UNIWERSYTET GDAŃSKI

Course title Chemia bioorganiczna/ Bioorganic chemistry	**ECTS code** 13.3.0385

Name of unit administrating study
Faculty of Chemistry

Studies

Field of study	**Type**	**Form**	
Chemistry	Master	Full-time studies	

Teaching staff
Dr hab. Anna Łęgowska, prof. UG

Forms of classes, the realization and number of hours

A. Forms of classes, in accordance with the UG Rector's regulations
Lecture

B. The realization of activities
Classes in the lecture hall

C. Number of hours
15 hours

ECTS credits 2

classes 15 h
tutorial classes 5 h
student's own work 30 h
TOTAL: 50 h - 2 ECTS

The academic cycle
First year, winter semester

Type of course
obligatory

Language of instruction
Polish

Teaching methods

Lecture with multimedia presentation

Form and method of assessment and basic criteria for evaluation or examination requirements

A. Final evaluation, in accordance with the UG study regulations
Exam

B. Assessment methods
Written exam with open questions

C. The basic criteria for evaluation or exam requirements

- positive grade received in written exam composed of 4 – 6 open questions covering issues listed in the course contents; answers to these questions will require solving tasks specified in educational outcomes; the grade scale will be adjusted to the total number of points that could be obtained in the exam

- negative grade should be improved at repeat exam;

The applied grading criteria will be in accordance with UG study regulations.

Required courses and introductory requirements
Organic chemistry (bachelor level)
Basic knowledge in organic chemistry and biochemistry

Aims of education
- to acquaint students with all issues mentioned in the lecture contents;

- to introduce students to fundamental groups of naturally occurring organic compounds and to present their structure and biological activity

Course contents

Structure and biological functions of selected groups of naturally occurring organic compounds – alkaloids, steroids, and vitamins. Natural non-proteinogenic amino acids. Plant and animal toxins. Peptide antibiotics. Non-ribosomal peptide synthesis.

Bibliography of literature

A. Literature required to pass the course

A.1. for classes preparation

A. Kołodziejczyk „Naturalne związki organiczne''
Piotr Moszczyński, Rita Pyć „Biochemia witamin"

A.2. for individual studying

I.T. Timbrell – Paradoks trucizn

B. Extracurricular readings

organic chemistry academic textbooks

Knowledge

1. Defines and describes chemical structures of alkaloids, steroids, and vitamins,
2. Describes the biological activity of naturally occurring compounds,
3. Identifies non-proteinogenic amino acids, including antimetabolites,
4. Understands the role of naturally occurring compounds in processes taking place in living organisms,
5. Explains the definition of peptide antibiotics and toxins,
6. Gives examples of biosynthesis of short peptides containing non-proteinogenic amino acids

Skills

1. Uses chemical terminology necessary to present the content of the course;
2. Can predict physicochemical and biological properties of organic compounds based on their chemical structure and spatial structure;
3. Understands the role of naturally occurring compounds in processes taking place in living organisms;
4. Can search for information in specialist literature;

Social competence

1. Understands the need for continuous education;
2. Shows cautious criticism when acquiring knowledge, especially information coming from mass media;
3. Is aware of the necessity of fair and reliable work;
4. Can look at individual work with criticism