instytutu Technologii i Eksploatacji, Radom 2006.
2. Pytkowski W.: Organizacja badań i ocena prac naukowych. PWN, Warszawa 1985.

Additional

1. Cempel C.: Nowoczesne zagadnienia metodologii i filozofii badań. Instytut Technologii Eksploatacji, Radom?Poznań 2005.
2. Kolman R.: Zdobywanie wiedzy. Oficyna Wydawnicza Branta, Bydgoszcz?Gdańsk 2004.
3. Kotarbiński T.: Dzieła wszystkie. Elementy teorii poznania, logiki formalnej i metodologii nauk. Ossolineum 1990.
4. Leszek W., Wojciechowicz B., Zwierzycki W.: Metodologia generowania i realizacji programów badawczych w nauce o eksploatacji obiektów technicznych. Wyd. Instytutu Technologii Eksploatacji, Radom?Poznań 2004.
5. Leszek W.: Badania empiryczne. Wybrane zagadnienia metodyczne. Instytut Technologii Eksploatacji, Radom 1997.
6. Leszek W.: Nieempiryczne procedury badawcze w naukach przyrodniczych i technicznych. Instytut Technologii Eksploatacji, Radom 1999.
7. Łobocki M. : Metody badań pedagogicznych. PWN, Warszawa 1984.
8. Mämmelä A.: How to Get a Ph.D. Methods and Practical Hints. W: III Interdisciplinary Technical Conference of Young Scientists, Intertech, Proceedings. Poznan University of Technology, Poznań 2010.
9. Pabis S.: Metodologia nauk empirycznych. Wyd. Uczelniane Politechniki Koszalińskiej, Koszalin 2007.
10. Wilson E, Bright J.: Wstęp do badań naukowych. PWN, Warszawa 1968.
11. Wiśłocki K.: Metodologia i redakcja prac naukowych, Wydawnictwo Politechniki Poznańskiej, 2013.
12. Zieleniewski J.: O organizacji badań naukowych. PWE, Warszawa 1975.



Breakdown of average student's workload

	Hours	ECTS
Total workload	30	1,0
Classes requiring direct contact with the teacher	15	0,5
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) ¹	15	0,5

¹ delete or add other activities as appropriate