



## Faculty of Natural Sciences and Mathematics

**UNIVERSITY OF MARIBOR**  
**FACULTY OF NATURAL SCIENCES AND MATHEMATICS**  
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### 2<sup>ND</sup>-CYCLE STUDY PROGRAMMES:

The Faculty of Natural Sciences and Mathematics offers three single-major study programmes and two single-major teacher-training study programmes.

a) Single-major master's study programmes:

1. **BIOLOGY AND ECOLOGY WITH NATURE CONSERVATION**
2. **PHYSICS**
3. **MATHEMATICS**

b) Single-major teacher-training master's study programmes:

4. **EDUCATIONAL MATHEMATICS**
5. **EDUCATIONAL DESIGN**

**Location:** Maribor

**Duration:** 2 years, 120 ECTS

**Access requirements:**

**Slovene language proficiency as an additional access requirement for teacher-training study programmes:**

#### **Language proficiency at level B2 prior to enrolment in the second year of study:**

All candidates applying for teacher-training master's study programmes shall demonstrate the Slovene language proficiency at level B2 in accordance with the Common European Framework of Reference for Languages (CEFR) with an appropriate certificate prior to enrolling in the second year of study.

#### **Appropriate certificates proving the required proficiency are:**

- a) the Slovene language examination certificate at level B2 or an equivalent certificate;
- b) fulfilled study obligations from the *Slovene Language Development for Foreigners 1* or *Slovene as a Second and Foreign Language 1* and *Slovene Language Development for Foreigners 2* or *Slovene as a Second and Foreign Language 2* courses at the Faculty of Arts of the University of Maribor;
- c) the final certificate of primary education in RS or foreign primary education with Slovene as the language of teaching;
- d) a matura certificate or the final year certificate of a vocational secondary education programme, showing the candidate has passed the Slovene language course;
- e) a certificate of completed bilingual (Slovene and a foreign language) secondary education or completed foreign secondary education with Slovene as the language of teaching;
- f) a diploma from a higher education institution in RS and a certificate (statement) that the candidate has completed the programme in Slovene.

Candidates who have graduated from a 1<sup>st</sup>-cycle (bachelor's) study programme at the Faculty of Natural Sciences and Mathematics of the University of Maribor are not obliged to enclose the certificates.

### 1. **BIOLOGY AND ECOLOGY WITH NATURE CONSERVATION**

Candidates who completed the following may apply for the 2<sup>nd</sup>-cycle (master's) study programme in *Biology and Ecology with Nature Conservation*:

- A 1<sup>st</sup>-cycle (bachelor's) study programme in one of the following fields: biological and related sciences – excluding cosmetology (051), environment (052), or teacher training with subject specialisation - only biology (0114).

- A 1<sup>st</sup>-cycle (bachelor's) study programme in one of the following fields: inter-disciplinary programmes and qualifications involving natural sciences, mathematics and statistics – only bioinformatics, biopsychology, and applied kinesiology (058) or agriculture, forestry, fisheries and veterinary (08).  
Prior to enrolment, candidates shall pass the following courses corresponding to 20 ECTS credits under the 1<sup>st</sup>-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Botany* (5 ECTS), *Zoology* (5 ECTS), *Ecology* (5 ECTS), and *Biochemistry with Fundamentals of Microbiology and Genetics* (5 ECTS).
- An undergraduate academic study programme adopted prior to 11 June 2004 in one of the following fields: biological and related sciences (051), environment (052), or teacher training with subject specialisation - only biology (0114).  
Candidates are typically awarded 60 ECTS credits and may enrol in the second year of study provided they satisfy the transfer criteria laid down in the accredited study programme.
- An undergraduate academic study programme adopted prior to 11 June 2004 in one of the following fields: inter-disciplinary programmes and qualifications involving agriculture, forestry, fisheries and veterinary (0888), crop and livestock production (0811), or forestry (0821).  
Candidates are typically awarded up to 60 ECTS credits and may enrol in the corresponding year of study.

If the number of applications exceeds the number of available enrolment places, candidates shall be ranked according to grade point average (100%).

