

**Name: Molecular Medicine/ Medycyna Molekularna**

Lecture language: **English**

Semester: **summer 2023**

**ECTS: 3 points**

Responsible teachers: **Mateusz Bujko, PhD**  
**Paulina Kober, PhD**  
**Michał Mikula, PhD**

**Module summary:**

This module will provide the background information on molecular medicine. It will give the overview of currently used molecular techniques and cover the selected issues on their application in practice. The role of molecular biomarkers and targeted therapy in oncology will be emphasized.

The course will provide the basic knowledge on biomarkers development and routine testing. The role of various kinds of molecular biomarkers, including genetic, epigenetic, transcriptomic and metabolic markers in choosing and monitoring therapy will be discussed.

**Module content** Lectures (15h)

**13.03.2023**

**10.00 am** 1. Introduction - the role of molecular disorders in human diseases. (2h) – Mateusz Bujko, PhD

**11.30 am** 2. Tools of molecular medicine (2h) – Mateusz Bujko, PhD

**27.03.2023**

**10.00 am** 3. Targeted therapies - personalized medicine (2h) – Paulina Kober, PhD

**11.30 am** 4. Biomarkers and diagnostics (2h) – Mateusz Bujko, PhD

**13.04.2023**

**10.00 am** 5. Pharmacogenomics (2h) – Mateusz Bujko, PhD

**11.30 am** 6. Proteomics and metabolomics (2h) – Michał Mikula, PhD

**24.04.2023**

**10.00 am** 7. Epigenetics - introduction, mechanisms (2h) – Paulina Kober, PhD

**11.30 am** 8. Epigenetics – the role in human diseases (1h) – Paulina Kober, PhD

**Teaching methods and techniques:**

- Lectures: The topics presented in the lecture are shown in the form of a multimedia presentation in Teams application

**The conditions obtaining the acknowledge for the classes, including the rules of exam retaking, as well as the conditions of admission to the exam:**

In order to pass the subject a positive grade must be obtained from a test on the entirety of the theoretical material. **The exam is scheduled following the last lecture!**

**Participation rules in classes:**

- Attendance is mandatory: **Yes**
- Participation rules in classes: Students that take part in the classes will learn subsequent topics according to the syllabus of the class. Students should

systematically ask questions. Recording of the lecture can only be done with the approval of the lecturer.

**The method and mode of making up for the absences**

If the requirements are met for obtaining a passing grade, the student is required to independently catch up with the material. If he/she fails to do so, he/she must obtain a positive grade on a test that pertains to the material discussed during his absence.

**Prerequisites and additional requirements:**

Without requirements