



FRI

**CHALLENGING
THE FUTURE**

2nd Cycle

**Master's
Study Programmes**



University of Ljubljana
Faculty of Computer and
Information Science





Accept the Challenge

Today, computer and information science is an important and inevitable building block of all systems and organisations—from companies to public services, from education and research to industry and sales. Most systems are already interconnected and by means of artificial intelligence they will become even more autonomous. Are people still needed at all? Of course. More than ever, we need those that can manage advanced computer systems and processes and will be capable of directing the fast development of this segment in the future. Employment trends indicate a growing demand for such highly-qualified personnel.

The Faculty of Computer and Information Science of the University of Ljubljana (FRI) focuses particularly on this goal. The close cooperation of educational personnel—researchers with partners from the corporate sector provides up-to-date programmes, dealing with modern challenges, and a direct transfer of the latest findings into practice. Working in the largest technological companies or independently penetrating the market requires integration in the global environment. As a response the Faculty offers a double degree programme with the University of Graz and promotes exchange with many partner universities all over the world.

We realise that the importance of computer knowledge becomes evident in connection with other disciplines, which is why our master's study programme is even more interdisciplinary and offers more elective content that students can base their career paths on. What represents a challenge for you? Programming mobile applications or web applications in the cloud, developing games consoles, new methods of using touch screens, virtual reality and wearable technologies, developing artificial intelligence and autonomous robots, managing complex systems or working with large-scale databases? Perhaps something completely new? Even better.

Bachelor graduates in computer and information science, and graduates in other fields of study, don't miss the opportunity. Master's studies at the Faculty of Computer and Information Science will upgrade your existing knowledge and strengthen competencies for a successful career.

Seize the opportunity!



Master's Study Programmes

The Faculty of Computer and Information Science of the University of Ljubljana conducts several Master's study programmes that offer a wide spectrum of knowledge of computer and information sciences and related fields. Great emphasis is placed on interdisciplinary integration of knowledge, so all programmes allow for cooperation with partner faculties and universities. During the two-year study, students become qualified for a successful career in the industry and entrepreneurial world as well as in the academic field.



Master's Study Programmes

Computer and Information Science

Lectures are held in English

Interdisciplinary study Computer Science and Mathematics

(with the Faculty of Mathematics and Physics)

Interdisciplinary study Multimedia

(with the Faculty of Electrical Engineering)

Interdisciplinary study Computer Science Education

(with the Faculty of Education)

Interdisciplinary study Cognitive Science

(with the Faculty of Education, the Faculty of Arts, and the Faculty of Medicine)

Applied Statistics

(with the Faculty of Electrical Engineering, Biotechnical Faculty, Faculty of Economics, Faculty of Mathematics and Physics, Faculty of Medicine, and the Faculty of Social Sciences)



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ŽIGA LESAR

Computer and Information Science Master's Graduate and recipient of the University Prešeren Award for the diploma project

Master's programmes at the Faculty of Computer and Information Science offer in-depth knowledge in numerous fields. Students can choose from a wide range of courses, some directly related to the industry. At tutorials, we can directly apply the theoretical knowledge that we have ob-

tained in classes to intriguing practical problems and thus consolidate our knowledge. I believe that the Faculty offers numerous possibilities for high-quality education, to which professors and assistants contribute by good will and an amiable approach.

Computer and Information Science

This study is the logical next step from the bachelor University and Professional study programme Computer and Information Science and it is also available to graduates from other bachelor programmes. The course syllabus enables the study to be tailored to students' wishes, motivations, and preferences. Elective content covers a wide range of fields and technologies, and thus allows for diverse professional specialisation. The Computer and Information Science study programme offers future Master's degree holders the knowledge and skills enabling them to keep up with the development and technological changes and novelties as well as to become involved in research and scientific work, offering exceptional employment opportunities in Slovenia and around the world.

Terms and conditions of enrolment

Eligible for enrolment: (a) Graduates of the bachelor study or an equivalent study in the field of computer and information science or natural and technical sciences (mathematics, physics, electrical engineering, chemistry and chemical technology, mechanical engineering, construction); (b) Students who have completed the bachelor study or an equivalent study in a field that is not stated under item a) and before enrolment have passed the bachelor courses at the FRI: Programming 1; Discrete Structures; Introduction to Digital Circuits; Computer Systems Architecture; Introduction to IT systems; or have covered the subject matter of these courses in their undergraduate studies.

The candidates will be selected based on:

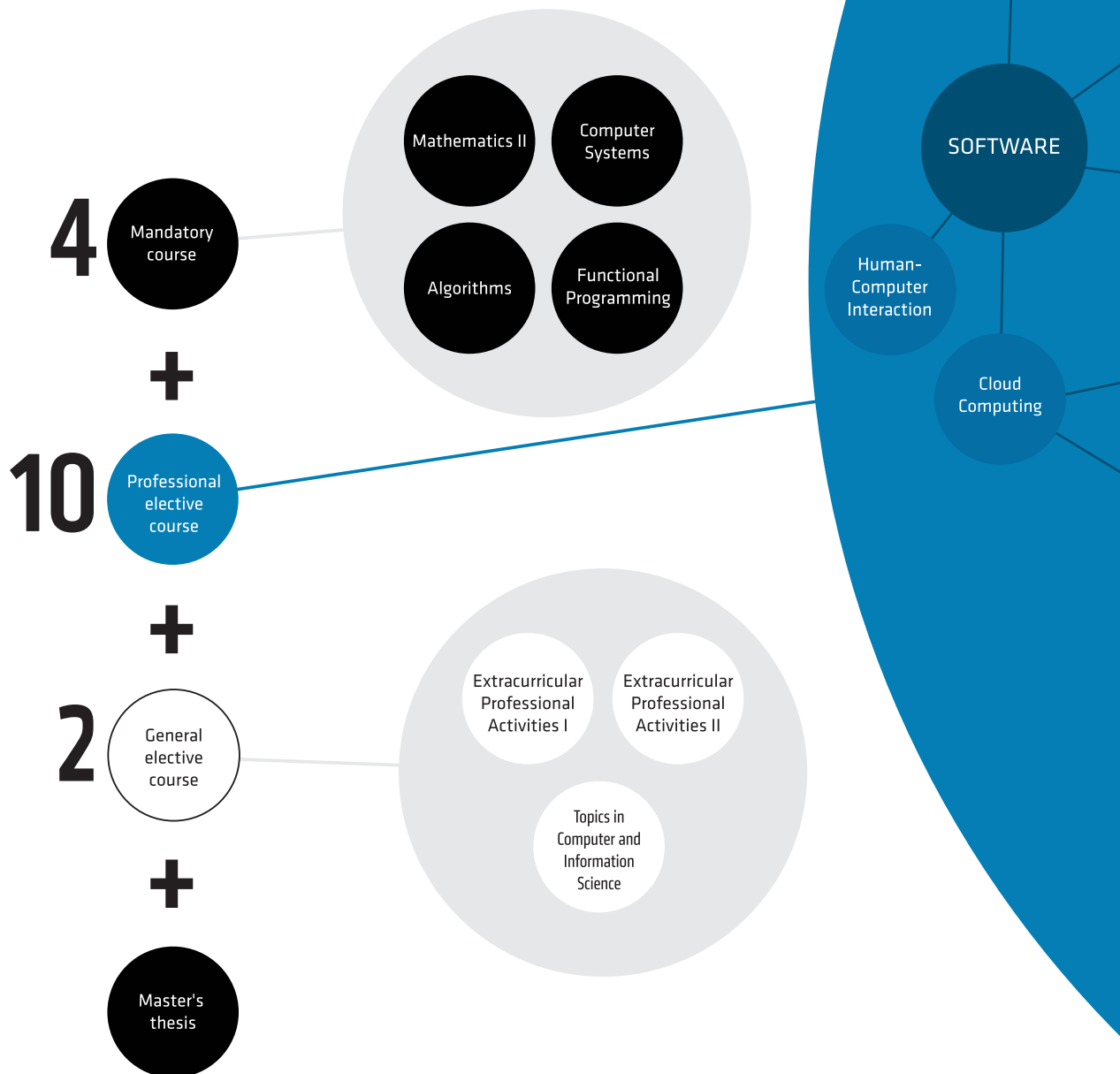
- The average grade achieved in the bachelor study (40%);
- the results of the selection exam (60%).