#### Transfer criteria:

In accordance with the transfer criteria, candidates may transfer to the 2<sup>nd</sup>-cycle (master's) study programme in *Biology and Ecology with Nature Conservation* from study programmes in the field of biology, ecology, environmental protection, or conservation biology provided they lead to the acquisition of comparable competencies and that at least half of the study obligations under the previous study programme relating to compulsory courses of the new study programme are recognized.

Under the recognition procedure, fulfilled study obligations that may be recognized fully or partially are identified, and study obligations required for completion of the new study programme are laid down.

#### Mode of study: full-time

## 2. PHYSICS

Candidates who completed the following may apply for the 2<sup>nd</sup>-cycle (master's) study programme in *Physics*:

- A 1<sup>st</sup>-cycle (bachelor's) study programme in one of the following fields: physics (0533), teacher training with subject specialisation – only physics (0114), or earth sciences – only meteorology (0532).
- A 1<sup>st</sup>-cycle (bachelor's) study programme in one of the following fields: engineering and engineering trades (071), chemistry (0531), earth sciences – other than meteorology (0532), or building and civil engineering (0732).  
Prior to enrolment, candidates shall pass the following courses corresponding to 15 ECTS credits under the 1<sup>st</sup>-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Modern Physics* (8 ECTS) and *System Dynamics Modelling* (7 ECTS).
- A 1<sup>st</sup>-cycle (bachelor's) study programme in the following fields: biology (0511), biochemistry (0512), environmental sciences (0521), mathematics and statistics (054), or Information and Communication Technologies (ICTs) (061).  
Prior to enrolment, candidates shall pass the following courses corresponding to 41 ECTS credits under the 1<sup>st</sup>-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Mechanics* (7 ECTS), *Thermodynamics* (5 ECTS), *Electromagnetism* (7 ECTS), *Oscillation and Waves* (7 ECTS), *Modern Physics* (8 ECTS), and *System Dynamics Modelling* (7 ECTS).
- An undergraduate professional study programme adopted prior to 11 June 2004 in one of the following fields: physics (0533) or earth sciences – only meteorology (0532).
- An undergraduate professional study programme adopted prior to 11 June 2004 in one of the following fields: engineering and engineering trades (071), chemistry (0531), earth sciences – other than meteorology (0532), or building and civil engineering (0732).  
Prior to enrolment, candidates shall pass the following courses corresponding to 15 ECTS credits under the 1<sup>st</sup>-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Modern Physics* (8 ECTS) and *System Dynamics Modelling* (7 ECTS).
- An undergraduate professional study programme adopted prior to 11 June 2004 in one of the following fields: biology (0511), biochemistry (0512), environmental sciences (0521), mathematics and statistics (054), or Information and Communication Technologies (ICTs) (061).  
Prior to enrolment, candidates shall pass the following courses corresponding to 41 ECTS credits under the 1<sup>st</sup>-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Mechanics* (7 ECTS), *Thermodynamics* (5 ECTS), *Electromagnetism* (7 ECTS), *Oscillation and Waves* (7 ECTS), *Modern Physics* (8 ECTS), and *System Dynamics Modelling* (7 ECTS).

- An undergraduate academic study programme adopted prior to 11 June 2004 in one of the following fields: physics (0533), teacher training with subject specialisation – only physics (0114), or earth sciences – only meteorology (0532). Candidates are typically awarded up to 60 ECTS credits and may enrol in the second year of study provided they satisfy the transfer criteria laid down in the accredited study programme.
- A specialisation following an undergraduate professional study programme adopted prior to 11 June 2004 in one of the following fields: physics (0533) or earth sciences – only meteorology (0532). Candidates are typically awarded up to 60 ECTS credits and may enrol in the second year of study provided they satisfy the transfer criteria laid down in the accredited study programme.

If the number of applications exceeds the number of available enrolment places, candidates shall be ranked according to grade point average (100%).

<b>Transfer criteria:</b>
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In accordance with the transfer criteria, candidates may transfer to the 2<sup>nd</sup>-cycle (master's) study programme in *Physics* from study programmes in the field of physical science, educational physics, physics, meteorology, or biophysics provided they lead to the acquisition of comparable competencies and that at least half of the study obligations under the previous study programme relating to compulsory courses of the new study programme are recognized.

Under the recognition procedure, fulfilled study obligations that may be recognized fully or partially are identified, and study obligations required for completion of the new study programme are laid down.

