COURSE DESCRIPTION CARD - SYLLABUS

Course name
Passing project

Course

Field of study
Biomedical engineering
Area of study (specialization)
Engineering of implants and prosthesis
Level of study
Second-cycle studies
Form of study
full-time

Year/Semester
1/2
Profile of study
general academic
Course offered in
Polish
Requirements
elective

Number of hours

Lecture
0
Laboratory classes
0
Other (e.g. online)
0
Tutorials
0
Projects/seminars
45

Number of credit points

4

Lecturers

Responsible for the course/lecturer:
dr Tomasz Walczak

email: tomasz.walczak@put.poznan.pl

Responsible for the course/lecturer:

Prerequisites

Basic knowledge in the field of biomedical engineering, consistent with the core curriculum for first-cycle studies. The ability to solve basic engineering problems based on the acquired knowledge and the ability to obtain information from the indicated sources.

Course objective

Gaining knowledge in biomedical engineering that allows to independently solve problems in the field

of implant and prosthesis engineering. Improving the ability to present the progress of own work while maintaining content-related and linguistic correctness.

Course-related learning outcomes

Knowledge

Student has theoretically founded knowledge in the field of prostheses and implants used in treatment and rehabilitation and knows the basic IT tools supporting their design.

Skills

Student is able to obtain the necessary information from the literature and data from available IT systems supporting the design of implants and prostheses. Student can plan and carry out experiments and computer simulations, interpret the obtained results and draw conclusions. Student is able to prepare and present an oral and written presentation on specific issues in biomedical engineering.

Social competences

Student understands the need for lifelong learning; can organize the learning process. Can properly define priorities for the implementation of a specific task.

Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Credit based on:

1. Project in the form of a written work containing: description of the issue under consideration, assumptions and goals of the work, presentation of the problem solution method and results, literature review.

2. Presentation of the work done.

Programme content

1. Overview of the rules for the preparation of transitional works and their evaluation.

2. Getting acquainted with the subject of diploma theses.

3. Discussion of the proposed topics and designation of individualized topics for transitional works.

4. Current report on the progress of work on the project.

5. Presentation of transitional works.

Teaching methods

Project: individualized project task, results presentation, discussion.

Bibliography

Basic

1. Nałęcz M., Biocybernetyka i inżynieria biomedyczna 2000, EXIT, 20001.

2. Pawlicki G., Podstawy inżynierii medycznej, OWPW, Warszawa 1997.

3. Tadeusiewicz R., Augustyniak P., Podstawy inżynierii biomedycznej, Wydawnictwo AGH, Kraków 2009.

4. Tadeusiewicz R., Inżynieria biomedyczna, Wydawnictwo AGH, Kraków 2008.

Additional

1. Tejszerska D., Świtoński E., Gzik M., Biomechanika narządu ruchu człowieka, Wydawnictwo Instytutu Technologii Eksploatacji - PIB, Radom 2011.

Breakdown of average student's workload

	Hours	ECTS
Total workload	100	4,0
Classes requiring direct contact with the teacher	45	2,0
Student's own work (literature studies, preparation for laboratory classes/tutorials, preparation for tests/exam, project preparation) [1]	55	2,0

[1] delete or add other activities as appropriate