The [selection exam](#) covers chapters in mathematics, programming, algorithms and computer systems, and is held in September, after the application deadline for enrolment in the study programme.

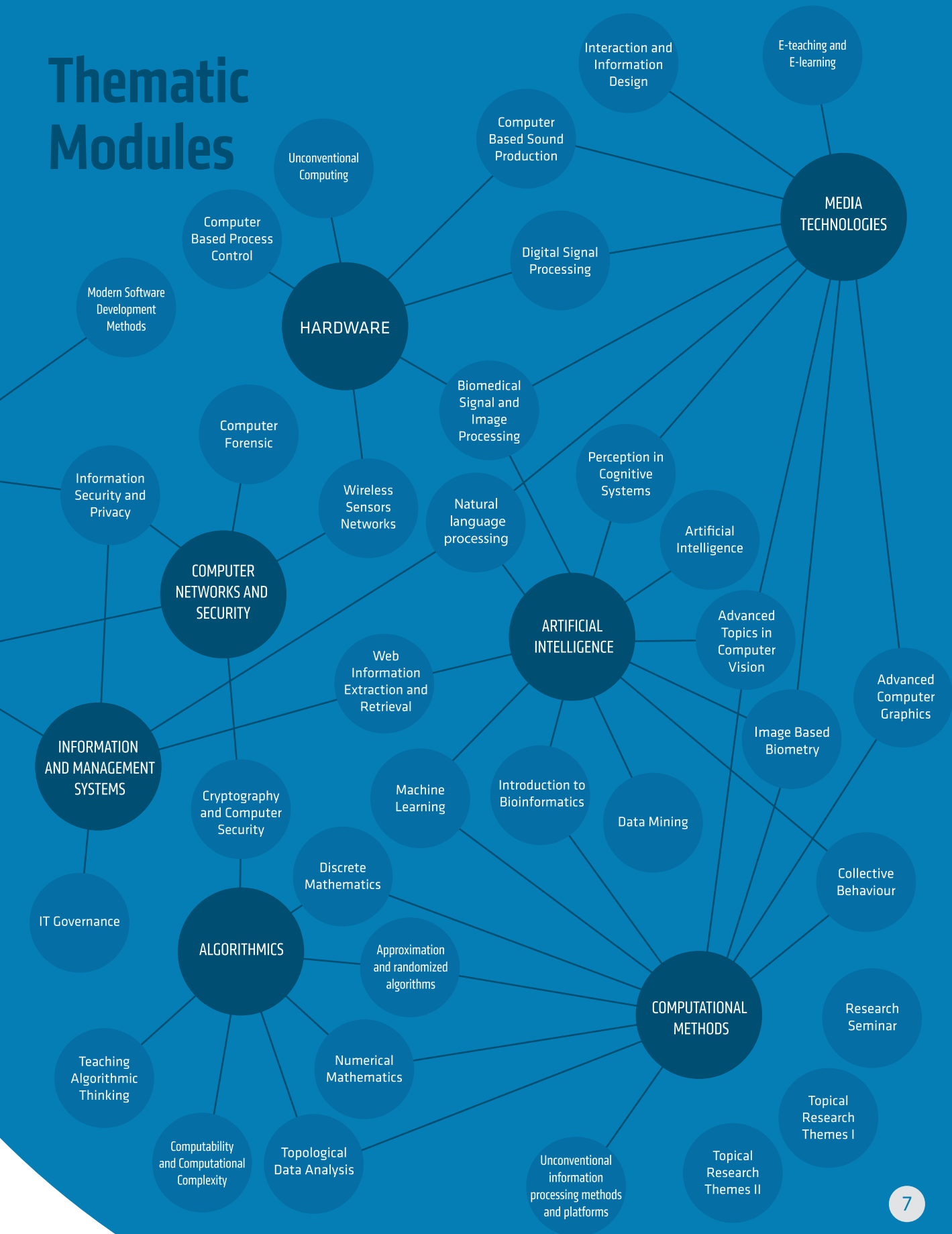
Computer and Information Science

The programme is comprised of four mandatory courses, 30 professional elective courses, three general elective courses, and a Master's thesis.

Students select the study direction that they will pursue by choosing two thematic modules that best fit their interests. From among all the courses in these two modules (or from one module), students then choose six professional elective courses, whereas the remaining four can be selected from the entire range of the professional elective courses available). That way, every student formulates a course syllabus that is focused, but still allows a reasonable degree of selection.