<b>Mode of study:</b> full-time
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### 3. MATHEMATICS

Candidates who completed the following may apply for the 2<sup>nd</sup>-cycle (master's) study programme in *Mathematics*:

- A 1<sup>st</sup>-cycle (bachelor's) study programme in the following field: mathematics – only mathematics (0541).
- A 1<sup>st</sup>-cycle (bachelor's) study programme in one of the following fields: mathematics – only educational mathematics, financial mathematics, and mathematics in economics and finances (0541) or teacher training with subject specialisation – only mathematics (0114).  
Prior to enrolment, candidates shall pass the following courses corresponding to 23 ECTS credits under the 1<sup>st</sup>-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Algebra I* (8 ECTS), *Discrete Mathematics I* (7 ECTS), and *Numerical Methods and Symbolic Mathematics* (8 ECTS).
- A 1<sup>st</sup>-cycle (bachelor's) study programme in the following field: mathematics – only practical mathematics (0541).  
Prior to enrolment, candidates shall pass the following courses corresponding to 24 ECTS credits under the 1<sup>st</sup>-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Algebra I* (8 ECTS), *Plane and Solid Geometry* (7 ECTS), and *Analysis III* (9 ECTS).
- A 1<sup>st</sup>-cycle (bachelor's) study programme in one of the following fields: biology (0511), environmental sciences (0521), chemistry (0531), physics (0533), database and network design and administration (0612), software and applications development and analysis (0613), Information and Communication Technologies (ICTs) (0619), inter-disciplinary programmes and qualifications involving Information and Communication Technologies (ICTs) (0688), engineering and engineering trades (071), inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction (0788), or economics (0311).  
Prior to enrolment, candidates shall pass the following courses corresponding to 55 ECTS credits under the 1<sup>st</sup>-cycle study (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Analysis II* (8 ECTS), *Algebra I* (8 ECTS), *Discrete Mathematics I* (7 ECTS), *Analysis III* (9 ECTS), *Analysis IV* (8 ECTS), *Algorithms* (7 ECTS), and *Probability* (8 ECTS).
- An undergraduate academic study programme adopted prior to 11 June 2004 in the following field: mathematics (0541). Candidates are typically awarded 60 ECTS credits and may enrol in the second year of study provided they satisfy the transfer criteria laid down in the accredited study programme.
- An undergraduate academic study programme adopted prior to 11 June 2004 in the following field: teacher training with subject specialisation – only mathematics and computer science with mathematics (0114).  
Candidates are awarded between 10 ECTS and 60 credits and may enrol in the corresponding year of study.

If the number of applications exceeds the number of available enrolment places, candidates shall be ranked according to grade point average (100%).

**Transfer criteria:**

In accordance with the transfer criteria, candidates may transfer to the 2<sup>nd</sup>-cycle (master's) study programme in *Mathematics* from study programmes in the field of mathematics provided they lead to the acquisition of comparable competencies and that at least half of the study obligations under the previous study programme relating to compulsory courses of the new study programme are recognized.

Under the recognition procedure, fulfilled study obligations that may be recognized fully or partially are identified, and study obligations required for completion of the new study programme are laid down.

**Mode of study:** full-time**4. EDUCATIONAL MATHEMATICS**

Candidates who completed the following may apply for the 2<sup>nd</sup>-cycle (master's) single-major teacher-training study programme in *Educational Mathematics*:

