



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Diploma seminar

### Course

Field of study

Construction and Exploitation of Means of Transport

Area of study (specialization)

Internal Combustion Engines

Level of study

Second-cycle studies

Form of study

part-time

Year/Semester

2/3

Profile of study

general academic

Course offered in

polish

Requirements

compulsory

### Number of hours

Lecture

0

Laboratory classes

0

Other (e.g. online)

0

Tutorials

0

Projects/seminars

9

### Number of credit points

18

### Lecturers

Responsible for the course/lecturer:

DSc. DEng. Piotr Lijewski prof. PUT

Responsible for the course/lecturer:

second person allowed

### Prerequisites

KNOWLEDGE: the student has basic general knowledge about the construction of the surrounding world and the laws that govern it

SKILLS: the student is able to integrate the obtained information, interpret it, draw conclusions, formulate and justify opinions

SOCIAL COMPETENCES: the student is aware of the social and economic importance of environmental protection

### Course objective

Acquainting the student with the stages of writing an engineering diploma thesis and its correct editorial preparation

### Course-related learning outcomes

Knowledge

1. Has extended knowledge of mathematics in the field of numerical methods used in optimization tasks, computer simulation, linear algebra, interpolation and approximation.



2. Has in-depth knowledge of the construction and principles of operation as well as classification of machines from a selected group.
2. Has extended knowledge of thermodynamics and fluid mechanics to the extent necessary to understand the principles of operation and calculations of thermodynamic and flow processes occurring in machines such as heating, cooling, drying, thermal agglomeration? pressure, etc. pneumatic transport, energy conversion, etc.
3. Has extended knowledge in the field of computer science, concerning computer programming and engineering calculation programs in the field of computer simulation of physical systems.
4. Is aware of the civilization effects of techniques

#### Skills

1. Can design a technology of exploitation of a selected machine with a high degree of complexity.
2. Can develop a technical description, offer and construction documentation for a complex machine from a selected group of machines.
3. Can interact with other people as part of team work and take a leading role in teams.

#### Social competences

1. Is ready to critically assess the knowledge and content received.
2. Is ready to recognize the importance of knowledge in solving cognitive and practical problems and to consult experts in case of difficulties in solving the problem on its own.

#### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Discussion, combined with the assessment of exemplary implementation of engineering diploma theses.

Credit based on a study containing basic information on the student's engineering diploma thesis.

#### Programme content

The process of writing an engineering diploma thesis (the origin of the thesis topic, preparatory activities, source materials). Preparation of the thesis (general requirements, editorial work, ethical issues). Basics of the theory of the experiment (research planning, construction of research object models, analysis of results). The role of the promoter in the process of creating a job. Principles of the assessment of the engineering diploma thesis..

#### Teaching methods

#### Bibliography



Basic

1. Leszek W., Badania empiryczne, wyd. ITE, Radom 1997.
2. Majchrzak J., Mendel T., Metodyka pisania prac magisterskich i dyplomowych. Wydawnictwo Akademii Ekonomicznej w Poznaniu, Poznań 2005.
3. Pułło A., Prace magisterskie i licencjackie. PWN, Warszawa 2000.
4. Korzyński M., Metodyka eksperymentu. Wydawnictwo NT, Warszawa 2006.
5. Szkutnik Z., Metodyka pisania pracy dyplomowej. Wyd. Poznańskie, ISBN 8371773714, 2005

Additional

1. Leszek W. Nieempiryczne procedury badawcze w naukach przyrodniczych i technicznych. Wydawnictwo ITE, Radom 1999.
2. Polański Z., Planowanie doświadczeń w technice. PWN, Warszawa

**Breakdown of average student's workload**

	Hours	ECTS
Total workload	434	18,0
Classes requiring direct contact with the teacher	9	1,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) <sup>1</sup>	425	17,0

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