Thematic Modules



Double Degree Study Programme in Computer and Information Science

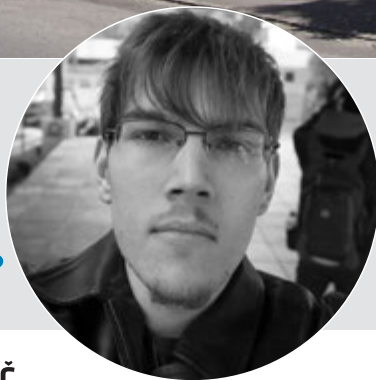
The students of the Master's programme in Computer and Information Science may in the 2nd year enrol in the double degree study programme conducted by the Faculty of Computer and Information Science of the University of Ljubljana and the Graz University of Technology (Technische Universität Graz). There are 10 available enrolment places.

The Master's programme at Graz University enables students to deepen their knowledge in algorithms, software technology, intelligent systems, information security, image processing, computer graphics and visualisation, media and computer science and multimedia systems. The programme is delivered in English.

Students who pass at least one semester in Austria and prepare a Master's thesis with mentors from both universities, obtain degrees from the University of Ljubljana and the University of Graz. Both universities acknowledge credit points earned by students at the partner university.



With a population of 300,000, Graz is the second largest Austrian town and the capital of the federal state of Styria. Lying next to the Mura river, the town is included in the UNESCO world cultural heritage list and was awarded the 2003 title of European Capital of Culture. It is an important university town hosting six universities frequented by over 40,000 students. About 12,500 students visit Graz University of Technology, of whom more than 100 are from Slovenia.



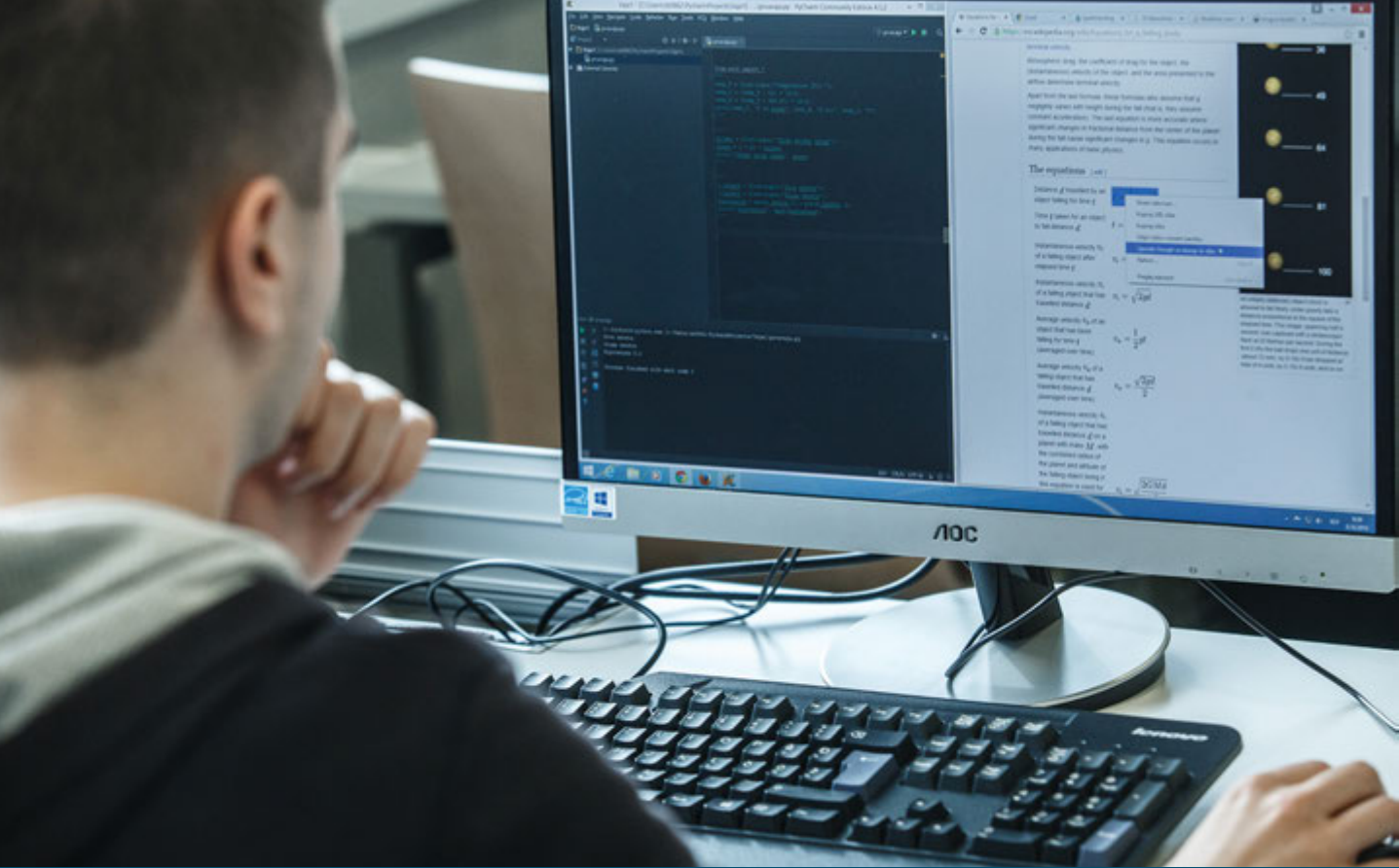
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JAKA CIKAČ

Computer and Information Science Master's Graduate

I warmly recommend student exchange programmes to all FRI students. It is not only an excellent opportunity to expand your knowledge by taking courses which are not offered at the home university, but also an insight into a new environment and its culture, as well as an opportunity to learn a new language and bridge cultural differences. The double degree study programme in cooperation with the Graz University of Technology has also allowed

me to become more involved in their research. My experience through collaboration with their international research groups has been invaluable. Furthermore, I have made acquaintances with many high calibre researchers. In addition to academic experience, I have also gained extensive organisation and time management skills. The double degree programme is truly an unforgettable life experience.



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ROK KRALJ

Computer and Information Science Master's Student

As I grow older and gain experience, I realise the importance of mathematical knowledge for an engineer-to-be. Ever more important are the mathematics-related fields, such as machine learning and artificial intelligence. The software development trend increasingly favours the use of mathematical, functional concepts. The knowledge of mathema-

tics also enables you to view problems from a different, more abstract perspective, which leads to products of higher quality and new ideas. The Master's study programme Computer Science and Mathematics provides a balanced combination of both fields, additional depth, and an excellent opportunity to combine the pleasant and the useful.

