



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Transitional work II

Course

Field of study

Materials engineering

Area of study (specialization)

Nanomaterials

Level of study

Second-cycle studies

Form of study

full-time

Year/Semester

2/3

Profile of study

general academic

Course offered in

polish

Requirements

compulsory

Number of hours

Lecture

Laboratory classes

Other (e.g. online)

Tutorials

Projects/seminars

45

Number of credit points

5

Lecturers

Responsible for the course/lecturer:

prof. dr hab. inż. Jarosław Jakubowicz

email: jaroslaw.jakubowicz@put.poznan.pl

tel. 61 665 37 81

Faculty of Materials Science and Technical

Physics

ul. Piotrowo 3, 60-965 Poznań

Responsible for the course/lecturer:

Prerequisites

Students should have the knowledge acquired within the framework of the studied materials engineering. They should have the ability to think logically and use information obtained from various sources. Students should know the role of technology and materials engineering in the development of society.

Course objective

Possession by the students the knowledge and skills related to the proper planning and implementation of a selected design or research and experimental task in the field of materials engineering. In particular, the solution to the selected problem, the selection of literature, research methods, the way of



presenting the results and their critical analysis, assessing the impact of the presented solutions on the natural environment. Shaping selected students attitudes necessary to independently perform a selected project task or research-experimental task.

Course-related learning outcomes

Knowledge

- 1) Students have knowledge of planning and carrying out a selected project or research and experimental task in the field of materials engineering - [K_W10, K_W11].
- 2) Students have knowledge in the field of transitional work - [K_W04, K_W05, K_W06].

Skills

- 1) Students are able to independently perform a selected dproject or research and experimental task in the field of materials engineering - [K_U01, K_U03].
- 2) Students are able to obtain information from various sources, process it and conduct scientific research. They can formulate and solve engineering and research tasks - [K_U08, K_U09, K_U12].
- 3) Students are able to prepare and present an scientific/technical description of a given problem - [K_U03, K_U04].

Social competences

- 1) Students can work in a group, they understand the need for lifelong learning, can inspire and organize the learning process of other people - [K_K01].
- 2) Students are aware of the importance and understanding of non-technical aspects and effects of engineering activities, including its impact on the environment and the related responsibility for decisions made - [K_K02].

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

- 1) The knowledge acquired as part of the project exercises is verified on the basis of the presentation of issues related to the topic of the task in the field of: literature review, patents, assumptions, goals, methods of solving the given problem.
- 2) The skills acquired during the project seminars are checked on an ongoing basis in the form of an oral presentation on the task being carried out as well as in the form of a text/project. Each presentation/project requires a positive grade to complete the course.

Programme content

- 1) Preparation of a study/project on a topic given by the teacher in the field of the material covered by the field of study and specialization chosen by the student. The study may be in the form a project, review or research-experimental nature and includes: selection of the topic of the transitional thesis, work plan, literature review, selection of research methodology, description of the research and its results, project description, formulation of conclusions, preparation of the presentation of the obtained results.
- 2) Discussion of issues related to the implemented transitional works in relation to the review of the current state of the art.



3) Discussion of issues related to the implemented transitional works in relation to the methodology and research results or project tasks.

Teaching methods

1) Multimedia presentation, illustrated with examples given on the board, consultations in the field of implemented projects; workshops - discussions on the presented transitional works.

Bibliography

Basic

1. Honczarenko J, Zygmunt M., Poradnik dyplomanta, WUPS, Szczecin, 2000.
2. Braszczyński J., Podstawy badań eksperymentalnych, WN PWN, Warszawa, 1992, and next issues

Additional

1. Literature related to the subject of the study (textbooks, journal articles and other sources containing content on the subject of the transitional work)

Breakdown of average student's workload

	Hours	ECTS
Total workload	100	5,0
Classes requiring direct contact with the teacher	55	3,0
Student's own work (literature studies, preparation for project classes, project preparation) ¹	45	2,0

¹ delete or add other activities as appropriate