COURSE DESCRIPTION CARD - SYLLABUS

Course name
Master Diploma Laboratory [S2FT2>PracDM]

Course

Field of study
Technical Physics

Year/Semester
2/3

Area of study (specialization)
–

Profile of study
general academic

Level of study
second-cycle

Course offered in
Polish

Form of study
full-time

Requirements
elective

Number of hours

Lecture
0

Laboratory classes
0

Other
0

Tutorials
0

Projects/seminars
115

Number of credit points

8,00

Coordinators

dr hab. Mirosław Szybowicz prof. PP
miroslaw.szybowicz@put.poznan.pl

dr hab. inż. Wojciech Koczorowski prof. PP
wojciech.koczorowski@put.poznan.pl

Lecturers

Prerequisites

Knowledge of experimental physics and basic specialized knowledge in the area of functional materials thermodynamics. Ability to solve physical problems on the basis of acquired knowledge, ability to gather information from specified sources. Understanding of the need to constantly expand one's competencies.

Course objective

To deepen theoretical and practical knowledge in the area of the selected thesis topic and to solve relevant engineering problems within the scope of the thesis work. The main goal is for the student(s) to independently (or in teams) implement complex program content outlined in the dedicated diploma thesis card for the given student(s).

Course-related learning outcomes

Knowledge:
Teaching students to use acquired knowledge and skills to solve technical and scientific problems, to

perform measurements, and to interpret obtained results along with evaluating their uncertainty (measurements errors)
Developing skills in using literature sources and citing them
Developing skills in creating professional research reports

Skills:
As a result of the course, the student should be able to:
Design and build accessories for measurement systems, perform tests, and measure quantities that are characterizing functional materials
Independently perform preliminary analysis of measurement results based on literature and draw conclusions
Independently prepare a written thesis and efficiently present an oral presentation in Polish with a description of the measurement system and well-documented and interpreted measurement results

Social competences:
As a result of the course, the student will gain the following competencies:
Ability to work independently on the assigned task, showing responsibility in this work
Responsibility for the accuracy of the obtained results

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

- assessment of the student's activity in carrying out their thesis work,
- assessment of skills and the level of mastery of the knowledge needed to complete the work,
- assessment of the student's systematic approach to their thesis work,
- assessment of the content and form of prepared project solutions, analyses, and conclusions drawn from research results (depending on the topic of the thesis),
- assessment of the ability to independently solve technical/scientific problems.

Programme content

The subject of the workshop is the implementation of program content in accordance with the specific tasks provided in the topic sheet of the master's diploma thesis.

Course topics

1 Guidelines for preparing diploma theses
2 Tips for preparing presentations in programs like PowerPoint
3 Current state of technology worldwide
4 Additional content depending on the subject of the engineering project

Teaching methods

Solving engineering problems using appropriate instrumental, engineering, and software tools, as well as developing and analyzing the results of one's work, with reference to the literature.

Bibliography

Basic:
Individually selected, according to the topic of the thesis and performed research tasks.

Additional:
Individually selected, according to the topic of the thesis and performed research tasks.

Breakdown of average student's workload

	Hours	ECTS
Total workload	200	8,00
Classes requiring direct contact with the teacher	115	6,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	85	2,00