



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Passing Project [S2MiBP1E-PE>PP]

### Course

Field of study

Mechanical and Automotive Engineering

Year/Semester

1/2

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

4

### Number of credit points

5,00

### Coordinators

prof. dr hab. inż. Zbigniew Kłos  
zbigniew.klos@put.poznan.pl

### Lecturers

### Prerequisites

**KNOWLEDGE:** Student has the basic knowledge from his/her field of study, specialization, preliminary seminar and area of diploma work. **SKILLS:** Student possesses ability of integrating and interpreting obtained information, of drawing the conclusions, elaborating simple engineering tasks **SOCIAL COMPETENCES:** Student has the consciousness of the validity of different form of communication, especially in reporting results of engineering tasks

### Course objective

Subject is intended for mechanical engineering students of Product Engineering specialization, absoluees of B.Sc. studies, who want to broaden their education by the issues connected with creation of industrial products – technical objects or industrial processes (services) in their whole life cycle. The goal of study is to prepare young adepts, future product engineers, to formulate and solve problems leading to create more sustainable industrial products. The basics for this proposal is considering the analyzed products in their whole life cycle, starting from design and finishing at disposal stage.

### Course-related learning outcomes

Knowledge:

Has a basic knowledge of general issues concerning relation: industrial products – environment and introduction into the area of creation and management of more sustainable industrial products, mainly technical objects: machines or devices, and processes.

#### Skills:

Is able to prepare technical information in the form of diploma work dealing with an engineering task, developing basic skills in the field of procedures leading to life cycle-oriented industrial products creation and management

#### Social competences:

Is aware of importance and understanding of the effects of undertaking innovative, market oriented, activities leading to creation of sustainable industrial products: technical objects and processes.

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

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Performing a practical task (project) with the use of different tools supporting analysis and creation, ended with the written report

### Programme content

This subject activate them through education in the task system with design form, as well as technical and research activities and development of communication skills with verbal, text, graphics and multimedia measures. Therefore some knowledge leading to posses the knowledge and skills in these fields is delivered. Taking into consideration specificity of specialization 'Product Engineering' some basic knowledge on environment in which technical objects work, its elements and relations between them is presented. Other aspects like legal and economical aspects of sustainable development, economy of used elements of technical objects and vehicles are optionally added.

### Teaching methods

Project

### Bibliography

#### Basic

1. Abele E., Anderl R., Birkhofer H., Environmentally-friendly product development. Springer, London 2005
2. Tools and methods of competitive engineering. Ed. I. Horvath, F. Mandorli, Z. Rusak, Delft University of Technology, Delft 2010

#### Additional

1. Abele E., Anderl R., Birkhofer H., Environmentally-friendly product development. Springer, London 2005
2. Tools and methods of competitive engineering. Ed. I. Horvath, F. Mandorli, Z. Rusak, Delft University of Technology, Delft 2010

### 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 |