



Politechnika Łódzka

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Organizational unit running the field of study:

Faculty of Chemistry

International Faculty of Engineering

Cycle of study:

First-cycle

Mode of study:

Full-time (degree programme)

Language of instruction:

English

Degree awarded:

Bachelor of Science

Duration of study:

4 years

Description of the field of study:

Advanced Biobased and Bioinspired Materials is a degree programme directed by the Faculty of Chemistry. It is taught exclusively in English. It is interdisciplinary and includes selected topics in chemistry, biology, medicine, physics, and technical sciences. The objective of the degree programme is to teach the design, production and analysis of the qualities of functional materials for medical and biological purposes, their applications and methods of utilization. The curriculum also includes content related to technological processes based on bioresources.

The Advanced Biobased and Bioinspired Materials degree programme is taught with modern teaching methods based on solving real-life problems and group work.

The study program is available on the [website](#). [1]

Core course units:

- Introduction to laboratory work
- Biochemistry, biophysics
- Synthesis and physicochemical properties of polymer components
- Modern techniques in biomaterials and nanostructures synthesis and analysis

- Bioresources, bio-based materials, life cycle, biodegradation
- Nanomaterials
- Tuning of biobased materials' applicabilities
- Polymer composites mimicking nature
- Emerging technologies inspired by nature
- Supramolecular self-organisation inspired by nature
- Emerging technologies inspired by nature
- Fundamentals of business

Each student pursuing a degree in Advanced Biobased and Bioinspired Materials completes at least one semester abroad as part of their programme of study (the 6th semester, called the Mobility Semester).

Graduate profile:

With regard to the professional knowledge and skills, graduates are prepared to pursue careers that involve:

selection, tuning of the qualities of biomaterials, analysis of biomaterials, design of medical products of a desired applicability, design, separation, and analysis of biomaterials used, among others, in medical diagnosis.

Graduates also have the skills that enable them to solve problems related to the broadly construed field of biomaterials independently, and, at the same time, to work in international teams and communicate with specialists in various other fields (including medicine, materials science, chemistry, biology, biochemistry).

Graduates are able to pursue employment in business organizations, scientific institutions, research and development institutions, certifying bodies, consulting agencies dealing in the broadly construed field of biomaterials and functional materials as well as in related branches of industry or science that require the knowledge and skills acquired while pursuing a degree in Advanced Biomaterials and Bioinspired Materials (e.g. chemical, pharmaceutical, or fuel industry), and in the sector of advanced technology. They are able to work as biomaterials designers, technologists. Graduates are prepared to pursue a second and a third cycle degrees and work in interdisciplinary national and international teams.

Date of enrolment:

12th of June - 10th of July 2023

Admission requirements:

- [Admissions calendar](#) [2]
- [Required documents](#) [3]
- [Fees](#) [4]

Source

URL: <https://rekrutacja.p.lodz.pl/en/advanced-biobased-and-bioinspired-materials-first-cycle-international-faculty-engineering>

Links

[1] <https://programy.p.lodz.pl/ectslabel-web/> [2] <https://rekrutacja.p.lodz.pl/en/deadlines> [3] <https://rekrutacja.p.lodz.pl/en/documents> [4] <https://rekrutacja.p.lodz.pl/en/tuition-fees>