

# Undergraduate Study Programme Mathematics

## Why Mathematics?

Mathematics is the only **universal language of interpersonal** communication which is **present everywhere** in the world and at all levels of education. It is the foundation of all science and an indispensable tool in the **social sciences and economics**.

## General information

**Duration:** 3 years (6 semesters)

**Mode of study:** full-time

**Language of study:** Slovene, English

**Degree awarded:** "diplomirani matematik (UN)" equiv. to B.Sc. in Mathematics

**Location:** Koper

**Admission requirements:** completed matura examination  
(More about the requirements on: [www.famnit.upr.si](http://www.famnit.upr.si))



Modern  
equipment



Research and  
fieldwork



International  
exchanges



Various  
extracurricular  
activities

## Benefits of the study at UP FAMNIT?

- **Modern** study programme
- Relatively **small and young collective**; easier adaption to your expectation and needs
- Possibility to **continue your study** at Master's or Doctoral studies
- **Flexibility** in elective courses selection
- **Organization** of various **international conferences and summer schools**
- Encouraging students to participate in **international mathematical competitions**
- The study provides a **pleasant Mediterranean environment** with an active student life and many extra-curricular activities

# My career opportunities?

In the fields of:

- computer and Information Science (computer and related companies and institutions),
- statistics (e.g. Statistical Office, insurance companies, banks),
- mathematical finance (insurance companies, banks, stock exchange, brokerage firms),
- gambling theory (lottery, sports lottery),
- education.

Graduates in mathematics have a lot of employment possibilities. Their studies will provide them with knowledge and skills that are indispensable for work and promotion in any field, and more specifically with opportunities for employment in business and research fields.

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



*Studying at UP FAMNIT is a great pick, because students here are not just “numbers”, besides, you can also establish a good relationship with our professors. Why choosing the mentioned study? Because you learn how to solve and think about mathematical problems through different angles, which can be used later in your life and you can share it with others as well.*

- Manca -



## Course structure

### 1st year

Algebra I - Matrix Calculus  
Algebra II - Linear Algebra  
Analysis I - Foundations of Analysis  
Analysis II - Infinitesimal Calculus  
Discrete Mathematics I - Set Theory  
Discrete Mathematics II - Combinatorics  
Mathematical Practicum I  
Computer Practicum  
Computer Science I  
Mathematical Topics in English I

### 2nd year

Algebra III - Abstract Algebra  
Algebra IV - Algebraic Structures  
Analysis III - Functions of Many Variables  
Analysis IV - Real Analysis  
Physics  
Introduction to Numerical Calculations  
Computer Science II  
Probability  
Internal Elective Course  
External Elective Course

### 3rd year

Mathematical Modelling  
Statistics  
6x Internal Elective Course  
2x External Elective Course

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# Undergraduate Study Programme Mathematics in Economics and Finance

## Why Mathematics in Economics and Finance ?

The science of economics recently underwent a distinct shift from **classical social science to so-called applied mathematics**. Therefore, the most complex scientific problems as well as most practical and everyday problems in the economy are based primarily on the **mastery of computer science and mathematical analysis**.



Modern equipment

## General information

**Duration:** 3 years

**Mode of study:** full-time

**Language of study:** Slovene

**Degree awarded:** "diplomirani finančni matematik (UN)" equiv. to B.Sc. in Finance Mathematics

**Location:** Koper

**Admission requirements:** completed matura examination  
(More about the requirements on: [www.famnit.upr.si](http://www.famnit.upr.si))



Research and fieldwork



International exchanges

## Benefits of the study at UP FAMNIT?

- Relatively **small and young collective**; easier adaption to your expectation and needs
- **Quality in preparation for postgraduate study** in the field of economy and mathematics
- **Flexibility** in elective courses selection
- Possibilities to be actively involved in **research projects and international exchange**
- The study provides a pleasant **Mediterranean environment** with an active student life and many extra-curricular activities



Various extracurricular activities

# My career opportunities?

- In banks and insurance companies,
- in stock exchanges and brokerage houses,
- in gaming,
- in computer companies,
- in pension and health funds,
- in public administration and agencies,
- in the logistics sector,
- in other areas where fundamental knowledge of economics and finance and analytical skills are required, e.g. in the strategic and logistics departments of larger companies,
- in the industrial sector, e.g. bioinformatics and other biotechnological sectors,
- in mechanical engineering.