Computer Science and Mathematics

The interdisciplinary master's study programme Computer Science and Mathematics is offered jointly with the Faculty of Mathematics and Physics of the University of Ljubljana. The study focuses on training for the development and working with new technologies, research in mathematics and theoretical computer science, and the development of the ability to quickly master new findings and achievements. Master's degree holders can become employed in any branch of the economy, in the public or non-profit sector, working in a number of fields, from information and communication technologies to computer and mathematical support in management of complex systems.

Terms and conditions of enrolment

Eligible for enrolment: (a) Graduates of the bachelor study programmes in fields of Computer or Information Science, Mathematics, Financial Mathematics, Pedagogical Mathematics, Statistics, Physics, or other acquired equivalent programme; (b) Graduated of the bachelor study in other professional fields, if they fulfil the study obligations essential to continue the study before enrolment. The obligations ranging between 10 and 60 credit points are determined by both faculties together, and the candidates must fulfil them before enrolling in master's study.

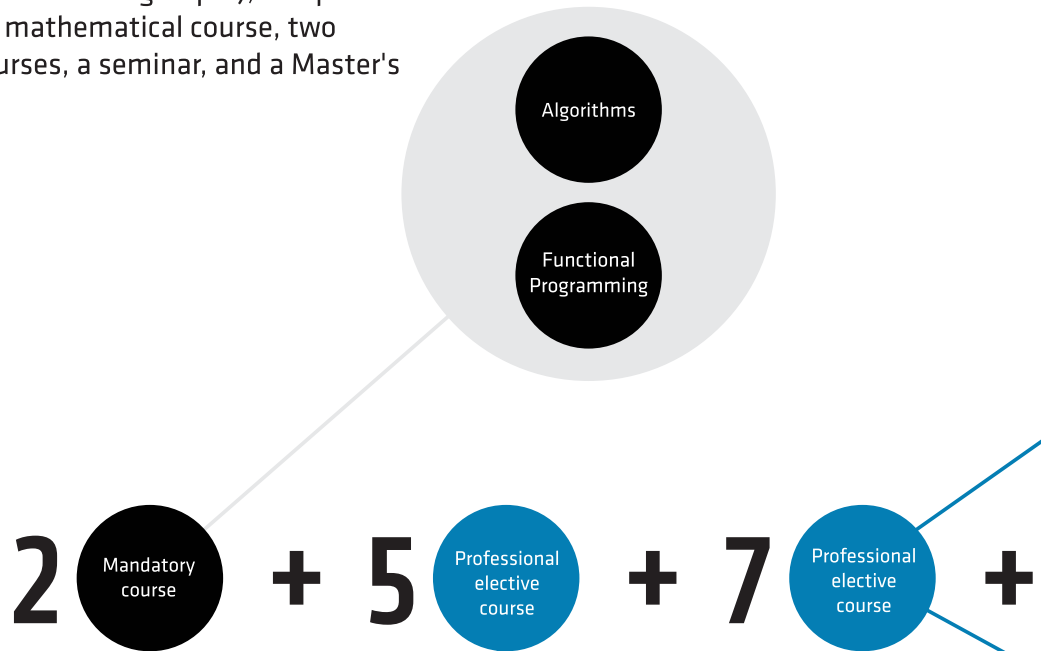
The selection of candidates is made on the basis of the following criteria:

- Bachelor studies GPA (50%)
- Selection exam results (50%)

The [selection exam](#) will be carried out in September, after the application deadline for enrolment in the study programme.

Computer Science and Mathematics

The programme is comprised of two mandatory courses, five professional elective courses in computer science, seven professional elective courses in mathematics (at least 3 from group A), one professional computer or mathematical course, two general elective courses, a seminar, and a Master's thesis.



PROFESSIONAL ELECTIVE COURSES IN COMPUTER SCIENCE

Machine Learning

Topical Research Themes I

Unconventional Computing

Teaching Algorithmic Thinking

Data Mining

Web Information Extraction and Retrieval

Digital Signal Processing

Topical Research Themes II

Computer Forensic

Cloud Computing

Biomedical Signal and Image Processing

Information Security and Privacy

Interaction and Information Design

Computer Based Sound Production

Artificial Intelligence

Computer Systems

Approximation and Randomized Algorithms

Topics in Computer and Information Science

Programming Language Theory

Perception in Cognitive Systems

Advanced Topics in Computer Vision

Introduction to Bioinformatics

Modern Software Development Methods

PROFESSIONAL ELECTIVE COURSES IN MATHEMATICS (GROUP A)

Computer Aided Geometric Design

Logic in Computer Science

Computational Geometry

Probability Methods in Computer Science

1 Professional elective course

+

2 General elective course

+

Seminar

+

Master's thesis

PROFESSIONAL ELECTIVE COURSES IN MATHEMATICS (GROUP B)

Symbolic Computation

Topics in Computer Mathematics

Cryptography and Computer Security

Topics in Numerical Mathematics

Topological Data Analysis

Data Analysis and Visualisation

Topics in Game Theory

Coding Theory and Cryptography

Selected Topics in Discrete Mathematics

Mathematics with Computers

Combinatorics 2

Optimization Methods 2

Graph Theory



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DAMJAN PJEVIĆ

Multimedia Student

In the beginning I imagined this course completely differently. I expected just work with cameras, images and sound. The course surprised me in a positive way. I additionally acquired knowledge in programming, databases, creating applications, websites and more. The course brings together the best of the FRI and FE in multimedia. In addition to the actual course, there's a huge amount of

extracurricular activities and societies I can take part in at the two faculties. This enabled me to fill up my CV with various experiences. One of the better things is the people you meet at the faculty. Most of them are interested in similar things, and it's easy to get involved in some joint project. I would recommend this course to anyone interested in the technological background of multimedia content.

Multimedia

The interdisciplinary master's study programme in Multimedia is offered jointly with the Faculty of Electrical Engineering, and combines knowledge of computer science and telecommunications. The programme enables students to perform effective planning and implementation of multimedia systems, develop software, analyse and process multimedia content and present information visually. It constitutes an enhancement of the bachelor interdisciplinary university study programme in Multimedia. The numerous elective courses allow students to deepen their knowledge in specific fields of multimedia and to acquire competences that match the job description of a creator of multimedia services, designer of user experience, multimedia content analyst or multimedia systems engineer.

