science
research
excellence

UP

famnit

function quicksort(array)
var list less,
if length(array)
return array

postgraduate
study programmes
MSc   PhD

Science
Research
Excellence

Choose Science

famnit.upr.si/en

Why choose UP FAMNIT?

First and foremost because we offer a unique educational opportunity for some of the most sought-after professional profiles in Europe and the world, such as mathematics, computer science, the natural sciences and psychology. Furthermore, we offer:

• attractive future-oriented study courses with an emphasis on interdisciplinarity,

• modern teaching methods supported by informational technology,

• award-winning and internationally renowned lecturers with a personal approach to students,

• the opportunity for research work during your studies in cooperation with the Andrej Marušič Institute of the University of Primorska,

• cooperation with industry in the framework of practical trainings and projects,

• a pleasant Mediterranean environment at the Slovenian seaside,

• a rich offer of extracurricular activities in cooperation with the Student Council and other student associations.

MASTER'S studies:
• Biopsychology
• Mathematical Sciences
• Data Science
• Computer Science
• Sustainable Built Environments
• Psychology
• Nature Conservation

DOCTORAL studies:
• Mathematical Sciences
• Computer Science
• Computer Science, *international joint programme with University of St Andrews*
• Renewable Materials for Healthy Built Environments

In addition...

full-time and part-time study

project work

modern teaching methods supported by information technology

traineeships

student mobility

modern laboratories and computer equipment

an international team of professors and researchers

study programmes in Slovenian and English

cooperation with enterprises and NGOs

student tutoring

involvement of field experts in the study process

intertwining of scientific disciplines

33% of students from abroad

collaboration with universities and research centres around the world

scholarship fund for successful students

Choose science, research, excellence.

Master's study programme

Biopsychology

Early experience shapes the structure and function of the brain. This reveals the fundamental way in which gene expression is determined by experience. (Daniel J. Siegel)

The study programme includes theoretical and applied psychological content crucial for the understanding of individuals, groups and society.

Furthermore, it features methodologies of psychological research and equips students with in-depth knowledge of biology. The ability to understand the functioning of the brain, the nervous system, pharmacology and knowledge of state-of-the-art diagnostic procedures enables graduates to gain an in-depth understanding of psychological and social phenomena.

Graduates will have the chance to promote healthy and productive work and lifestyle choices, delve into the field of contemporary mental illness prevention and explore methods for strengthening mental and physical health. Moreover, graduates will be equipped with knowledge enabling them to engage in research work and transfer that knowledge into practice.

The programme also includes basic content in the field of health and clinical psychology and is aimed at acquiring practical skills in the broader field of mental health.

Specific knowledge of the biological factors that influence human mentality.

Basic knowledge and skills needed for further specialization in the field of psychotherapy.

Traineeships in organizations, companies, and associations, health care and educational institutions.

Involvement of students in research and project work of the department and the UP Andrej Marušič Institute.

"The knowledge and understanding of biological and psychological processes helps us to set up preventive and curative and/or corrective interventions that help inform the general public, educate professionals and develop science."

Andreja

More info

or

Degree awarded: equiv. to a Master's degree in Biopsychology
Duration: 2 years (4 semesters)
ECTS-credits: 120
Mode of study: full-time. Language of study: Slovene.

