

Diplomirani biotehnolog (un)/diplomirana biotehnologinja (un)

Selected qualifications

Name of qualification	Diplomirani biotehnolog (un)/diplomirana biotehnologinja (un)
Translated title (no legal status)	Bachelor of Science in biotechnology
Type of qualification	Diploma prve stopnje (UN)
Category of qualification	Izobrazba
Type of education	Academic bachelor's education
Duration	3 years
Credits	180 credits

Admission requirements

- Matura or
- vocational matura in any secondary school programme and an examination in the matura subject of Biotechnology; if the candidate has already passed this subject in the vocational matura, an examination in any other matura subject; the selected subject may not be a subject which the candidate has already taken in the vocational matura; or
- school-leaving examination (prior to 1 June 1995) under any four-year secondary school programme.

ISCED field

Field
Naravoslovje, matematika in statistika

ISCED subfield

subfield biokemija

Qualification level

SQF 7
EQF 6
First level

Learning outcomes

The qualification holder will be able to:

(general competences)

- demonstrate mastery of basic knowledge in the sphere of biological and bioengineering sciences and natural science/engineering disciplines,
- demonstrate mastery of specialist knowledge acquired through the study of theoretical and practical cases,
- work in an interdisciplinary team,
- effectively apply acquired knowledge in practice,
- transfer, critically assess and apply theoretical and practical knowledge to address problems in practice and demonstrate a capacity for interdisciplinary work and the use of scientific methods,
- apply new ideas,
- address problems and make decisions in practice,
- react in complex and unexpected situations,
- communicate in an open manner and demonstrate proficiency in the use of information technology,
- demonstrate independence and self-criticism,
- pursue lifelong learning,
- show professional ethical responsibility,

(subject-specific competences)

- define biotechnologies,
- demonstrate knowledge of the logic and methods of scientific work,
- draft a laboratory report,
- practise lab safety,
- demonstrate knowledge and understanding of phenomena tied to biotechnology,

- demonstrate knowledge of the history and importance of biotechnological discoveries,
- cultivate (micro)organisms and cell cultures, avoiding contamination,
- demonstrate understanding of the positive and negative characteristics of biotechnology and its application,
- identify the impact of biotechnology through its results,
- write a position with regard to the ethical dilemmas of biotechnology,
- demonstrates knowledge of the regulatory authorities and agencies connected with biotechnology,
- demonstrate knowledge of employment opportunities deriving from knowledge acquired in the study of biotechnology,
- recognise/determine the environmental impact of biotechnologies in suitable examples,
- predict the importance of biotechnology in the future,
- demonstrate knowledge and understanding of phenomena tied to microorganism biotechnology,
- demonstrate knowledge of the microbes used in biotechnology,
- demonstrate understanding of the positive and negative characteristics of microbial biotechnology and its impact on the agri-food and pharmacy sectors and the environment,
- demonstrate understanding of bioprocesses and their importance and the ability to manage them,
- demonstrate knowledge of microorganism biotechnology in relevant bioprocesses,
- demonstrate technical proficiency in working with key industrial microorganisms,
- demonstrate understanding and mastery of all elements of the safety of product, operator and environment,
- demonstrate knowledge and understanding of concepts related to plant biotechnology,
- demonstrate knowledge of the use of plant biotechnology in agricultural plants,
- demonstrate understanding of the positive and negative characteristics of plant biotechnology and its impact on agriculture and the economy,
- demonstrate proficiency in working with micropropagation,
- demonstrate proficiency in working with plant tissue cultures,
- demonstrate mastery of the biotechnological methods of genetic modification of plants,
- demonstrate proficiency in the use of genetic markers in plant breeding and plant pathogen diagnosis,
- demonstrate knowledge and understanding of phenomena tied to animal biotechnology,
- demonstrate knowledge of the use of animal biotechnology in model species and economically important animal species,
- demonstrate understanding of the positive and negative characteristics of animal biotechnology and its impact on agriculture and the economy,
- demonstrate knowledge of biotechnological possibilities of reproduction,
- demonstrate proficiency in basic work with animal tissue cultures,
- demonstrate mastery of biotechnological methods for active intervention in the genotype of animal cells,
- demonstrate proficiency in the inclusion of molecular markers in the selection of animals,
- demonstrate understanding of the ethical dilemmas of biotechnology in vertebrates in connection with human beings.

Assessment and completion

Students' knowledge is assessed by means of practical exercises and seminar papers, and also via products, projects, performances, services, etc. and by examinations. Examination performance is graded as follows: 10 (excellent); 9 (very good: above-average knowledge but with some mistakes); 8 (very good: solid results); 7 (good); 6 (adequate: knowledge satisfies minimum criteria); 5–1 (inadequate). In order to pass an examination, a candidate must achieve a grade between adequate (6) and excellent (10).

Progression

Students may enrol in the next year if by the end of the academic year they have completed all course units prescribed by syllabuses and accumulated at least 60 credits.

Transitions

Second-cycle master's study programmes (SQF level 8)

Condition for obtaining certificate

In order to complete the programme, students must complete all course units prescribed by the study programme and subject syllabuses, for a total of 180 credits. Students must prepare a bachelor's seminar paper and obtain a passing grade for it.

Awarding body

University of Ljubljana, Faculty of Bioengineering

URL

<http://www.bf.uni-lj.si/en/>