Terms and conditions of enrolment

Eligible for enrolment:

- (a) Graduates of the bachelor or post-secondary professional study programme adopted prior to 11 June 2014 in the specialist fields of multimedia, computer science or information technology, electrical engineering or studies in other fields of natural science and technology (mathematics, physics, chemistry and chemical technology, mechanical engineering, civil engineering).
- (b) Graduates of the bachelor study programme in the field or post-secondary professional study programme adopted prior to 11 June 2004 not covered under point a) and who prior to enrolment have passed the following examinations from the bachelor study programme Multimedia: Programming 1, Programming 2, Introduction to

Multimedia Systems and Communication Systems, or who during their bachelor studies mastered the material covered in the stated courses. (c) Students who have completed an equivalent education to that set out in points a) and b) abroad.

The selection of candidates is made on the basis of the following criteria:

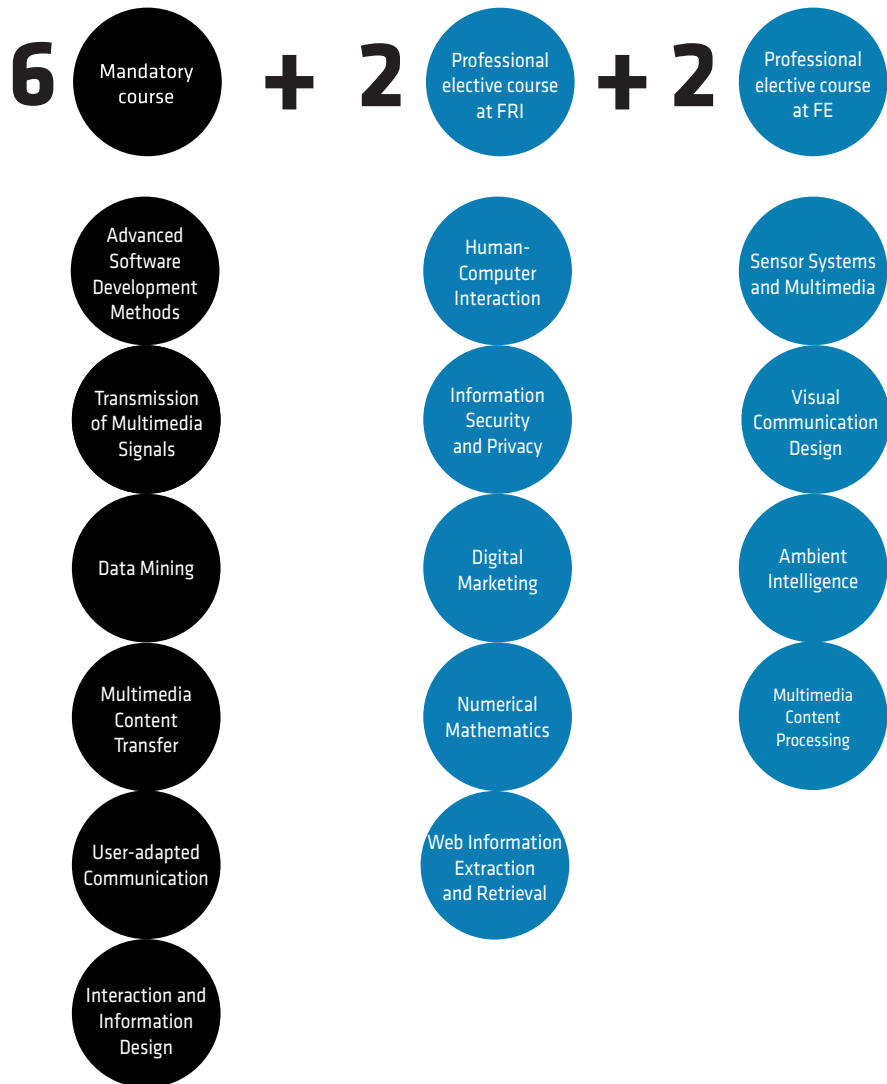
- Bachelor studies GPA (20%)
- Selection exam results (80%)

The [selection exam](#) covers the chapters in mathematics, programming, algorithms, communication systems, internet protocols and the properties of multimedia content, and is held in September, after the application deadline for enrolment in the study programme.

