



COURSE DESCRIPTION CARD - SYLLABUS

Course name

Graduation seminar [S2ETI2>SDM]

Course

Field of study

Education in Technology and Informatics

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

15

Number of credit points

2,00

Coordinators

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Lecturers

Prerequisites

Students understand the basic methods, techniques, and tools used to solve complex engineering problems in selected areas of materials science, computer science, physics, and technology. They can apply acquired mathematical knowledge to describe processes, create models, and write algorithms. They can obtain information from literature, databases, and other sources (in their native language and English), integrate it, interpret and critically evaluate it, draw conclusions, and formulate and thoroughly justify opinions. Students adhere to the principles of professional ethics; they are responsible for the accuracy of their work and its interpretation. They understand the need and opportunities for continuous updating and supplementation of knowledge, as well as the need to improve professional and social competencies.

Course objective

Preparing the student for the presentation of the results of the diploma thesis during the graduate examination. Preparing a student for the graduate examination.

Course-related learning outcomes

Knowledge:

1. Student has detailed knowledge of selected issues in materials engineering, physics, biophysics, bioinformatics, electronics and automation needed to formulate and solve detailed tasks of the diploma thesis
2. Student knows the main development trends in structural and functional materials and has advanced detailed knowledge of the manufacturing technology of selected structural and functional materials and methods of their characterization
3. Student has advanced knowledge in the field of algorithms, computer system architecture, operating systems, network technologies, programming languages, graphics, artificial intelligence, databases, decision support, learning systems, software engineering and structured and object-oriented programming needed to formulate and solve detailed tasks related to the diploma thesis

Skills:

1. Student is able to select and use appropriate methods and tools, including advanced information and communication techniques and scientific studies on specific issues related to the diploma project, and is able to prepare materials for the presentation of a selected issue, also using new IT techniques
2. Student is able to prepare and present, in Polish and English, an oral presentation on a detailed issue in the field of computer science, materials engineering and technology and take part in a discussion concerning the presentation
3. Student has the ability to self-educate and is able to interpret scientific texts and determine directions of learning

Social competences:

1. Student acts in accordance with the principles of professional ethics; is responsible for the reliability of the results of his/her work and their interpretation
2. Student understands the need and knows the possibilities of continuous updating and supplementing knowledge and the need to improve professional and social competences
3. Student is aware of the social role of a technical university graduate, in particular he/she understands the need to formulate and communicate to the public information and opinions on technological achievements and other aspects of engineering activity

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

none

Programme content

1. Familiarization with selected issues in the field of materials engineering, computer science, bioinformatics, physics, biophysics, electronics and automation related to individual master's theses.
2. Familiarization with the basics of measurement techniques used to complete individual master's theses.
3. Ethical principles related to the editing of a master's thesis and the presentation of results.

Course topics

Seminar, consultations on implemented projects, workshops - discussions on the presented diploma theses

Teaching methods

Seminar, consultations on implemented projects, workshops - discussions on the presented diploma theses

Bibliography

Basic:

1. Selected individually by the student in accordance with the subject of the diploma thesis.

Additional:

1. D. Halliday, R. Resnick, J. Walker, Fundamentals of physics, vol. 1-5, PWN, Warsaw 2003.

2. J. Orear, Fizyka, vol. 1-2, WNT, Warsaw 1998.

Breakdown of average student's workload

	Hours	ECTS
Total workload	50	2,00
Classes requiring direct contact with the teacher	15	0,50
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	35	1,50