- A 1<sup>st</sup>-cycle (bachelor's) study programme in the following field: mathematics – only mathematics (0541).
- A 1<sup>st</sup>-cycle (bachelor's) study programme in the following field: mathematics – only financial mathematics (0541).  
Prior to enrolment, candidates shall pass the following courses corresponding to 15 ECTS credits under the 1<sup>st</sup>-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Number Theory* (8 ECTS), *Plane and Solid Geometry* (7 ECTS).
- A 1<sup>st</sup>-cycle (bachelor's) study programme in one of the following fields: mathematics – only educational mathematics (0541) or teacher training with subject specialisation – only mathematics (0114).  
Prior to enrolment, candidates shall pass the following courses corresponding to 24 ECTS credits under the 1<sup>st</sup>-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Discrete Mathematics I* (7 ECTS), *Analysis III* (9 ECTS), *Algebra II* (4 ECTS), and *Numerical Methods* (4 ECTS).
- A 1<sup>st</sup>-cycle (bachelor's) study programme in the following field: mathematics – only practical mathematics and mathematics in economics and finances (0541).  
Prior to enrolment, candidates shall pass the following courses corresponding to 24 ECTS credits under the 1<sup>st</sup>-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Algebra I* (8 ECTS), *Plane and Solid Geometry* (7 ECTS), and *Analysis III* (9 ECTS).
- An undergraduate professional study programme adopted prior to 11 June 2004 in the following field: mathematics (0541, only practical mathematics).  
Prior to enrolment, candidates shall pass the following courses corresponding to 24 ECTS credits under the 1<sup>st</sup>-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Algebra I* (8 ECTS), *Plane and Solid Geometry* (7 ECTS), and *Analysis III* (9 ECTS).
- An undergraduate academic study programme adopted prior to 11 June 2004 in the following field: mathematics (0541).  
Candidates are typically awarded 60 ECTS credits and may enrol in the second year of study provided they satisfy the transfer criteria laid down in the accredited study programme.
- An undergraduate academic study programme adopted prior to 11 June 2004 in the following field: teacher training with subject specialisation – only mathematics and computer science with mathematics (0114).  
Candidates are awarded between 30 ECTS and 60 ECTS credits and may enrol in the corresponding year of study.

If the number of applications exceeds the number of available enrolment places, candidates shall be ranked according to grade point average (100%).

**Transfer criteria:**

In accordance with the transfer criteria, candidates may transfer to the 2<sup>nd</sup>-cycle (master's) single-major teacher-training study programme in *Educational Mathematics* from study programmes in the field of mathematics (any option) provided they lead to the acquisition of comparable competencies and that at least half of the study obligations under the previous study programme relating to compulsory courses of the new study programme are recognized.

Under the recognition procedure, fulfilled study obligations that may be recognized fully or partially are identified, and study obligations required for completion of the new study programme are laid down. Students shall obtain a minimum of 60 ECTS credits in teacher-training, psychological, and didactical courses in order to be awarded a master's degree.

**Mode of study:** full-time

## 5. EDUCATIONAL DESIGN

Candidates who completed the following may apply for the 2<sup>nd</sup>-cycle (master's) single-major teacher-training study programme in *Educational Design*:

- A 1<sup>st</sup>-cycle (bachelor's) study programme in the field of inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction (0788 – only Educational Design).
- A 1<sup>st</sup>-cycle (bachelor's) study programme in the field of engineering, manufacturing and construction (07).  
Prior to enrolment, candidates shall pass the following courses corresponding to 27 ECTS credits under the 1<sup>st</sup>-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Materials and Technologies* (5 ECTS), *Technical Drawing* (5 ECTS), *Mechanical Elements* (5 ECTS), *Electrical Engineering* (7 ECTS), and *Technology Practicum 1* (5 ECTS).
- A 1<sup>st</sup>-cycle (bachelor's) study programme in a field not specified in the previous paragraphs.  
Prior to enrolment, candidates shall pass the following courses corresponding to 42 ECTS credits under the 1<sup>st</sup>-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Materials and Technologies* (5 ECTS), *Technical Drawing* (5 ECTS), *Engineering Design* (5 ECTS), *Mechanical Elements* (5 ECTS), *Electrical Engineering* (7 ECTS), *Electronics* (5 ECTS), *Technology Practicum 1* (5 ECTS), and *Technology Practicum 2* (5 ECTS).
- An undergraduate professional study programme adopted prior to 11 June 2004 in one of the following fields: engineering and engineering trades (071), manufacturing and processing (072), building and civil engineering (0732), or inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction (078).  
Prior to enrolment, candidates shall pass the following courses corresponding to 27 ECTS credits under the 1<sup>st</sup>-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Materials and Technologies* (5 ECTS), *Technical Drawing* (5 ECTS), *Mechanical Elements* (5 ECTS), *Electrical Engineering* (7 ECTS), and *Technology Practicum 1* (5 ECTS).
- An undergraduate professional study programme adopted prior to 11 June 2004 in a field not specified in the previous paragraph.  
Prior to enrolment, candidates shall pass the following courses corresponding to 42 ECTS credits under the 1<sup>st</sup>-cycle (bachelor's) study programme, a supplementary study programme, or by taking bridging exams: *Materials and Technologies* (5 ECTS), *Technical Drawing* (5 ECTS), *Engineering Design* (5 ECTS), *Mechanical Elements* (5 ECTS), *Electrical Engineering* (7 ECTS), *Electronics* (5 ECTS), *Technology Practicum 1* (5 ECTS), and *Technology Practicum 2* (5 ECTS).
- An undergraduate academic study programme adopted prior to 11 June 2004 in the field of teacher training with subject specialisation – only production and engineering courses (0114).  
Candidates are typically awarded 60 ECTS credits and may enrol in the second year of study provided they satisfy the transfer criteria laid down in the accredited study programme.
- An undergraduate academic study programme adopted prior to 11 June 2004 in the field of education (011 – except production and engineering courses).  
Candidates are awarded up to 20 ECTS and may enrol in the corresponding year of study.
- An undergraduate academic study programme adopted prior to 11 June 2004 in one of the following fields: engineering and engineering trades (071), manufacturing and processing (072), architecture and construction (073), or inter-disciplinary programmes and qualifications involving engineering, manufacturing and construction (078).  
Candidates are awarded up to 10 ECTS credits.
- A specialisation following an undergraduate professional study programme adopted prior to 11 June 2004 in the following field: engineering and engineering trades (071).  
Candidates are awarded up to 10 ECTS credits.