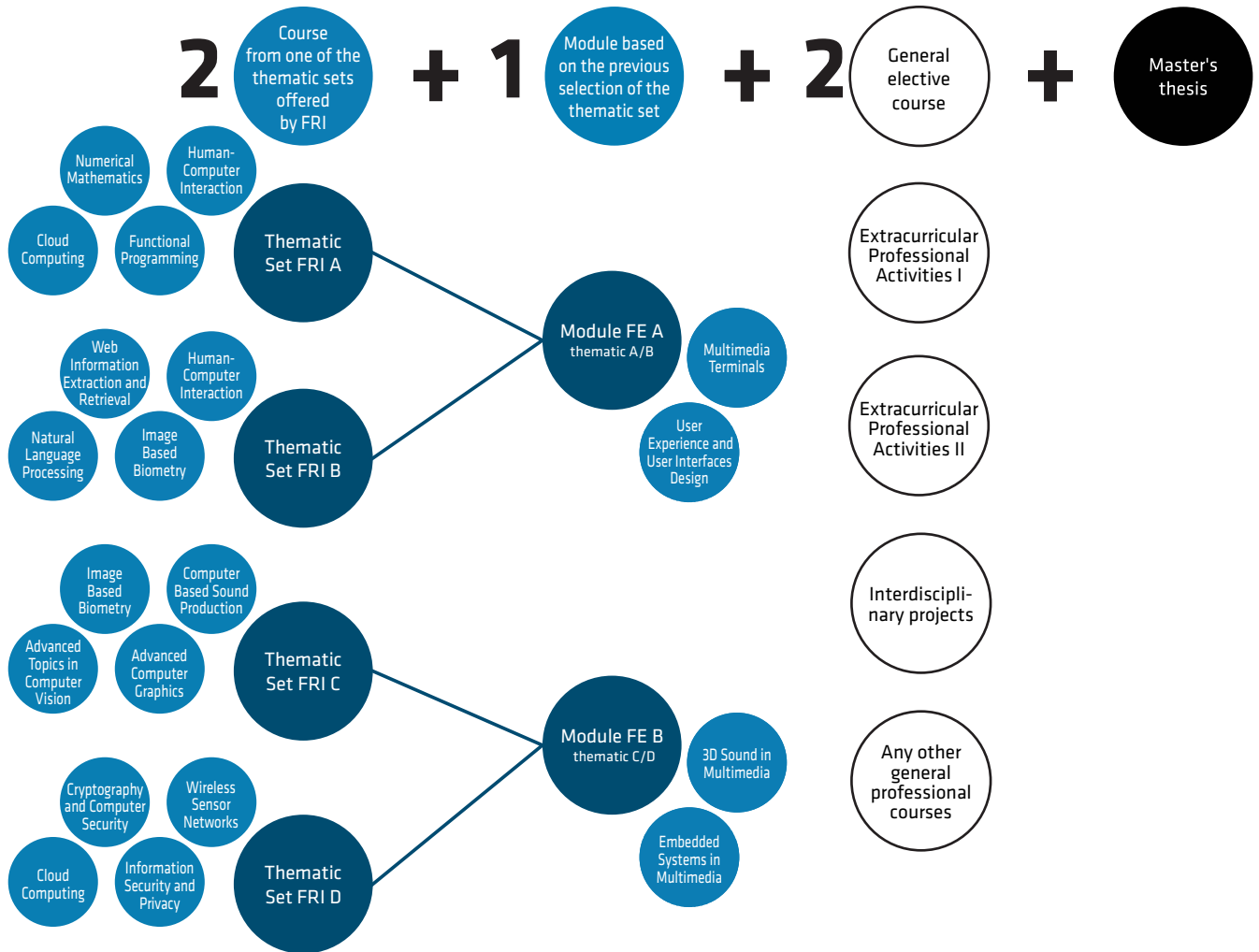
Multimedia

In the first year the programme covers 6 mandatory courses, 2 professional elective courses at the Faculty of Computer and Information Science and 2 professional elective courses at the Faculty of Electrical Engineering.

1st year



2nd year



In the second year, students first select 2 courses from one of the four thematic sets at the Faculty of Computer and Information Science. Depending on the selection of the thematic set, students must then select the appropriate module A or B at the Faculty of Electrical Engineering, as shown by the lines in the diagram. Students must also select two general elective courses from the four on offer, and conclude their studies with their master's thesis.



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MANCA ŽEROVNIK

Computer and Information Science Master's Graduate and PhD Student

At first I was not certain whether or not to decide for post-graduate study at the Faculty of Computer and Information Science, but I definitely do not regret my decision now. Things that we learned in the bachelor study start coming together in the master study. Every week my knowledge

becomes more comprehensive. Learning new things about the field that I am familiar with is much more interesting and less demanding than learning the basics. The attitude is more student-friendly, as we are given more freedom and the deadlines are not as strict. Study indeed becomes a pleasure.

Computer Science Education

The interdisciplinary master's study programme Computer Science Education is conducted in cooperation with the Faculty of Education of the University of Ljubljana. This programme contributes to the better education of teachers and thus the higher quality of computer lessons in Slovenian schools. Master's degree holders will have an excellent knowledge of computer science and will also be qualified for educational work. In the first year the students are educated in didactics; the courses passed by the bachelor graduates from the Faculty of Education will be recognised. The second year is more focused on computer science and comprises some advanced general courses and a series of elective courses from various fields of computer science.

Terms and conditions of enrolment

Eligible for enrolment: (a) Graduates of the bachelor study; without additional obligations, if they completed the study in the professional fields of: computer science, mathematics, natural science and technical science under the programme comprising 60 credit points of computer and information science units; (b) Graduates of the bachelor study in other professional fields, if they fulfil the study obligations essential to continue the study before enrolment. The obligations ranging between 10 and 60 credit points are determined by both faculties together, and the candidates must fulfil them before enrolling in Master's study; (c) Graduates of the higher education professional study programme adopted before 11 June 2004 in the relevant professional fields specified under item a); (d) Graduates of the higher education professional study programme adopted before 11 June 2004 in other professional fields, if they fulfil the study obliga-

tions essential to continue the study before enrolment. The obligations ranging between 10 and 60 credit points are determined by both faculties together, and the candidates must fulfil them before enrolling in Master's study; (e) Eligible for enrolment are also the candidates who completed equivalent education abroad. Before enrolling in the study programme they have to pass the education recognition procedure to continue the study.

The selection of candidates is made on the basis of the following criteria:

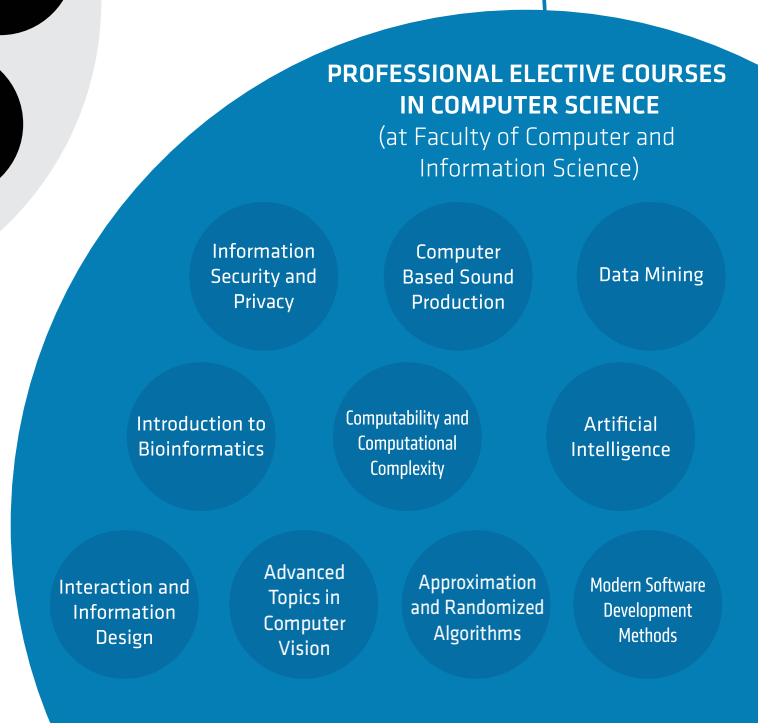
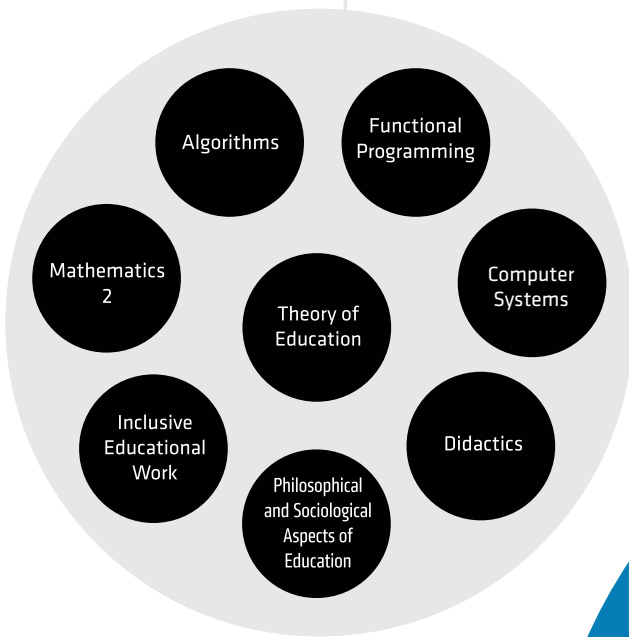
- Bachelor studies GPA (60%)
- Selection exam results (40%)

