Biotechnologies and Applied Artificial Intelligence for Health

2025/2026

Graduation Class: **LM-9 Medical, veterinary and pharmaceutical biotechnology**
Inter athenaeum: **No**
Interdepartmental: **No**
Curriculum: **2**
Engineering / Biology

Curriculum: Engineering

FIRST YEAR – 60 ECTS:

- Advanced Biochemistry (6 ECTS)
- Artificial Intelligence I (6 ECTS)
- Artificial Intelligence II (6 ECTS)
- Biotechnology applied to sense physiology (6 ECTS)
- Genetics and Molecular biology (12 ECTS)
- Physio-pathology (6 ECTS)
- Microbiology and public health (12 ECTS)
- Biology of Cellular Systems (6 ECTS)

SECOND YEAR – 60 ECTS:

- Cell signaling and imaging tools (6 ECTS)
- Omics: Biotechnology and AI for health (6 ECTS)
- Bioengineering and Experimental Models in Health and Disease (6 ECTS)
- Group: elective classes (12 ECTS)
- Internship (6 ECTS)
- Job placement activities (3 ECTS)
- Thesis (21 ECTS)

Curriculum: Biology

FIRST YEAR – 60 ECTS:

- Advanced Biochemistry (6 ECTS)
- Artificial Intelligence I (6 ECTS)
- Artificial Intelligence II (6 ECTS)
- Biotechnology applied to sense physiology (6 ECTS)
- Physio-pathology (6 ECTS)
- Probability and Biostatistics (6 ECTS)

SECOND YEAR – 60 ECTS:

- Cell signaling and imaging tools (6 ECTS)
- Omics: Biotechnology and AI for health (6 ECTS)
- Bioengineering and Experimental Models in Health and Disease (6 ECTS)
- Group: elective classes (12 ECTS)
- Internship (6 ECTS)

- Smart materials and sensors (12 ECTS) - Bioinformatics in silico models (12 ECTS)	- Job placement activities (3 ECTS) - Thesis (21 ECTS)

Group: elective classes: Focused Lab training (6 ECTS), Metagenomics (6 ECTS), Molecular Genetics and Molecular Medicine in the AI-era (6 ECTS), The Law and Ethics of A.I.-driven biomedical innovation (6 ECTS).

During the entire period of study, the student is required to follow the Regulations of the academic year of matriculation

It is recommended to consult the following page for all information regarding elective classes activated in the 2025/2026 schedule and the possibility of taking exams offered by other degree programs: https://www.biologia.unipi.it/en/elective-classes-wbh-lm.html

PROPAEDEUTIC EXAMINATIONS: not provided