POZNAN UNIVERSITY OF TECHNOLOGY

EUROPEAN CREDIT TRANSFER AND ACCUMULATION SYSTEM (ECTS)

COURSE DESCRIPTION CARD - SYLLABUS

Course name
English [S1Bioinf1>JANG4]

Course

Field of study	Year/Semester
Bioinformatics	2/4
Area of study (specialization)	Profile of study
–	general academic
Level of study	Course offered in
first-cycle	Polish
Form of study	Requirements
full-time	compulsory

Number of hours

Lecture	Laboratory classes	Other
0	0	0

Tutorials	Projects/seminars	
30	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. Introduction to programming
2. Databases
3. Artificial intelligence in bioinformatics
4. The future of computer technologies
5. 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. Introduction to programming
2. Databases
3. Artificial intelligence in bioinformatics
4. The future of computer technologies
5. Student presentations
6. Writing paragraphs: structure
7. Grammar issues
8. Preparation for the oral exam

Course topics

1. Basic programming principles
2. Algorithms and pseudocode
3. Basics of creating databases
4. Characteristics of databases in the field of bioinformatics
5. Genomic sequencing
6. Personalized therapies
7. Processing large amounts of data: big data
8. The future of IoT
9. Quantum computers
10. Blockchain
11. 5G technology
12. Paragraph writing practice

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 Technonology
Additional
1. Online sources.
2. 2. Bailey, Stephen. 2011. Academic Writing: A handbook for international students. Routledge.

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