ADMISSION REQUIREMENTS
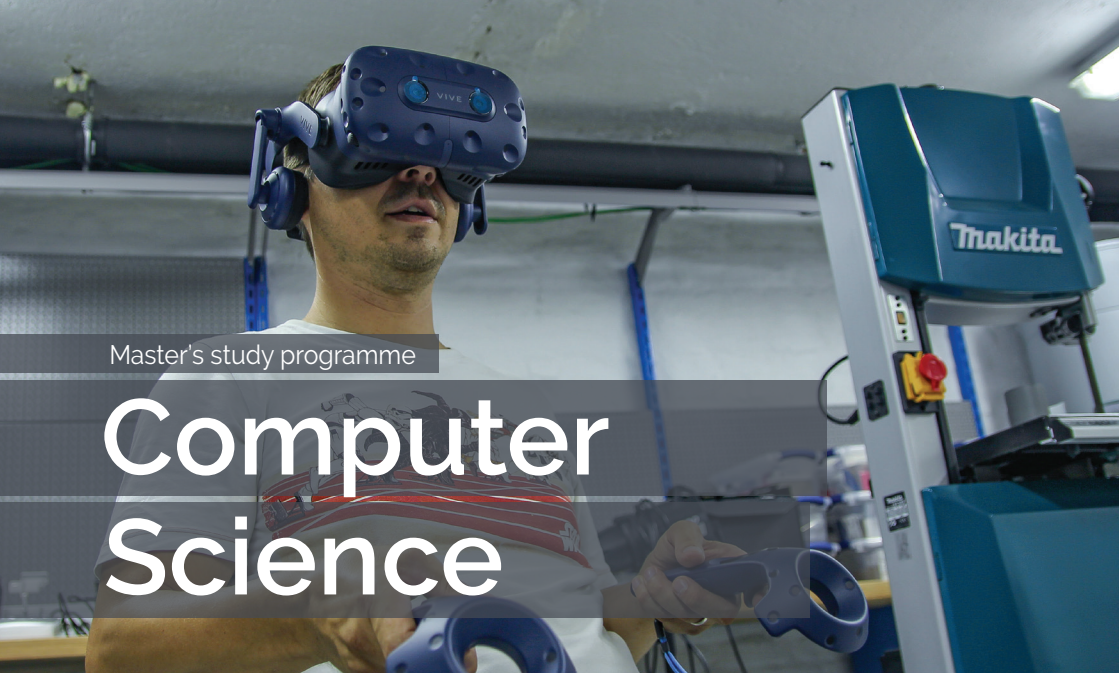Admission to the first year of study shall be granted to applicants having:
• completed a first-cycle study programme in the study field of biopsychology or psychology; or
• completed a first-cycle study programme in other study fields - in this case applicants have to pass study obligations that are fundamental for enrolment in an amount of up to 60 ECTS-credits; or
• completed an equivalent study abroad.

Master's study programme

Computer Science

Education in computer science empowers new generations to express their creativity through creating technologies to solve everyday problems and in supporting future innovations.

For its successful development, computer technology needs stable and excellent societal educational structures, which enable quality training of professionals at all levels of computer skills, good connections with industry, and a research core that enables the pursuit of new technologies and international trends.

The purpose of the study programme is to evolve the ability to develop complex ICT systems and master programming languages, techniques, development tools and methodologies for systems development, and to train students to use modern tools and techniques in solving and presenting problems and concepts.

Good interconnectedness with ICT-related companies in the region enable student participation in solving real-life challenges in the industry, connecting with future employers, monitoring the region's needs for new staff in companies, and the possibility of group work on industrial projects.

Usage of latest computer equipment.

Involving students in laboratory work and research.

Development of applications and programs in cooperation with industry.

International team of lecturers and researchers.

Workshops, seminars and trainings.

" *Our future depends on computing.*
Without the right knowledge, however, there is no future.
Tilen "

More info

or

Degree awarded: equiv. to a Master's degree in Computer Science
Duration: 2 years (4 semesters)
ECTS-credits: 120
Mode of study: full-time. Language of study: Slovene.

ADMISSION REQUIREMENTS
Admission to the first year of study shall be granted to applicants having:
• completed a first-cycle study programme in relevant professional fields (Computer Science, Computer Science and Mathematics, Mathematics, Electrical Engineering, Bioinformatics) and achieved at least 180 ECTS-credits; or
• completed a study programme leading to a professional higher education degree or a study programme leading to a university degree in appropriate professional fields; or
• completed an equivalent study abroad.

Data Science

Data science practitioners are in high demand in the world, where 2.5 quintillion bytes of data are produced every day.

Data science is an interdisciplinary field that leverages knowledge in three key areas to provide useful information for business, research, and policy.

The key areas of knowledge data science rely on are computer science, mathematics, and domain knowledge - that is, an understanding of the field the data is collected from and used in.

In this programme students learn to gather, manage, and analyse structured and unstructured data including numbers, text, images, video, audio, etc.

Students also learn important statistical and algorithmic methods to work data, to extract information, and to create useful outputs based on this information.

The programme is set in accordance with the guidelines of the European Mathematical Association (EMS) and is based on the state-of-the-art and current trends in data science and all underlying disciplines and includes ethical issues and regulations (e.g. GDPR).

The study programme is offered in Slovene and English.

Internationally-oriented study programme.

Combining creativity, logic, domain knowledge and experience.

Traineeships in companies. Employment in business, public and non-governmental sector as well as the possibility of further research.

