



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Diploma seminar [N1Mech2>SD]

### Course

Field of study  
Mechatronics

Year/Semester  
4/8

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  
0

Tutorials  
0

Projects/seminars  
16

### Number of credit points

2,00

### Coordinators

### Lecturers

### Prerequisites

Knowledge of the construction, operation and design of all components of a mechatronic device Design of mechanical devices and electronic systems. Knowledge of the principles of selecting components of a designed mechatronic device Ability to select control elements, including microcontrollers and PLCs, and to write their software Ability to integrate mechanical elements with electronic ones

### Course objective

Acquiring practical skills in designing a mechatronic device and launching and testing it. Performing design and implementation work on a mechatronic device Writing a diploma thesis and preparing its presentation and defense

### Course-related learning outcomes

Knowledge:

Has knowledge of the principles of writing studies, editing text, preparing a spreadsheet and presentation K\_W03

Can independently design a mechatronic device and describe it in an engineering diploma thesis K\_W03

Knows the principles of patenting and patent protection and is able to find and analyze patents K\_W27

Skills:

Is able to plan and conduct experiments, computer simulations, interpret obtained results and draw conclusions K\_U28

Is able to independently design a mechatronic device.

Is able to obtain information from various sources K\_U01

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:

Credit based on presentation of issues related to education in the Mechatronics field and presentation of the engineering diploma thesis

Presentation of the diploma thesis

### Programme content

Clarification of the topic and scope of the engineering work. Execution of the work and presentation of results.

### Course topics

1. Familiarization with the requirements for engineering theses and the course of the process of preparing the thesis and its defense.
2. Review of knowledge acquired during studies - part 1.
3. Presentation and discussion of the progress of the diploma thesis.
4. Review of the state of the art and patents in the scope of the prepared diploma thesis
5. Preparation and delivery of a presentation of the results of the diploma thesis
6. Editing and submitting the engineering diploma thesis

### Teaching methods

Presentations and discussions on engineering thesis

### Bibliography

Basic:

1. Heimann Bodo, Gerth Wilfried, Popp Karl, Mechatronika, WNT
2. Horowitz P., Hill W. „Sztuka elektroniki”.
3. Tadeusz Mikulczyński, Zdzisław Samsonowicz, Rafał Więclawek, Automatyzacja procesów produkcyjnych, PWN, WNT 2015.
4. Poradnik mechatronika, Helion
5. Mariusz Olszewski, Mechatronika, Rea

Additional:

1. PODSTAWY MECHATRONIKI , REA.

### Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,00
Classes requiring direct contact with the teacher	16	0,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	34	1,50