If the number of applications exceeds the number of available enrolment places, candidates shall be ranked according to grade point average (100%).

<b>Transfer criteria:</b>
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In accordance with the transfer criteria, candidates may transfer to the 2<sup>nd</sup>-cycle single-major teacher-training study programme in *Educational Design* from study programmes in the field of natural sciences, engineering, or similar provided they lead to the acquisition of comparable competencies and that at least half of the study obligations under the previous study programme relating to compulsory courses of the new study programme are recognized.

Under the recognition procedure, fulfilled study obligations that may be recognized fully or partially are identified, and study obligations required for completion of the new study programme are laid down. Students shall obtain a minimum of 60 ECTS credits in teacher-training, psychological, and didactical courses in order to be awarded a master's degree.

<b>Mode of study:</b> part-time
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The study programme shall be implemented in the event of 5 or more enrolled students.

### 3<sup>RD</sup>-CYCLE STUDY PROGRAMMES:

The Faculty of Natural Sciences and Mathematics offers four 3<sup>rd</sup>-cycle (doctoral) study programmes:

1. ECOLOGICAL SCIENCES
2. PHYSICS
3. MATHEMATICS
4. EDUCATION IN ENGINEERING

**Location:** Maribor

**Duration:** 4 years, 240 ECTS

**Access requirements:**

#### 1. ECOLOGICAL SCIENCES

Candidates who completed the following may apply for the 3<sup>rd</sup>-cycle (doctoral) study programme in *Ecological Sciences*:

- A 2<sup>nd</sup>-cycle (master's) study programme.
- An undergraduate academic study programme adopted prior to 11 June 2004.
- A specialisation following an undergraduate professional study programme adopted prior to 11 June 2004.  
Prior to enrolment, candidates shall fulfil study obligations corresponding to 60 ECTS in the fields of biology, ecology, and/or other natural sciences and general courses of the study programme.
- A study programme educating students for professions regulated by EU directives or another integrated (long-cycle) master's study programme corresponding to 300 ECTS credits.

In order to successfully complete the 3<sup>rd</sup>-cycle (doctoral) study programme, candidates are advised to apply only if they obtained an academic education in the field of ecology, biology or nature conservation, educational biology, veterinary science, agriculture, forestry, microbiology, biotechnology, biochemistry, or medicine.

In the event of limited enrolment, the Faculty shall publish the selection criteria in accordance with Article 41 of the Higher Education Act. In the selection procedure, candidates shall be ranked according to:

- grade point average (20%),
- grade awarded for the thesis (40%), and
- grade awarded for the competitive examination (40%) focused on basic biological and ecological contents.

