UP Faculty of Mathematics, Natural Sciences and Information Technologies (FAMNIT)

Undergraduate Study Programme Bioinformatics

Why Bioinformatics?

Want to know if a panda is a bear or a raccoon? You can find the answer yourself when you learn to **read and compare genotypes**. Learn about the latest technologies in **molecular biology** and discover **software tools** for understanding biological data.

General information

Duration: 3 years
Mode of study: full-time
Language of study: Slovene, English
Degree awarded: "diplomirani bioinformatik (UN)" equiv. to B.Sc. in Bioinformatics
Location: Koper, Izola (partly)
Admission requirements: completed matura examination
(More about the requirements on: www.famnit.upr.si.)

Benefits of the study at UP FAMNIT?

- **Small groups;** direct contact with students
- **Scientific excellence and international cooperation** of the study programmes coordinators; developing a high level of study and research ambitions for students
- **Modern laboratory** located in renovated Livade 1.0 object in Izola
- Possibilities for active involvement in **research and international exchanges**
- The study provides a **pleasant Mediterranean environment** with an active student life and many extra-curricular activities

Modern equipment

Research and fieldwork

Internship possibilities

International exchanges

Various extracurricular activities

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www.famnit.upr.en

My career opportunities?

- Public administration (Ministry of the Environment and Spatial Planning, Environmental Agency, Ministry of Agriculture, Forestry and Food),
- health establishments and pharmaceutical companies,
- private and public laboratories,
- national and international non-governmental organisations (such as IUCN, WWF, and others),
- private sector,
- food industry,
- computer institutions,
- education and research.

Graduates can choose a professional career that is fundamentally not tied to the field of study completed, as the competencies acquired by each graduate of this program are also qualities that leaders in many fields should have.

What do **students think** about studying at UP FAMNIT?

Studying at UP FAMNIT gave me many opportunities, such as volunteering at many conferences and even being a part of the organization team. I chose Bioinformatics because it has a perfect balance between artificial and natural.

- Mihail -

Course structure

1st year

Analysis I – Foundations of Analysis
Analysis II – Infinitesimal Calculus
Algebra I – Matrix Calculus
Algebra II – Linear Algebra
Computer Practicum
Programming I
Theoretical Computer Science I
Data Programming
Organic Chemistry and Biochemistry
Genetics

2nd year

Data Structures and Algorithms
Introduction to Bioinformatics
Introduction to Database Systems
Foundations of Physics with Biophysics
Analysis III – Functions of Many Variables
Statistics
Algorithms in Bioinformatics
Introduction to Machine Learning and Data Mining
Programming II – Concepts of Programming Languages
Nucleotide Sequence Analysis
Internal Elective Course I

3rd year

Structure of Biological Molecules
Biotechnology
Evolutionary and Population Genetics
Systems III – Information Systems
Evolutionary Biology
Physical Chemistry with Cheminformatics
Functional Genomics
Mathematical Modelling in Bioinformatics
Internal Elective Course II
2x External Elective Course
Seminar - Final Project Paper

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