



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Engineering thesis

### Course

Field of study

Technical Physics

Area of study (specialization)

Level of study

First-cycle studies

Form of study

full-time

Year/Semester

4/7

Profile of study

general academic

Course offered in

Polish

Requirements

elective

### Number of hours

Lecture

Laboratory classes

Other (e.g. online)

75

Tutorials

Projects/seminars

### Number of credit points

15

### Lecturers

Responsible for the course/lecturer:

Prof. dr. hab. Tomasz Martyński

Responsible for the course/lecturer:

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Faculty of Materials Engineering and Technical  
Physics

Piotrowo street 3, 60-965 Poznan, Poland

### Prerequisites

Knowledge of experimental physics and basic specialist knowledge in the field of functional materials, thermodynamics,

Skills: the ability to solve physical problems based on the acquired knowledge, the ability to obtain information from indicated sources

Social competences: understanding the need to broaden your competences.

### Course objective

1. Teaching students to use the acquired knowledge and skills to solve a technical and scientific



problem, perform measurements and interpret the obtained results together with the assessment of their uncertainty.

2. Developing the ability to use literature sources and the method of quoting sources
3. Develop the ability to create professional test reports

### Course-related learning outcomes

#### Knowledge

As a result of the conducted classes, the student:

1. has ordered knowledge of the basic physical phenomena in the field of functional materials [K1\_W03]
1. knows the rules of engineering graphics and technical drawing [K1\_W06]
2. knows the state of knowledge concerning the issues included in the thesis [K1\_W12, K1\_W13].

#### Skills

As a result of the course, the student should demonstrate skills in the following areas (the student will be able to):

1. is able to design and make accessories for measuring systems, perform tests and measurements of quantities characterizing functional materials [K1\_U07, K1\_U17, K1\_U18].
2. can, on the basis of literature, independently make a preliminary analysis of the results of laboratory measurements and draw conclusions [K1\_U01, K1\_U02].
3. is able to prepare a written work independently and efficiently present in Polish an oral presentation of the work with a description of the measuring system and with well-documented and interpreted measurement results [K1\_U04].

#### Social competences

As a result of the course, the student will acquire the competences listed below. Completing the course means that:

1. can independently work on a given task, shows responsibility in this work [K1\_K01].

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

defence of the thesis and final examination/oral examination at the end of the semester

### Programme content

1. Rules for the preparation of diploma theses.
2. Tips for preparing a presentation in Power Point programs.
3. The current state of technology in the world.



4. Additional content depending on the subject of the implemented engineering thesis.

### Teaching methods

Laboratory exercises: practical exercises, conducting experiments, modeling, discussion, team work.

Project: individual student project work, discussion.

### Bibliography

Basic

literature selected individually in accordance with the subject of the work.

Additional

literature selected individually in accordance with the subject of the work.

### Breakdown of average student's workload

	Hours	ECTS
Total workload	300	15
Classes requiring direct contact with the teacher	90	4
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) <sup>1</sup>	210	11

<sup>1</sup> delete or add other activities as appropriate