> " *Our decisions are based on information consisting of data. But let's not forget that we can have data even without additional information ... and that's the beauty of it...* "
> *Sead*

More info

or

Degree awarded: equiv. to a Master's degree in Data Science
Duration: 2 years (4 semesters)
ECTS-credits: 120
Mode of study: full-time, part-time. Language of study: Slovene, English.

ADMISSION REQUIREMENTS
Admission to the first year of study shall be granted to applicants having:
• completed a first-cycle study programme in the field of mathematics, computer science or bioinformatics; or
• completed a first-cycle study programme in other professional fields - in this case applicants have to pass study obligations that are fundamental for enrolment (between 10 and 60 ECTS); or
• completed an equivalent study abroad.

Master's study programme

Mathematical Sciences

Mathematics is the foundation of all natural sciences and an indispensable tool in the social sciences and economics. Being the theoretical core of computer sciences, its influence in decisive aspects of life that mark the 21st century is inevitably growing.

During their studies, students gain in-depth knowledge of special areas of mathematics and learn to recognize the connections between various mathematical theories and other natural and social sciences. They also develop the ability to analyse and synthesize data, develop critical thinking and creativity as well as developing skills to solve complex mathematical problems in various fields.

The syllabus consists of mostly elective subjects, which means that students delve into various contemporary areas, including discrete mathematics and cryptography.

The studies provide graduates with appropriate knowledge for work in the research and pedagogical field (after completing pedagogical and andragogical education) and in the world of computer science and informatics, statistics, banking, insurance, gambling theory, cryptography and administration.

The study programme is offered in Slovene and English.

A wide range of in-depth skills that do not become obsolete and enable immediate employability in a variety of sectors.

Mathematicians are among the most sought-after personnel in the fields of science, technology and beyond.

Involvement of students in research work of the department and the UP Andrej Marušič Institute.

International professors and researchers.

Our graduates also continue their studies in doctoral programmes at prestigious universities around the globe (e.g. Rutgers University, London School of Economics, University of Bonn, The University of Texas at Austin, Université de Paris).

"All phenomena, however chaotic and seemingly incomprehensible, can be translated into mathematical language. As mathematicians, we have the unique opportunity to study and understand them."
Nina

More info

or

Degree awarded: equiv. to a Master's degree in Mathematics
Duration: 2 years (4 semesters)
ECTS-credits: 120
Mode of study: full-time, part-time. Language of study: Slovene, English.

ADMISSION REQUIREMENTS
Admission to the first year of study shall be granted to applicants having:
• completed a first-cycle study programme in any mathematical study field; or
• completed a first-cycle study programme in other professional fields - in this case applicants have to pass study obligations that are fundamental for enrolment in an amount of at least 30 ECTS-credits prior to enrolment; or
• completed an equivalent study abroad.

Master's study programme

Nature Conservation

In the time of the Anthropocene (human age) and the sixth mass extinction of species, we need highly qualified experts who will be able to prevent further loss of biodiversity.

Due to the global ecological crisis, which is presently taking on a worldwide dimension and is considered one of the main threats to the continued existence of human civilization on Earth, nature protection measures are crucial for the conservation of plants and animals, as well as their habitats.

The study programme provides graduates with core knowledge in the field of nature conservation and environmental protection.

The basis needed to obtain this knowledge is the understanding of the role of organisms at various levels as well as understanding the importance of ecosystems and recognizing changes in natural habitats.

The study programme covers the protection of both terrestrial and marine ecosystems, which gives students the opportunity to choose the desired area of nature conservation.

By including marine protection, we have introduced a unique field of education into the Slovenian higher education area.

"Nature is a complex system of various organisms and complex natural processes. The sustainability of this system depends on its interconnectedness and flexibility. It is time to realize that nature can survive without humans, but humans cannot survive without nature. With the help of quality education and organized activities, we try to preserve planet Earth in all its diversity.
Luca

The first nature conservation programme in Slovenia and the only study programme with a marine module.

Fieldwork and study traineeships in institutions invested in nature conservation.

Modern laboratories in the renovated Livade Campus in Izola.

Student inclusion in research projects.

More info or

Degree awarded: equiv. to a Master's degree in Nature Conservation
Duration: 2 years (4 semesters)
ECTS-credits: 120
Mode of study: full-time. Language of study: Slovene.

