COURSE DESCRIPTION CARD - SYLLABUS

Course name
Diploma seminar II

Course

Field of study
Mechatronics

Year/Semester
4/7

Area of study (specialization)

Profile of study
general academic

Level of study
First-cycle studies

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
30

Number of credit points

3

Lecturers

Responsible for the course/lecturer:
prof. DSc. PhD. Eng. Andrzej Milecki

Responsible for the course/lecturer:

Prerequisites

Knowledge of the construction, operation and design of all components of a mechatronic device. Designing mechanical and electronic systems, description and modeling of automated components. Ability to program controllers.

Course objective

Acquiring the practical ability to design mechatronic devices and to develop an engineering diploma thesis and its defense

Course-related learning outcomes

Knowledge

Has knowledge of the principles of writing studies, text editing, preparation of a spreadsheet and K_W03 presentations

Knowledge of the construction, operation, selection of components of the constructed device K_W03

Has knowledge of various technical solutions of the designed mechatronic device as well as the basics and principles of its operation K_W03

He knows the rules of patenting and patent protection and is able to find and analyze patents K_W27

Skills

Can plan and carry out experiments, interpret the obtained results and draw conclusions K_U28

Can obtain information from various sources K_U01

Can correctly design a mechatronic device K_U28

Can communicate in the professional environment and in other environments K_U02

Can prepare a well-documented technical study in Polish and English and deliver a presentation K_U03, 04

Social competences

Understands the need for lifelong learning; can inspire and organize the learning process of other people K_K01

Can define priorities for the implementation of a specific task K_K04

Can cooperate and work in a group K_K03

Correctly identifies and resolves dilemmas related to the profession K_K05

Is aware of the social role of the engineer K_K07

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

340/5000

Credit based on the presentation of issues related to education in the field of Mechatronics and the presentation of the engineering diploma thesis in the field of: objectives, methods of solving the problem, making calculations, technical drawings and the implementation of the device (solution), its schedule and cost estimate.

Programme content

1. Acquainting with the requirements for engineering works and the course of the thesis preparation and defense process, as well as with the course and requirements for the diploma examination.

2. Review of knowledge gained during studies - part 2.

3. Discussing the scope of diploma theses and methods of their execution.

4. Discussion of specific solutions of the constructed mechatronic device and their analysis in various respects.

5. Discussion of the electronic and control part of the designed device.

6. Preparation of the diploma dissertation and presentation of its results and preparation for the diploma examination.

Teaching methods

Presentations and discussions on theses

Bibliography

Basic

1. Heimann Bodo, Gerth Wilfried, Popp Karl, Mechatronics

2. Clarence W. de Silva, Farbod Khoshnoud, Maoqing Li, Saman K. Halgamuge, Mechatronics Fundamentals and Applications

Additional

Bodgan Wilamowski, J. David Irwin, Control and Mechatronics (The Electrical Engineering Handbook) 1st Edition

Breakdown of average student's workload

	Hours	ECTS
Total workload	75	3,0
Classes requiring direct contact with the teacher	30	1,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) [1]	45	2,0

[1] delete or add other activities as appropriate