



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Graduation seminar

### Course

Field of study

Year/Semester

Transport

2/3

Area of study (specialization)

Profile of study

Refrigerated transport

general academic

Level of study

Course offered in

Second-cycle studies

polish

Form of study

Requirements

full-time

elective

### Number of hours

Lecture

Laboratory classes

Other (e.g. online)

0

0

0

Tutorials

Projects/seminars

0

15

### Number of credit points

18

### Lecturers

Responsible for the course/lecturer:

Responsible for the course/lecturer:

Prof. dr hab. inż. Stanisław Nosal

email: stanislaw.nosal@put.poznan.pl

tel. 61 665 219

Institute of Internal Combustion Engines and Drives

ul. Piotrowo 3; 60-965 Poznań

### Prerequisites

Knowledge: Knowledge of issues related to the subject of the master's thesis.

Skills: Can use the scientific method in solving problems, carrying out experiments and making conclusions.

Social competences: Knows the limitations of own knowledge and skills; is able to precisely formulate questions, understands the need for further education. General knowledge in the field of study and detailed knowledge related to the selected specialization



### Course objective

Expanding the knowledge and skills on the organization, conducting scientific and technical works and the presentation of the results of these works.

### Course-related learning outcomes

#### Knowledge

Student knows advanced methods, techniques and tools used in solving complex engineering tasks and conducting research in a selected area of transport.

Student has knowledge of ethical codes related to scientific and research work in the field of transport engineering.

#### Skills

Student is able to obtain information from literature, databases and other sources (in Polish and English), integrate them, interpret and critically evaluate them, draw conclusions and formulate and exhaustively justify opinions.

Using among others conceptually new methods, the student is able to solve complex tasks in the field of transport engineering, including typical tasks and tasks with a research component.

The student is able to prepare and present a scientific study in Polish and English, presenting the results of scientific research or an oral presentation on specific issues in the field of transport engineering.

The student is able to determine the directions of further learning and implement the process of self-education, including other people.

#### Social competences

Student understands the importance of using the latest knowledge in the field of transport engineering in solving research and practical problems.

Student understands the importance of popularizing activities regarding the latest achievements in the field of transport engineering.

Student is aware of the need to develop professional achievements and to comply with the rules of professional ethics.

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

The knowledge acquired during the lecture is verified on the basis of the presentation of progress in the implementation of the thesis.

### Programme content

General part: types of qualification theses, including diploma theses and rules for their implementation, requirements for master's theses. Formulating a technical problem and thesis,



study of literature, methodological part of the thesis, presentation of research results, development of observations and conclusions. Principles of work editing, editing support, development of graphic elements, preparation of the work for printing and duplication. Specialist part: reporting on the dissertations carried out by the authors and discussion on them.

### Teaching methods

Information and problematic lecture with a multimedia presentation.

### Bibliography

#### Basic

1. Leszek W. Badania empiryczne. Wyd. ITE, Radom 1997
2. Opoka E., Uwagi o pisaniu i redagowaniu prac dyplomowych na studiach technicznych, Wyd. Politechniki Śląskiej, Gliwice 2003
3. Dobrze obyczajaj się w nauce. Zbiór zasad i wytycznych (wyd. 3), Wyd. PAN Warszawa 2001
4. Zaczyński W.: Poradnik autora prac seminaryjnych, dyplomowych i magisterskich. Warszawa 1995
5. Urban S., Ładoński W., Jak napisać dobrą pracę magisterską, wyd. 4 uzupełniona, Wyd. Akademia Ekonomiczna we Wrocławiu, Wrocław 2001

#### Additional

1. Wojciechowska R., Przewodnik metodyczny pisania pracy dyplomowej. Wyd. DIFIN, 2010
2. Boć J., Jak pisać pracę magisterską, wyd. 4 poprawiona, Wyd. Kolonia Wrocław, 2003

### Breakdown of average student's workload

	Hours	ECTS
Total workload	425	18,0
Classes requiring direct contact with the teacher	40	2,0
Student's own work (literature studies, preparation for tutorials, preparation for tests) <sup>1</sup>	385	16,0

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