ADMISSION REQUIREMENTS
Admission to the first year of study shall be granted to applicants having:
• completed a first-cycle study programme of Biodiversity at UP FAMNIT or a first-cycle study programme accumulating at least 180 ECTS-credits, of which at least 30 ECTS are from the fields of biology or environmental sciences; or
• completed a first-cycle study programme accumulating at least 180 ECTS-credits in other similar study fields (biotechnical sciences, natural sciences) - in this case candidates have to pass study obligations that are fundamental for enrolment in an amount of 10 to 30 ECTS-credits; or
• completed a first-cycle study programme accumulating at least 180 ECTS-credits in other study fields - in this case applicants have to pass study obligations that are fundamental for enrolment in an amount of 10 to 60 ECTS-credits; or
• completed an equivalent study abroad.

Master's study programme

Psychology

The master's study programme follows the guidelines of current and future employment needs in the field of professional practice of psychologists, in both business as well as non-business related fields.

The purpose of the study programme is to educate and train psychologists who, with their acquired knowledge, skills and competencies, will be able to work independently in areas that require knowledge of the complex determinism of individual and group behaviour.

The application of these findings can be used in solving contemporary societal problems as well as those of groups and individuals, specifically in the field of (mental) health, psychological findings about a healthy work environment, education, individual development, etc. The study programme also emphasizes the ethical responsibility and ethical actions of graduates.

After completing the undergraduate study programme Biopsychology in combination with the Master's programme in Psychology, graduates can obtain a EuroPsy certificate.

Within business enterprises, holders of a Master's degree in psychology are qualified to work in human resources, marketing, and public relations.

> *"Psychology is becoming an increasingly interdisciplinary science, as well as gaining traction among the general population. I am glad that our study programme picks up these trends, as it allows us to constantly improve our knowledge of human mental functioning.*
> *Ana*

Involvement of students in research and project work of the department and the UP Andrej Marušič Institute.

Traineeships in organizations, companies, and associations, health care and educational institutions.

In-depth knowledge and skills in the field of psychology and its applications in practical fields.

More info 〉 👆 or 📱 〉 ▦

Degree awarded: equiv. to a Master's degree in Psychology
Duration: 2 years (4 semesters)
ECTS-credits: 120
Mode of study: full-time. Language of study: Slovene.

ADMISSION REQUIREMENTS

Admission to the first year of study shall be granted to applicants having:
• completed a first-cycle degree programme in the field of psychology or biopsychology that complies with the requirements of the EuroPsy Certificate, earning at least 180 ECTS-credits; or
• completed a first-cycle degree programme of at least 180 ECTS-credits from the field of biopsychology - in this case applicants have to pass study obligations that are fundamental for enrolment in an amount of 10 to 42 ECTS-credits; or
• completed another first-cycle degree programme, provided that the programme covered at least 120 ECTS-credits in topics from the field of psychology - in this case applicants have to pass study obligations that are fundamental for enrolment in an amount of 30 to 60 ECTS-credits; or
• completed an equivalent study abroad.

Sustainable Built Environments

The buildings and environments in which we live and work have an impact on the quality of our life and that of future generations, therefore the building sector must shift its goals to provide a built environment that is sustainable, restorative, and benefits the occupants.

One way to promote sustainable environments is through the use of natural building materials like wood.

Wood has long been used as a building material due to its excellent strength-to-weight ratio and its natural beauty. It also offers positive effects on reducing stress and the well-being of building occupants.

Graduates of the programme are able to face complex challenges of modern construction, which include resource efficiency, recovery of renewable materials, extending the life of products and improving their impact on humans' health and well-being.

The study programme offers a complete set of skills and knowledge in the fields of engineering, wood science, and architectural science. These skills not only have the advantage of being highly applicative in the natural environment, but offer an interdisciplinary approach that is necessary to keep up with the development of contemporary construction science, or successfully work in the academic sector, public administration, or the economy.

The study programme is offered in Slovene and English.

Exceptional laboratories, multidisciplinary coursework, tailored project work.

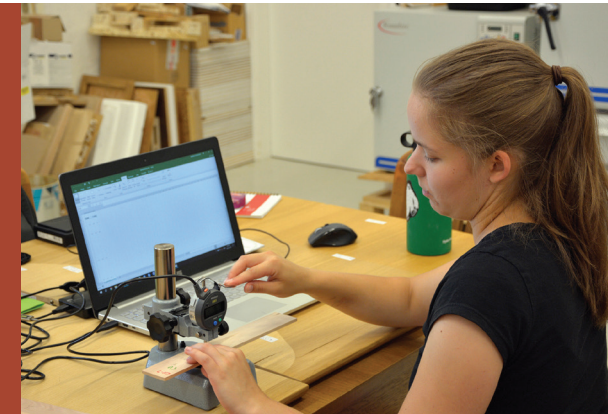*Close connections with industry for student projects.*

Learn from an international team of researchers.

