



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Passing Project [N1MiBP1>PPRZEJ]

### Course

Field of study

Mechanical and Automotive Engineering

Year/Semester

3/6

Area of study (specialization)

–

Profile of study

general academic

Level of study

first-cycle

Course offered in

Polish

Form of study

part-time

Requirements

compulsory

### Number of hours

Lecture

0

Laboratory classes

0

Other (e.g. online)

0

Tutorials

0

Projects/seminars

4

### Number of credit points

5,00

### Coordinators

dr hab. inż. Jarosław Selech prof. PP  
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### Lecturers

### Prerequisites

**Knowledge:** The student has knowledge of the basics of machine design, materials science and machine construction technology, as well as the basics of knowledge regarding the methodology and principles of design, construction, technology of production and operation of motor vehicles, in particular diagnostics, maintenance and repair of vehicles. **Skills:** The student is able to use the available sources of engineering knowledge, including standards, guides and instructions, from domestic and foreign thematic publication databases, and to use the selected computer text editor and correctly use the language in which the work is to be written, and is also able to use the tools supporting engineering works in the areas covered by the study program. **Social competences:** The student is aware of the proper documentation and reliable presentation of the results of his own engineering work, taking into account the copyright of engineering solutions in the field of construction and operation.

### Course objective

Preparing the student for independent work, synthesizing the acquired knowledge in the field of construction or operation of motor vehicles, proper linking it with future engineering work and carrying out a written work/thesis on a given topic in accordance with the applicable rules of written and graphical documentation of the results of engineering work.

## Course-related learning outcomes

### Knowledge:

Has knowledge in the field of mathematics, including algebra, analysis, theory of differential equations, probability, analytical geometry necessary to: describe the operation of discrete mechanical systems, understand computer graphics methods, describe the operation of electrical and mechatronic systems. Is aware of the latest trends in machine construction, i.e. automation and mechatronization, automation of machine design and construction processes, increased safety and comfort of operation, the use of modern construction materials.

Has extended basic knowledge necessary to understand specialist subjects and specialist knowledge about the construction, construction methods, manufacturing and operation of a selected group of working, transport, thermal and flow machines covered by the diploma path.

### Skills:

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.

Can search in catalogs and on manufacturers' websites ready-made machine components to be used in his own projects.

Can interact with other people as part of teamwork (also of an interdisciplinary nature).

Has the ability to self-educate with the use of modern teaching tools, such as remote lectures, websites and databases, teaching programs, e-books.

### Social competences:

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 ready to fulfill social obligations and co-organize activities for the benefit of the social environment.

## Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:

Assessment of the written transitional work, having the attributes of a comprehensive and coherent engineering task, taking into account the substantive, methodological and editorial aspect.

## Programme content

1. Determining the detailed topic and title of the work as well as its substantive scope, indicating the sources of literature searches; discussion of the work schedule, questions, comments and suggestions.
2. Individual discussion with the student on the structure of the work and collected materials; approval of the plan by a consultant conducting transition work.
3. The most important principles of creating works of the nature of independent engineering solutions and recording these solutions in the form of a compact transitional work with a logically developed structure.
4. Taking into account the topicality of the topic, genesis, purpose, conclusions and summaries, bibliographic description of the literature and the principles of autonomy of graphic objects, tables, technical drawings, sketches and charts in the work.
5. Correction of substantively completed transitional work and its discussion, summary and evaluation..

## Course topics

principles of engineering design, machine construction technology, manufacturing technologies,

## Teaching methods

1. Publication and discussion of the individual topic of the transitional work in its formal, substantive and methodological aspect.
2. Discussion on the substantive and methodological side and timely implementation of the transitional work as part of the planned consultations and summary of the engineering task undertaken by the consulting lecturer.

## Bibliography

## Basic

1. Zenderowski R.: Technika pisania prac magisterskich i licencjackich. Wyd. CeDeWu, Warszawa, 2018.
2. Dirksen J.: Projektowanie metod dydaktycznych. Efektywna strategia edukacyjna. Wyd. Helion S.A., Gliwice, 2017.
3. Kwaśniewska K.: Jak pisać prac dyplomową (wskazówki praktyczne). Wyd. IV uzupełnione. Wydawnictwo Kujawsko-Pomorskiej Szkoły Wyższej w Bydgoszczy, Bydgoszcz, 2015.

## Additional

1. Wójcik K.: Piszę akademicką pracę promocyjną - licencjacką, magisterską, doktorską, Wolters Kluwer, 2015.
2. Wiśłocki K.: Metodologia i redakcja prac dyplomowych. Wyd. PP, Poznań, 2013.
3. Rawa T.: Metodyka wykonania inżynierskich i magisterskich prac dyplomowych. Wyd. Uniwersytetu Warmińsko-Mazurskiego w Olsztynie, Olsztyn, 2012.
4. Gambarelli G., Łucki Z.: Praca dyplomowa. Wyd. AGH, Kraków, 2011.
5. Przechowski T.: Prace magisterskie, dyplomowe z programem LaTeX. Oficyna Wolters Kluwer Biznes, Warszawa, 2011.
6. Knop Z.K.: Metodyka pisania pracy dyplomowej. Poligrafia, Poznań, 2009.
7. Kolman R.: Zdobywanie wiedzy. Poradnik podnoszenia kwalifikacji. Oficyna Wydawnicza Brandt, Bydgoszcz, 2004.
8. Literature from the substantive area covered by the subject of the summary work.

## Breakdown of average student's workload

	Hours	ECTS
Total workload	125	5,00
Classes requiring direct contact with the teacher	4	1,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	121	4,00