The [selection exam](#) will be carried out in September, after the application deadline for enrolment in the study programme.

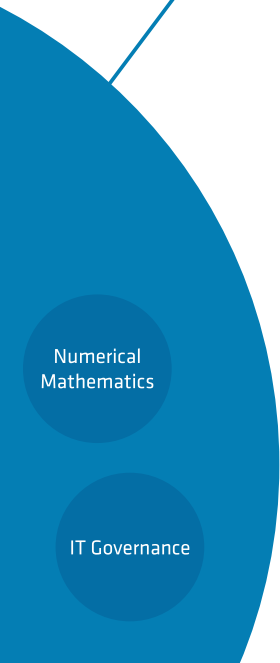
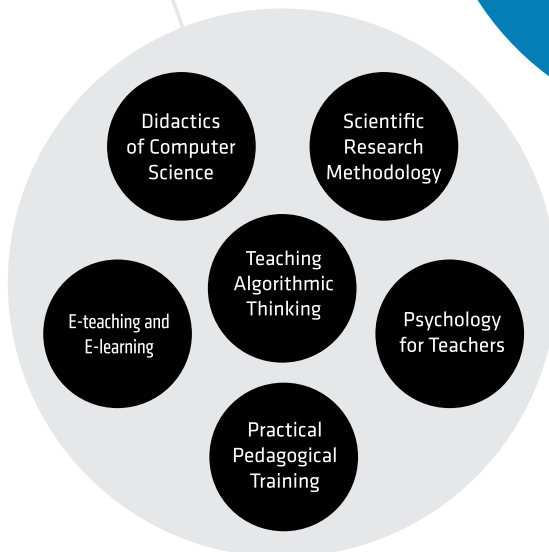
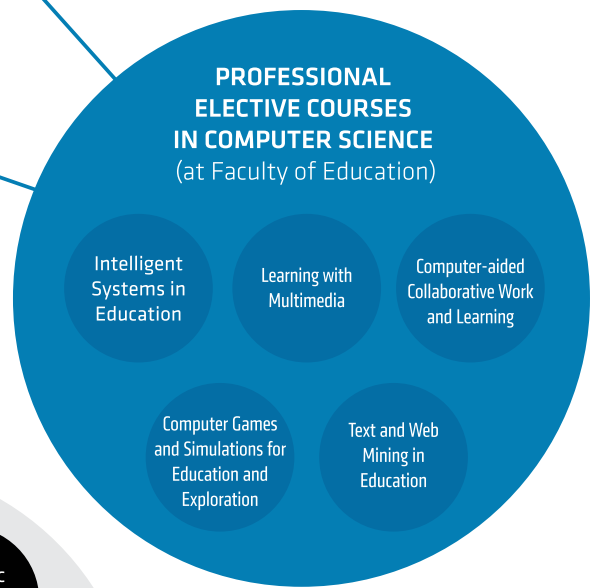
Computer Science Education

The programme comprises 14 mandatory courses, two professional elective courses in computer science, one general elective course, practical training, and a Master's thesis.

1st year



2nd year





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ANKA SLANA

Cognitive Science Master's Graduate

Already as a child I was fascinated by human psyche: Why are we the way we are, how do we feel, dream, make decisions, can the functioning of our brain really be compared to the functioning of a computer? The decision to enrol was easy, as the study offered exactly what I wanted. The study is extremely interdisciplinary and comprises learning about various scientific disciplines, from neurology, psychology and philosophy

to programming and artificial intelligence. As such, it meets both the requirements of science-oriented and more socially-oriented students. Lecturers are of top quality and you can feel that they are really interested in the topic. Often debates evolve that keep you up all night. Everyone looking for answers to the most fundamental questions of human essence will enjoy the study.

Cognitive Science

The interdisciplinary master's study programme Cognitive Science is provided in cooperation with the Faculty of Education, the Faculty of Arts and the Faculty of Medicine of the University of Ljubljana, and a consortium of foreign universities. Cognitive Science researches mentality. Its basic disciplines include neuro science, artificial intelligence, biology, linguistics, anthropology, philosophy and psychology. The goal of the study is to educate researchers in cognitive science and experts qualified for integrative work in interdisciplinary projects. Master's degree holders will be capable of applying the findings of cognitive science to specific areas, such as teaching, designing software for machine learning, measuring user experience, producing interfaces and managing group processes.

Terms and conditions of enrolment

Eligible for enrolment: All graduates of the academic bachelor study programmes (or programmes of same or higher level elsewhere) are eligible for the admission to the master study programme Cognitive Science, regardless of their field of study.

The selection of candidates is made on the basis of the following criteria:

- Bachelor studies GPA (50%)
- Selection exam results (50%)