More info or

"*Sustainability is a key to our future. In scope of construction and built environment it involves engineering, aesthetics and biology, but also psychology, economy, communication and so much more!*
Hanka"

Degree awarded: Master's degree in Built Environment Engineering
Duration: 2 years (4 semesters)
ECTS-credits: 120
Language of study: Slovene, English. Mode of study: full-time and part-time.

ADMISSION REQUIREMENTS
Admission to the 1st year shall be granted to applicants having:
• completed an undergraduate degree in the field of civil engineering or wood science; or
• completed a professional study programme (prior to the Bologna Process) in the field of civil engineering or wood science; or
• completed a study programme in other professional fields equivalent to the study programmes mentioned above in terms of duration and credit points, on the condition that the candidate completes additional examinations in the SBE subject matter essential for continuing their studies (up to 30 ECTS), the content and credit points of which depend on the study programme the candidate has already completed.

NEW

Doctoral study programme

Computer Science

The international joint PhD programme in Computer Science is carried out at the School of Computer Science at the University of St Andrews (UK) and UP FAMNIT (SLO).

The study programme offers students an international research opportunity where they need to spend at least one year at each institution.

As computer science is considered one of the most innovative research areas, which is at the same time supporting and transforming other fields of research, we try to fulfill this interdisciplinarity and educate the next generation of leading researchers that will contribute to future scientific and technological progress.

Students will benefit from being mentored by and having access to researchers at both institutions and from the cutting-edge laboratory equipment supporting them in a variety of computer science sub-fields and interdisciplinary research. This will allow them to acquire all necessary skills to become highly trained researchers in their field of research.

The joint PhD programme covers the theoretical and practical applications of research in the field that involves a multitude of areas and sub-disciplines, including computer architecture, computer theory and scientific computing, programming languages, cryptography, and human-computer interaction.

Research work in modern, well-equipped computer laboratories.

Workshop, seminar and training attendance.

Cooperation with research institutions on a global level. International team of lecturers and researchers.

Graduates continue their research careers in the academic world, public and private research and development laboratories, as well as research and development departments of private enterprises.

University of St Andrews

More info

or

Degree awarded: equiv. to a Doctoral degree
Duration: 4 years (8 semesters)
ECTS-credits: 240
Mode of study: full-time. Language of study: English.

ADMISSION REQUIREMENTS
Admission to the first year shall be granted to applicants having:
• a Master's degree (second cycle); or
• a degree from a study programme with 300 ECTS-credits; or
• a degree from a pre-Bologna reform undergraduate study programme; or
• completed an equivalent study abroad.

In the previous study the candidate must achieve a minimum average grade of 8.

The Faculty highly recommends prior education in the fields of Computer Science, Mathematics and Electrical Engineering for a better performance during the study process.

Each applicant must have a chosen supervisor (mentor) prior to the enrolment and a research plan.

Doctoral study programme

Mathematical Sciences

Mathematics is the foundation of all natural sciences and an indispensable tool in the social sciences and economics. Being the theoretical core of computer sciences, its influence in decisive aspects of life that mark the 21st century is inevitably growing.

The study programme is primarily intended for prospective researchers, professors and other academic staff. Each student has a supervisor, who presents a relevant open problem to the student, who will then try to solve it.

The solution to these open problems and its publication in the relevant international journals must be a primary goal of each student. The aim of the programme is to encourage students to do the research, and not to burden them with course exams that are not directly related to their research area.

During their studies, doctoral students usually conduct research visits and attend various international conferences, summer schools, etc., organized by the Faculty or UP IAM, which is directly connected with the faculty.

To a lesser extent, students are also involved in teaching students at lower levels.

The study programme is offered in Slovene and English.

Qualifying the doctoral student for independent research work on demanding national and international projects.

Cooperation with the UP FAMNIT international research group, one of the leading global research groups in the field of algebraic graph theory.

More info

or

" The study of Mathematics has transformed me into an accurate and self-critical person. Mathematics is a common language with which we interpret our world. Its beauty lies in its freedom. "

Amar

Degree awarded: equiv. to a Doctoral degree
Duration: 3 years (6 semesters)
ECTS-credits: 180
Mode of study: part-time. Language of study: Slovene, English.

