



## COURSE DESCRIPTION CARD - SYLLABUS

Course name

English [S1Bioinf1>JANG2]

### Course

Field of study  
Bioinformatics

Year/Semester  
1/2

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  
30

Projects/seminars  
0

### Number of credit points

2,00

### Coordinators

mgr Anna Martynow  
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### Lecturers

### Prerequisites

Knowledge: Language competence compatible with level B1(CERF). The ability to use vocabulary and grammatical structures required on the high school graduation exam regarding productive and receptive skills. Skills: Students should be able to use different sources of information and understand the need to widen their competence. They should be able to work individually and in a team. Social competence: The student has to be honest, responsible, persevering, creative and respectful of other people, showing good manners and cognitive curiosity

### Course objective

1. Enable the student to achieve language competence B2 (CEFR) 2. Improve the student's skills in using academic and professional language, specific for Bioinformatics, in all four linguistic skills. 3. Improve the study of a technical text. 4. Equip all students with the language and skills they need to succeed in an international working environment and everyday life.

### Course-related learning outcomes

Knowledge:

As a result of the course, the student should master technical vocabulary related to the following topics:

1. Basics of genetics
2. Fundamentals of genetic engineering
3. DNA biomolecules, amino acids and protein structures
4. PCR technology and nucleic acid hybridization
5. Security in software
6. Ethics in Internet activity and work on artificial intelligence
7. Be able to define and explain terms, phenomena and processes related to the above issues

#### Skills:

As a result of the course, the student is able to effectively:

1. make a presentation in English on a technical or popular science topic, and express themselves on general and technical topics, using the appropriate vocabulary and grammatical structures
2. express basic mathematical operations in English and interpret the data presented in the diagram / graph
3. formulate a text in English explaining / describing a selected specialist issue

#### Social competences:

As a result of the course, the student should be able to:

1. work in a team, especially in a multicultural environment
2. think and act creatively and proactively
3. communicate effectively in English in a working environment and typical everyday life situations, and to make a public presentation
4. recognize and make use of / understand cultural differences in behaviour as well as in formal and private communication in English; in a different cultural environment

### Methods for verifying learning outcomes and assessment criteria

Learning outcomes presented above are verified as follows:

Learning outcomes presented above are verified as follows:

Interim grades: formal coursework assignments ( speaking assignments, presentations)

Final grade: credit

### Programme content

1. Genetics and genetic engineering
2. Nucleic acids and proteins
3. PCR technology and nucleic acid hybridization
4. IT security threats
5. The Internet

### Course topics

1. Definition and structure of DNA
2. Genes and CRISPR
3. Transgenic plants
4. Gene therapies
5. Isolation of DNA from cells
6. Definition and application of PCR
7. Purpose and application of hybridization in science and industry
8. Types of malware
9. Methods of data protection
10. Hacking and the human factor
11. TCP/IP protocols
12. Development of the Internet

### Teaching methods

1. presentation, analysis of topics/problems shown on the board, lexical and grammatical tasks
2. discussion, teamwork, multimedia slide show, case study
3. student's individual work

## Bibliography

### Basic

1. Page, Alison and David Waters. 2016. Complete Computer Science for Cambridge IGCSE & O Level. Oxford: Oxford University Press

2. Kamińska, Urszula. 2016. English for Biotechnology. Gdańsk: Gdańsk University of Technology

### Additional

Online sources.

## Breakdown of average student's workload

|   | Hours | ECTS |
|---|-------|------|
| Total workload  | 60    | 2,00 |
| Classes requiring direct contact with the teacher   | 30    | 1,00 |
| Student's own work (literature studies, preparation for laboratory classes/ tutorials, preparation for tests/exam, project preparation) | 30    | 1,00 |