



Politechnika Łódzka

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Organizational unit running the field of study:

Faculty of Biotechnology and Food Sciences

International Faculty of Engineering

Cycle of study:

First-cycle

Mode of study:

Full-time (degree programme)

Language of instruction:

English

Description of the field of study:

The program is carried out by the Faculty of Biotechnology and Food Sciences. Industrial Biotechnology is a degree program taught entirely in English. It integrates biological and technical sciences to exploit enzymes, organisms and cells to produce added value products.

Industrial Biotechnology is for individuals who are interested in making use of biological systems, living organisms, and enzymes to create or modify specific products or processes. During the studies, while learning about molecular mechanisms that regulate the processes occurring in living organisms and interact with the environment, the student will be able to design modern, ecological bio-products, generate bioenergy and design sustainable processes for the food, feed, chemical, pharmaceutical, energy, and environmental industries. The interdisciplinary curriculum has been well received by employers from the life-science sector and it allows the student to define their interests and make informed decisions on further professional development.

CORE SUBJECTS

- Biochemistry
- Microbiology
- Genes and Genome
- Molecular Biology
- Genetic Engineering
- Bioinformatics
- Industrial Engineering
- Biochemical Engineering
- Biotechnological Equipment
- Fermentation Processes
- Products of Modern Biotechnology
- Industrial and Environmental Biotechnology

- Fundamentals of Immunochemistry
- Basics of Marketing

Specializations:

- Fermentation Technology and Technical Microbiology
- Molecular Biotechnology and Technical Biochemistry

Degree awarded:

inżynier

Duration of study:

3.5 years

Graduate profile:

The degree program is designed to train graduates in theoretical and practical aspects of designing and running biotechnological processes. As biotechnologists, they can work in the following plants and business establishments: breweries, distilleries, wineries, dairy, spirits, and pharmaceutical industries, food industry microbiological laboratories, enzyme, organic acids, microbiological polysaccharides manufacturing plants, wastewater treatment plants, sanitary and epidemiological stations, agri-food processing plants, etc.

They may implement quality assurance, modified food safety, and production management systems. They will successfully run their own manufacturing business.

Graduates with a degree in Industrial Biotechnology work in research institutions in Poland and abroad (e.g. in the UK, USA, Germany, the Netherlands) because they are well trained, e.g. in selection and targeted (genetic) modification of organisms as well as in their optimal culturing, biosynthesis (biotransformation), and isolation of bioproducts.

Admission requirements:

- [Admissions calendar](#) [1]
- [Required documents](#) [2]
- [Fees](#) [3]

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