ADMISSION REQUIREMENTS
Admission to the first year shall be granted to applicants having:
• a Master's degree in Mathematics (Bologna study programme); or
• a degree from a study programme with 300 credits; or
• a degree from a pre-Bologna reform undergraduate study programme in the field of Mathematics, Computer and Mathematical Science, Physics or other Natural Sciences; or
• a Master's degree in studies similar to Mathematics (Computer and Information Sciences, Information Science and Mathematics, Natural Sciences) who have met the necessary additional requirements (i.e. passed differential exams in Algebra and Analysis); or
• completed an equivalent study abroad.

Each applicant must have a chosen supervisor (mentor) prior to the enrolment and a research plan.

Doctoral study programme

Computer Science

Education in computer science empowers new generations to express their creativity through creating technologies to solve everyday problems and in supporting future innovations.

For its successful development, computer technology needs stable and excellent societal educational structures, which enable quality training of professionals at all levels of computer skills, good connections with industry, and a research core that enables the pursuit of new technologies and international trends.

The doctoral programme takes two elements into consideration: companies (practice) and the needs of the academic environment (research activities and higher education activities).

The study is designed as an international programme and is therefore appealing to international students. By reducing 'in-breeding education', this will improve the quality of the entire field.

The study programme provides a high-quality core education in the areas of Computer and Information Sciences which, in collaboration with quality cores in other areas developed at the University of Primorska (Mathematics, Natural Sciences, Humanities, Economic Sciences), presents an interdisciplinary core of quality research.

Research work in modern, well-equipped computer laboratories.

Cooperation with research institutions on a global level. International team of lecturers and researchers.

Workshops, seminars and trainings.

More info

or

" Computer science and programming are not merely logics which may lead you from A - B. But, utterly imaginations which will drive you to every corner of the universe.
So, we learn how to dream not only how to code. "
Maheshya

Degree awarded: equiv. to a Doctoral degree
Duration: 3 years (6 semesters)
ECTS-credits: 180
Mode of study: part-time. Language of study: Slovene, English.

ADMISSION REQUIREMENTS
Admission to the first year shall be granted to applicants having:
• a Master's degree in Computer Science or Computer and Mathematical Science, Mathematics or Electrical Engineering (Bologna study programme); or
• a Master's degree in other studies.

The Faculty highly recommends prior education in the fields of Computer Science, Mathematics and Electrical Engineering for a better performance during the study process.
Each applicant must have a chosen supervisor (mentor) prior to the enrolment and a research plan.

Doctoral study programme

Renewable Materials for Healthy Built Environments

NEW

The buildings and environments in which we live and work have an impact on our quality of life and that of future generations, therefore the building sector must shift their goals to provide a built environment that is sustainable, restorative, and benefits the occupants.

The doctoral programme offers a sophisticated set of pertinent, long-term perspectives on the emerging field of renewable materials for healthy built environments. The programme goal is to introduce a holistic approach in the search for creative and sustainable solutions in engineering and in the development of practical solutions for engineering professions.

Doctoral students receive a highly interdisciplinary education that encourages exploration of breakthrough topics and opens the door to a collaborative international workspace. Students leave the programme as experts in the field who thoroughly understand theoretical concepts, hold broadly technical knowledge and independently develop new knowledge.

The programme equips students with advanced technological skills to solve the field's most complex, demanding theoretical and practical problems, using modern technological tools.

In-depth understanding of sustainable built environment.

Work in laboratories and workshops with state-of-the-art equipment.

Continuation of research career in academia, public or private research and development laboratories, and industry (in research and development sections and operative units of enterprises).

Cooperation with an international team of lecturers and researchers.

More info

or

The opportunity to participate in practical research during the course of study gives students a distinct advantage as they can connect with industry significantly earlier and more efficiently.

Degree awarded: equiv. to a Doctoral degree
Duration: 3 years (6 semesters)
ECTS-credits: 180
Mode of study: part-time. Language of study: Slovene, English.

ADMISSION REQUIREMENTS
Admission to the first year shall be granted to applicants having:
• a Master's degree (second cycle); or
• a degree from a study programme with 300 ECTS-credits; or
• a degree from a pre-Bologna reform undergraduate study programme; or
• completed a comparable study abroad.

The Faculty highly recommends prior education in the areas of built environment, civil engineering, wood science and architecture.

Each applicant must have a chosen supervisor (mentor) prior to the enrolment and a research plan.