



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Preparation for research (diploma thesis) [S2MiBP1E-PE>PdBN]

### Course

Field of study

Mechanical and Automotive Engineering

Year/Semester

2/3

Area of study (specialization)

Product Engineering

Profile of study

general academic

Level of study

second-cycle

Course offered in

English

Form of study

full-time

Requirements

compulsory

### Number of hours

Lecture

0

Laboratory classes

0

Other (e.g. online)

0

Tutorials

0

Projects/seminars

10

### Number of credit points

16,00

### Coordinators

dr inż. Jędrzej Kasprzak

jedrzej.kasprzak@put.poznan.pl

### Lecturers

### Prerequisites

**KNOWLEDGE:** The student has advanced and in-depth knowledge of mechanical engineering and transport, theoretical basis, tools and means used to solve simple engineering problems. **SKILLS:** The student is able to plan and carry out experiments, including measurements and simulations, interpret the obtained results and draw conclusions as well as formulate and verify related hypotheses with complex engineering problems and simple research research problems. **SOCIAL COMPETENCES:** The student understands that knowledge and skills develop very quickly outdated.

### Course objective

Expanding knowledge and skills on planning and conducting research and the ability to present the results of these works.

### Course-related learning outcomes

Knowledge:

He has in-depth knowledge of the construction, principles of operation and classification of machines from a selected group.

Has a general knowledge of the types of research and methods of testing working machines with the use

of modern measurement techniques and data acquisition.  
Has extended knowledge of the standards for working machines in the field of methods of calculating and testing machines, safety, including road safety, environmental protection as well as mechanical and electrical interface.

#### Skills:

Can formulate and test hypotheses related to simple research problems.  
Can plan and carry out experimental research of specific processes taking place in machines and routine tests of a working machine or a vehicle from a selected group of machines.  
He can design the technology of exploitation of a selected machine with a high degree of complexity.

#### Social competences:

He is ready to critically assess his knowledge and received content.  
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.  
Is willing to think and act in an entrepreneurial manner.

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

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Credit for the course on the basis of:

- evaluation of the presented thesis,
- regularity of its implementation,
- technical problem solving skills.

### Programme content

Compatible with the given topic of the thesis.

### Course topics

Discussion on current tasks and problems related to the preparation of the diploma thesis, including:

- 1) Interpretation and clarification of the topic and scope of thesis
- 2) Formulating and final verification of goals (main goal, tasks to be performed, criteria for achieving goals)
- 3) Selection of literature
- 4) Discussion of the final shape of the diploma thesis (including formal parts: introduction, genesis, purpose of the thesis, theoretical/descriptive part, practical part, summary and conclusions, literature)
- 5) Completion of the theoretical/descriptive part of the thesis (if applicable)
- 6) Carrying out the practical part of the thesis (if applicable)
- 7) Preparation of the summary of the thesis and final editing of the whole thesis
- 8) Defense of master's thesis

### Teaching methods

Discussion with the graduate about currently emerging problems, ongoing explanations or application sources in the subject literature for solving problems.

### Bibliography

Basic

1. Scientific and technical literature necessary to prepare the diploma thesis

Additional

### Breakdown of average student's workload

	Hours	ECTS
Total workload	425	16,00
Classes requiring direct contact with the teacher	10	5,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	415	11,00