



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

Diploma thesis preparation [S1Bioinf1>PDYPL]

### Course

Field of study  
Bioinformatics

Year/Semester  
4/7

Area of study (specialization)  
–

Profile of study  
general academic

Level of study  
first-cycle

Course offered in  
Polish

Form of study  
full-time

Requirements  
compulsory

### Number of hours

Lecture  
0

Laboratory classes  
0

Other (e.g. online)  
0

Tutorials  
0

Projects/seminars  
0

### Number of credit points

10,00

### Coordinators

dr hab. inż. Marek Wojciechowski prof. PP  
marek.wojciechowski@put.poznan.pl

### Lecturers

### Prerequisites

Students starting this course should have basic knowledge related to the selected topic of the Bachelor's thesis in bioinformatics. They should have essential competencies acquired during the earlier years of studies, which allow them to realize the Bachelor's thesis. When it comes to social competencies, the students must present honesty, responsibility, perseverance, cognitive curiosity, creativity, personal culture, and respect for other people.

### Course objective

The main goal is for students to carry out a complex project in bioinformatics and prepare a Bachelor's thesis.

### Course-related learning outcomes

Knowledge:

Knows and understands the basic methods, techniques and tools used in the process of solving bioinformatics tasks, mainly of an engineering nature.

Knows and understands the life cycle of information systems.

Knows and understands the development trends of bioinformatics.

Knows and understands social, economic and legal conditions of his/her activities, including issues of intellectual and industrial property protection.

#### Skills:

Is able to obtain information from literature, databases and other properly selected sources, also in English.

Is able to integrate and interpret obtained information, as well as draw conclusions and formulate and justify opinions.

Is able to apply basic techniques and computer tools to solve biological problems, evaluate their usefulness.

Is able to under the guidance of a tutor apply analytical, simulation and experimental methods to formulating and solving research tasks.

Is able to design and create computer software according to given specification, using proper methods, techniques and tools.

Is able to prepare well-documented papers and oral presentations on bioinformatics issues in Polish and English.

Is able to recognize systematic and non-technical aspects of undertaken bioinformatics tasks.

Is able to analyze functionality and requirements of information systems.

Is able to independently acquire knowledge and improve their qualifications.

#### Social competences:

Is ready for lifelong learning and improving his/her competences.

Is ready to cooperate and work in a group, taking various roles in it.

Is ready to determine priorities in order to accomplish a task defined by him/her or by others.

Is ready to take responsibility for decisions made.

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

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Summative assessment:

Verifying the assumed learning outcomes is carried out by:

- continuous assessment, through the students' report on the progress of work related to the implementation of the Bachelor's thesis;
- assessment of the increase in the ability to use the learned principles and methods;
- evaluation of reports prepared on selected issues carried out under the project; this assessment may also include the ability to work in a team if the work is carried out as a team;
- assessment of the project results: does the product meet the requirements?, does the product have a friendly interface?, what is the quality of documentation and timely execution of individual tasks?

### Programme content

The subject of the Bachelor's thesis is most often a project defined by the thesis supervisor. The project is carried out under the supervision of a supervisor who can be additionally aided by another supportive supervisor. This task may include designing and implementing a system in the field of bioinformatics based on conducting experiments.

A well-run project should be based on a recognized project methodology, and the progress of the project should be shown with appropriate indicators, models, and effects. The project's final outcome is a report, a working prototype, or fully functional software, ready for implementation.

### Course topics

none

### Teaching methods

Consultations on the projects, workshops, discussions on the presented projects.

### Bibliography

Basic

Additional

### Breakdown of average student's workload

	Hours	ECTS
Total workload	250	10,00
Classes requiring direct contact with the teacher	10	1,00
Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation)	240	9,00