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?



*Quantitative analytical skills are crucial in making financial and other economic decisions. Therefore mathematicians have always been sought by employers in the financial sector and others. The study programme provides various skills in mathematics, finance, economy, informatics and programming.*

- Teodora -



## Course structure

### 1st year

Algebra I – Matrix Calculus  
Algebra II – Linear Algebra  
Analysis I – Foundations of Analysis  
Analysis II – Infinitesimal Calculus  
Discrete Mathematics I – Set Theory  
Discrete Mathematics II – Combinatorics  
Mathematical Topics in English  
Mathematical Practicum  
Computer Science  
Computer Practicum

### 2nd year

Analysis III – Functions of Many Variables  
Algebra III – Abstract Algebra  
Probability  
Introduction to Numerical Calculations  
Microeconomics  
Macroeconomics  
Finance  
Computer Science II  
2x External Elective Course

### 3rd year

Financial Mathematics  
Stochastic processes I  
Game Theory  
Statistics  
Econometrics  
Fundamentals of Insurance  
Modelling in Macroeconomics  
Financial Topics in English  
Internal Elective Course  
External Elective Course



# Undergraduate

## Study Programme

# Computer Science

## Why Computer Science?

Computer science as **one of the fastest growing** branches of the economy, provides graduates with countless employment opportunities. For a number of years, computer companies and information sectors in the region have been **faced with a lack of quality computer and information personnel**. The Computer Science programme will equip students with knowledge and skills indispensable for work and promotion.



Modern equipment

## General information

**Duration** 3 years

**Mode of study:** full-time

**Language of study:** Slovene, English

**Degree awarded:** "diplomirani inženir računalništva in informatike (UN)" equiv. to B.Sc. in Computer Science

**Location:** Koper

**Admission requirements:** completed matura examination  
(More about the requirements on: [www.famnit.upr.si](http://www.famnit.upr.si))



Research and fieldwork



International exchanges

## Benefits of the study at UP FAMNIT?

- An **internationally comparable and modern study programme** designed by the guidelines of the **global Association for Computing Machinery (ACM)**
- **Recognized** lecturers and scientists
- Various possibilities of **participating in international student exchanges**
- Encouraging students to participate in **computer competitions on the national and international scale**
- Research opportunities at the **HICUP Lab (Human-Computer Interaction Laboratory of UP)**
- Possibility to **continue your study** at Master's or Doctoral studies



Various extracurricular activities

# My career opportunities?

In the fields of:

- system administration (computer and other companies and institutions),
- programming (computer companies),
- information system design and development,
- education.

In addition to the basic knowledge of computer science and basic mathematical skills, students acquire a wide range of subjects and general knowledge, which gives them an insight into other fields of study and thus more opportunities for employment.

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



*Studying at UP FAMNIT allowed me to meet and work with amazing people. I chose Computer Science not just because it gives me a basic knowledge of information technologies and programming in a theoretical way, but also allows me to apply knowledge within interesting projects and workshops.*

- Pavel -



## Course structure

### 1st year

Mathematics I - Analysis I  
Mathematics II - Algebra I  
Theoretical Computer Science I – Discrete Structures  
Theoretical Computer Science II – Formal Languages and Computability Programming I  
Programming II – Concepts of Programming Languages  
Systems I – Hardware  
Systems II – Operating Systems and Computer Networks  
Computer Practicum I  
Computer Practicum II

### 2nd year

Mathematics III – Algebra II  
Mathematics IV – Combinatorics with Graph Theory  
Data Structures and Algorithms  
Programming III – Concurrent Programming  
Systems III – Information Systems  
Introduction to Database Systems  
Computer Networks  
2x Elective Course - Internal Elective  
External Elective, English Language

### 3rd year

Theoretical Computer Science III – Information Theory  
Software Engineering  
Information Technology Management  
3x Elective Course - Internal Elective  
3x Elective Course - External Elective  
Seminar – Final Project Paper





# 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.



Modern  
equipment

## 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](http://www.famnit.upr.si))



Research and  
fieldwork



Internship  
possibilities



International  
exchanges



Various  
extracurricular  
activities

## 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

## 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





# Master's Study Programme Nature Conservation

## WHY Nature Conservation?

The Master's programme in Nature Conservation aims to equip graduates with **fundamental knowledge** in the field of **nature and environmental conservation**. The foundation for this is understanding the role of organisms on different levels, recognising the importance of ecosystem services, and identifying changes in nature. The programme consists of **two modules**, the **Terrestrial and the Marine module**, which enables the students to choose their preferred area of research.