**Transfer criteria:**

In accordance with the transfer criteria, candidates may transfer to the 3<sup>rd</sup>-cycle (doctoral) study programme in *Ecological Sciences* from 3<sup>rd</sup>-cycle (doctoral) study programmes in the field of biology, educational biology, ecology, nature conservation, geography, biotechnology (veterinary science, agriculture, forestry), bioscience, biomedicine, or medicine provided they lead to the acquisition of comparable competencies and that at least half of the study obligations under the previous study programme relating to compulsory courses of the new study programme are recognized. The Faculty's Academic Affairs Committee determines study obligations that are to be fulfilled in order to earn a doctoral degree under the new study programme.

Candidates who completed the following may also be admitted to the 3<sup>rd</sup>-cycle (doctoral) study programme in *Ecological Sciences*:

1. A master of science study programme adopted prior to 11 June 2004. Candidates are awarded a minimum of 60 ECTS credits.
2. A specialisation following an undergraduate academic study programme adopted prior to 11 June 2004. Candidates are awarded a minimum of 60 ECTS credits.

**Mode of study:** part-time

**Contact:** doc. dr. Tina Klenovšek (head of the doctoral study programme)

**Phone:** +386 2 2293 678; **email:** [tina.klenovsek@um.si](mailto:tina.klenovsek@um.si)

## 2. PHYSICS

Candidates who completed the following may apply for the 3<sup>rd</sup>-cycle (doctoral) study programme in *Physics*:

- A 2<sup>nd</sup>-cycle (master's) study programme.
- An undergraduate academic study programme adopted prior to 11 June 2004.
- A specialisation following an undergraduate professional study programme adopted prior to 11 June 2004.  
Prior to enrolment, candidates shall pass the following courses corresponding to 35 ECTS: *Statistical Thermodynamics* (8 ECTS), *Physics Modelling* (10 ECTS), *Physics of Complex Systems* (7 ECTS), and *Introduction to Scientific Research* (10 ECTS).
- A study programme educating students for professions regulated by EU directives or another integrated (long-cycle) master's study programme corresponding to 300 ECTS credits.

In order to successfully complete the 3<sup>rd</sup>-cycle (doctoral) study programme, candidates are advised to apply only if they obtained an academic education in the field of physics, or if they possess previous knowledge of physics at the academic level.

In the event of limited enrolment, the Faculty shall publish the selection criteria in accordance with Article 41 of the Higher Education Act. In the selection procedure, candidates shall be ranked according to:

- grade point average (25%),
- grade awarded for the thesis (25%), and
- grade awarded for the *Overview of Classical and Modern Physics* exam (50%).

<b>Transfer criteria:</b>
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In accordance with the transfer criteria, candidates may transfer to the 3<sup>rd</sup>-cycle (doctoral) study programme in *Physics* from 3<sup>rd</sup>-cycle (doctoral) study programmes in the field of physical sciences, natural sciences and mathematics, or engineering provided they lead to the acquisition of comparable competencies and that at least half of the study obligations under the previous study programme relating to compulsory courses of the new study programme are recognized. The Faculty's Academic Affairs Committee determines study obligations that are to be fulfilled in order to earn a doctoral degree under the new study programme.

Candidates who completed the following may also be admitted to the 3<sup>rd</sup>-cycle (doctoral) study programme in *Physics*:

1. A master of science study programme adopted prior to 11 June 2004. Candidates are awarded 60 ECTS credits.
2. A specialisation following an undergraduate academic study programme adopted prior to 11 June 2004. Candidates are awarded 60 ECTS credits.

<b>Mode of study:</b> part-time
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<b>Contact:</b> doc. dr. Aleš Fajmut (coordinator of the doctoral study programme)
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<b>Phone:</b> +386 2 2293 895; <b>email:</b> <a href="mailto:ales.fajmut@um.si">ales.fajmut@um.si</a>
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## 3. MATHEMATICS

Candidates who completed the following may apply for the 3<sup>rd</sup>-cycle (doctoral) study programme in *Mathematics*:

- A 2<sup>nd</sup>-cycle (master's) study programme.
- An undergraduate academic study programme adopted prior to 11 June 2004.
- A specialisation following an undergraduate professional study programme adopted prior to 11 June 2004.  
Prior to enrolment, candidates shall fulfil study obligations corresponding to 45 ECTS. Candidates shall pass exams in the narrow fields of mathematics analysis, algebra, discrete mathematics, geometry, topology, probability, and statistics.
- A study programme educating students for professions regulated by EU directives or another integrated (long-cycle) master's study programme corresponding to 300 ECTS credits.