Modern equipment



Laboratory and fieldwork research



Internship possibilities



International exchanges



Various extracurricular activities

## General information

**Duration:** 2 years

**Mode of study:** full-time

**Language of study:** Slovene

**Degree awarded:** "magister varstva narave" equiv. to a Master's degree in Nature Conservation

**Location:** Izola, Koper (partly)

**Admission requirements:** Completed BSc programme

(More about the requirements on: [www.famnit.upr.si](http://www.famnit.upr.si))

## Benefits of the study at UP FAMNIT?

- The study provides **fieldwork and study internships in institutions** related to **nature conservation**
- **Modern laboratories** in the **Livade 1.0 building in Izola**
- Students are directly involved in research projects
- Opportunities for international exchanges
- Study in a pleasant **Mediterranean environment** with an **active student life** and many **extra-curricular activities**

# My career opportunities

- In research laboratories, as researchers,
- in administrative institutions, as professional associates (ministries, inspection services, various institutes, municipal administrations),
- in various parks, as environmental supervisors,
- in museums, as professional associates,
- in zoological and botanical gardens, as professional associates,
- in national and international NGOs,
- in private businesses
- at universities, as academic staff.

Graduates will be able to continue their studies at the PhD programme in the field of nature conservation and other related study programmes, as the flexibility within the programme at UP FAMNIT will provide them with relevant interdisciplinary knowledge.

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

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*Studying at FAMNIT established the foundation for my future. Not just in the context of education, but also in terms of overcoming obstacles. I gained knowledge and experience that I wouldn't have acquired at any other university, as well as the ability to step outside of my comfort zone and concentrate harder on improving myself.*

- Lucia -

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## Course structure

### 1st year

Advanced Topics in Conservation Biology  
The Human Dimension in Conservation Sciences  
Marine Ecology  
Ecology of Terrestrial Ecosystems  
Seminar  
Practical Training  
2x Modular Elective Course  
2x Elective Course

### 2nd year

Conservation of Terrestrial Ecosystems  
Marine Conservation Biology  
Population Biology  
Modular Elective Course 3  
Elective Course 3  
Master's Thesis



# Undergraduate Study Programme Conservation Biology

## Why Conservation Biology?

At the beginning of the 3rd millennium, modern technologies in the **natural sciences face a unique challenge** – they have to fulfill the demands of a rapidly developing society while helping to conserve the balance of nature. To tackle the biodiversity crisis, we **need qualified experts - conservation biologists**.

## General information

**Duration:** 3 years (6 semesters)

**Mode of study:** full-time

**Language of study:** Slovene

**Degree awarded:** "diplomirani varstveni biolog (UN)" equiv. to B.Sc. in Conservation Biology

**Location:** Izola, Koper (partly)

**Admission requirements:** completed matura examination

(More about the requirements on: [www.famnit.upr.si](http://www.famnit.upr.si))

## Benefits of the study at UP FAMNIT?

- **A modern, attractive and dynamic** study programme
- The study provides **individual project work**
- **Modern laboratories** in the Livade 1.0. building in Izola
- **Internationally recognized** professors and researchers
- **Interdisciplinary** approach and **acquisition of practical knowledge**
- Possibilities of **active integration in research** and international exchanges
- Study in a pleasant **Mediterranean environment** with a rich student life and many extra-curricular activities



Modern equipment



Laboratory and fieldwork research



Internship possibilities



International exchanges



Various extracurricular activities

# My career opportunities

- As experts and technical staff in administrations ( e.g. in ministries, inspection services, institutes, municipal administrations),
- as associates in scientific research institutions and public companies, chambers and agencies,
- as supervisors in protected areas,
- as expert staff in museums (e.g. natural history museums or other regional museums),
- as organisers and expert staff in national and international non-governmental organisations
- as technical associates in routine and research laboratories,
- in private companies involved in environmental and nature conservation,
- in the area of service activities (ecotourism advisers).

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



*The Conservation Biology programme is a continuation of previous knowledge in natural sciences. During our studies, we are in constant touch with nature through both theoretical and practical work and fieldwork as well. Joining the BIODIVA society brings additional knowledge beyond our curriculum and is for anyone who would have a desire to fieldwork and socialise with student colleagues.*

- Luka -



## Course structure

### 1st year

General Botany  
General Zoology  
General and Inorganic Chemistry  
Mathematics  
Introduction to Computer Science  
Basic Physics with Biophysics  
Plant Physiology  
Animal Physiology  
Introduction to Microbiology  
Internal Elective course

### 2nd year

Biodiversity  
Introduction to Genetics and Genomics  
Statistics  
Organic Chemistry and Biochemistry  
Systematic Zoology  
Systematic Botany and Geobotany  
Practical training (3 weeks)  
Internal Elective course  
External Elective course

### 3rd year

Evolution Biology  
Applied Mathematics in Natural Science  
Ecology  
Conservation Biology  
Biogeography  
Protected Areas and Sustainable Use  
Internal Elective course  
External Elective course  
Seminar – BSc thesis



# Doctoral Study Programme Conservation Biology

## Why Conservation Biology

The **doctoral study programme** trains students to conduct independent scientific work in the field of **conservation of species and their natural environment**. During the program, students learn **multidisciplinary approaches** to the conservation and restoration of **biodiversity and ecosystem services**. The close collaboration between the PhD student and the mentor will enable the student to eventually establish themselves in the **Slovenian and international scientific community**. During their studies, students will also acquire skills in appropriate scientific communication with the public about human impacts on populations, species, communities, ecosystems, and the biosphere, as well as appropriate skills for environmental policy-making.

## General information

**Duration:** 4 years (8 semesters)

**Mode of study:** part-time

**Language of study:** Slovene, English

**Degree awarded:** "doktor znanosti / doktorica znanosti"  
equivalent to a PhD - Doctorate of Philosophy

**Location:** Izola

**Admission requirements:** Completed Master's degree (second cycle) (More about the requirements on: [www.famnit.upr.si](http://www.famnit.upr.si))



Modern  
equipment



Laboratory and  
fieldwork research



Networking



International  
exchanges



Recognized  
lecturers and  
scientists

## Benefits of the study at UP FAMNIT?

- The programme is **tailored for each student individually**
- Programme provides practical **multidisciplinary approaches** to the conservation and restoration of biodiversity and ecosystem services
- **Modern laboratories** in the **Livade 1.0 building in Izola**
- **Nationally and internationally recognized** lecturers and scientists
- Study in a pleasant **Mediterranean environment**

# My **career** opportunities

- At the universities,
- public and private research institutions,
- non-governmental organizations in the field of nature conservation,
- private companies.

The doctoral study programme Conservation Biology trains experts who are able to conduct research in national and international settings. It provides guidelines for nature protection in a critical time of biodiversity crisis, contributing directly to solving the most important challenges of our time.

# What do **professors** think about the programme?

## Course structure

### 1st year

Seminar

Research Methodology

Individual research work 1

Internal elective courses

### 2nd year

Preparation of doctoral dissertation topic

Individual research work 2

Internal elective courses

### 3rd year

Individual research work 3

### 4th year

Individual research work 4

Individual research work - preparation and defense of doctoral dissertation



*Our PhD program offers the opportunity to dive deep into the field and contribute to the conservation of biodiversity and ecosystems in one of the biodiversity hotspots - the Mediterranean Basin - but also globally. It addresses the pressing global challenges such as climate change and habitat loss. In addition, it provides a platform for interdisciplinary research, fosters collaboration with experts from diverse fields, and enables the development of innovative solutions for sustainable conservation practices.*

**Assoc. Prof. Vladimir Ivović, coordinator of the programme**



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