In order to successfully complete the 3<sup>rd</sup>-cycle (doctoral) study programme, candidates are advised to apply only if they obtained an academic education in the field of mathematics or natural sciences.

In the event of limited enrolment, the Faculty shall publish the selection criteria in accordance with Article 41 of the Higher Education Act. In the selection procedure, candidates shall be ranked according to:

- grade point average (20%),
- grade awarded for the thesis (40%), and
- grade in the competitive examination (40%) focused on basic mathematical contents.

**Transfer criteria:**

In accordance with the transfer criteria, candidates may transfer to the 3<sup>rd</sup>-cycle (doctoral) study programme in *Mathematics* from 3<sup>rd</sup>-cycle (doctoral) study programmes in the field of mathematics provided they lead to the acquisition of comparable competencies and that at least half of the study obligations under the previous study programme relating to compulsory courses of the new study programme are recognized. The Faculty's Academic Affairs Committee determines study obligations that are to be fulfilled in order to earn a doctoral degree under the new study programme.

Candidates who completed the following may also be admitted to the 3<sup>rd</sup>-cycle (doctoral) study programme in *Mathematics*:

1. A master of science study programme adopted prior to 11 June 2004. Candidates are awarded a minimum of 60 ECTS.
2. A specialisation following an undergraduate academic study programme adopted prior to 11 June 2004. Candidates are awarded a minimum of 60 ECTS.

**Mode of study:** part-time**Contact:** izr. prof. dr. Dominik Benkovič (coordinator of the doctoral study programme)  
**Phone:** +386 02 2355 606; **email:** [dominik.benkovic@um.si](mailto:dominik.benkovic@um.si)

#### 4. EDUCATION IN ENGINEERING

Candidates who completed the following may apply for the 3<sup>rd</sup>-cycle (doctoral) study programme in *Education in Engineering*:

- A 2<sup>nd</sup>-cycle (master's) study programme.
- An undergraduate academic study programme adopted prior to 11 June 2004.
- A specialisation following an undergraduate professional study programme adopted prior to 11 June 2004.  
Prior to enrolment, candidates shall fulfil study obligations corresponding to 60 ECTS, determined by the Department of Technical Education by considering the study option under the undergraduate professional study programme or specialisation.
- A study programme educating students for professions regulated by EU directives or another integrated (long-cycle) master's study programme corresponding to 300 ECTS credits.

In the event of limited enrolment, the Faculty shall publish the selection criteria in accordance with Article 41 of the Higher Education Act. In the selection procedure, candidates shall be ranked according to:

- grade point average (30%),
- grade awarded for the thesis (30%), and
- grade awarded for the competitive examination (40%) focused on basic engineering and pedagogical contents.

**Transfer criteria:**

In accordance with the transfer criteria, candidates may transfer to the 3<sup>rd</sup>-cycle (doctoral) study programme in *Education in Engineering* from 3<sup>rd</sup>-cycle (doctoral) study programmes in the field of natural sciences, engineering, economics, environmental sciences, social sciences, or humanities provided they lead to the acquisition of comparable competencies and that at least half of the study obligations under the previous study programme relating to compulsory courses of the new study programme are recognized. The Faculty's Academic Affairs Committee determines study obligations that are to be fulfilled in order to earn a doctoral degree under the new study programme.

Candidates who completed the following may also be admitted to the 3<sup>rd</sup>-cycle (doctoral) study programme in *Education in Engineering*:

1. A master of science study programme adopted prior to 11 June 2004. Candidates are awarded a minimum of 60 ECTS credits.
2. A specialisation following an undergraduate academic study programme adopted prior to 11 June 2004. Candidates are awarded a minimum of 60 ECTS credits.

**Mode of study:** part-time**Contact:** izr. prof. dr. Andrej Flogie (coordinator of the doctoral study programme)  
**Phone:** +386 2 2293 752; **email:** [andrej.flogie@um.si](mailto:andrej.flogie@um.si)**Number of available enrolment places:** The number of available enrolment places is published in tables that represent an integral part of the Call.