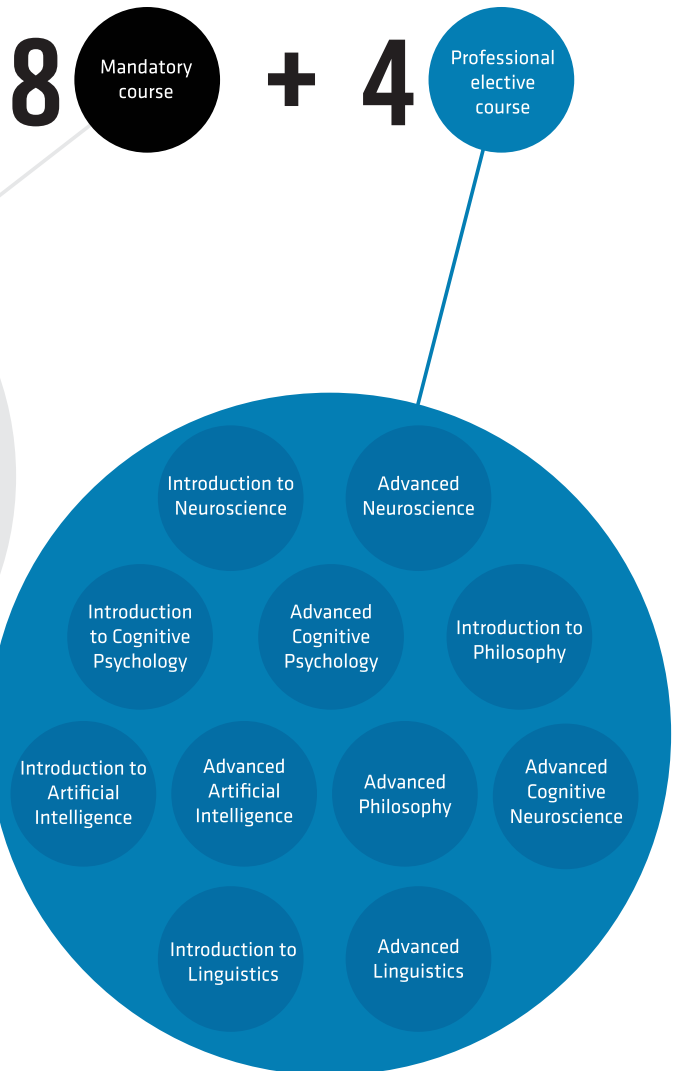
The [selection exam](#) is held in September, after the application deadline for enrolment in the study programme.

Cognitive Science

The course syllabus is organised in three interconnected sets. The disciplinary set and the tool set offering the student conceptual, practical, and cultural experience in cognitive science disciplines, whereas the integrative core is used as a platform for common reflection, reference, and integration of this experience. The study is designed as a two-year Master's study programme.

1st year

Students are oriented in the field of cognitive science and foundations are laid for interdisciplinary research. They become familiar with theoretical concepts and research methods of the fundamental cognitive science disciplines: neuro science, philosophy, psychology, linguistics, and artificial intelligence.



2nd year

Students obtain specialised knowledge of the selected topic and focus on a certain cognitive phenomenon through the connection of research methods and perspectives of various disciplines.



Collaborative Learning and Research

Interdisciplinary Approach to a Cognitive Phenomenon 2

Interdisciplinary Approach to a Cognitive Phenomenon 1

New Trends in Cognitive Science

Study Semester Abroad

Study programme is part of the international student consortium Middle European Interdisciplinary Master Programme in Cognitive Science (MEi:CogSci). Every student must spend one semester on exchange abroad at one of the partner universities depending on his/her research preferences.

Members of the consortium: University of Ljubljana, University of Vienna, University of Zagreb, Eötvös Loránd University Budapest, Comenius University in Bratislava.



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BOŽEN JOVANOSKI

Computer and Information Science Master's Student

I find the Master's program at FRI to be exciting and challenging at the same time while providing students with great opportunities. There is a great balance between theoretical knowledge and practical skills that can be learned here.

I would highly recommend this program to anyone who is looking to advance in their academic career as well as for people more inclined to start working in the industry because FRI represents the best of both worlds.

Applied Statistics

The interdisciplinary master's study programme in Applied Statistics is offered jointly with the Faculty of Electrical Engineering, Biotechnical Faculty, Faculty of Economics, Faculty of Mathematics and Physics, Faculty of Medicine, and Faculty of Social Sciences. The main goal of the programme is to educate experts in statistical theory and methods in a chosen area of application. Graduates of the programme will master statistical way of thinking and will be able to independently perform all aspects of relevant statistical analysis in a given field, e.g., planning a research, collecting data, choosing relevant methods and interpreting results. The programme offers six study modules: Biostatistics, Social Science Statistics, Economic Statistics, Business Statistics, Technical Statistics, Official Statistics, Mathematical Statistics, and Machine Learning, of which the latter is held at the Faculty of Computer and Information Science.

Terms and conditions of enrolment

Eligible for enrolment: All graduates of the academic bachelor study programmes (or programmes of same or higher level elsewhere) are eligible for the admission to the master study programme Applied statistics, regardless of their field of study.

The selection of candidates is made on the basis of Bachelor studies GPA.

Master's Programme in Applied Statistics is held as a part-time study.

Detailed programme information is available at <http://stat.uni-lj.si/en>



How to Apply?

Enrolment Procedure

Students apply for studies via eVŠ web portal at <http://portal.evs.gov.si/prijava>. Application deadlines are in August and September and differ among study programmes.

Application process includes recognition of foreign education. Detailed information regarding application process is available in the call for enrolment.

Tuition Fee

Fee is paid by students of non-EU countries, excluding persons granted international protection, applicants for international protection and persons from countries with which the Republic of Slovenia has concluded bilateral agreement (with Macedonia, Bosnia and Herzegovina, Serbia, Montenegro and Kosovo).

Scholarships

Public Scholarship, Development, Disability and Maintenance Fund of the Republic of Slovenia offers scholarships for foreign nationals.

Contact Information

*Study programmes at the
Faculty of Computer and Information Science*

Ms. Vesna Gračner Žitnik
international.office@fri.uni-lj.si
Phone: +386 1 479 8249

*Application process at the
University of Ljubljana*

Ms. Tanja Žužek, tanja.zuzek@uni-lj.si
Ms. Alenka Šuligoj, alenka.suligoj@uni-lj.si

Phone: +386 1 241 85 05
www.vpis.uni-lj.si

Useful Information

Year Plus

During their first year at the University of Ljubljana international students may attend the Year Plus module which includes Slovenian language courses and is designed to help international students to adapt to the Slovenian system and culture.

If a student completes 30 ECTS credits (including FRI and/or Year Plus courses), which include at least 6 ECTS of Slovenian language courses, she is entitled for a Year Plus and can preserve her student status even if she does not fulfil FRI requirements for the enrolment in the second year of studies

Student Life in Ljubljana

During their stay in Ljubljana all students are entitled to food and transport subventions. The price for a meal in a restaurant is 2-5€ and 20€ for a monthly bus ticket. International students should find a private room as there are no dormitories available for international students. The average price for a room is 150–250€. Living expenses (rent, food, public transport, books) in the Republic of Slovenia roughly amount to 500€ per month.

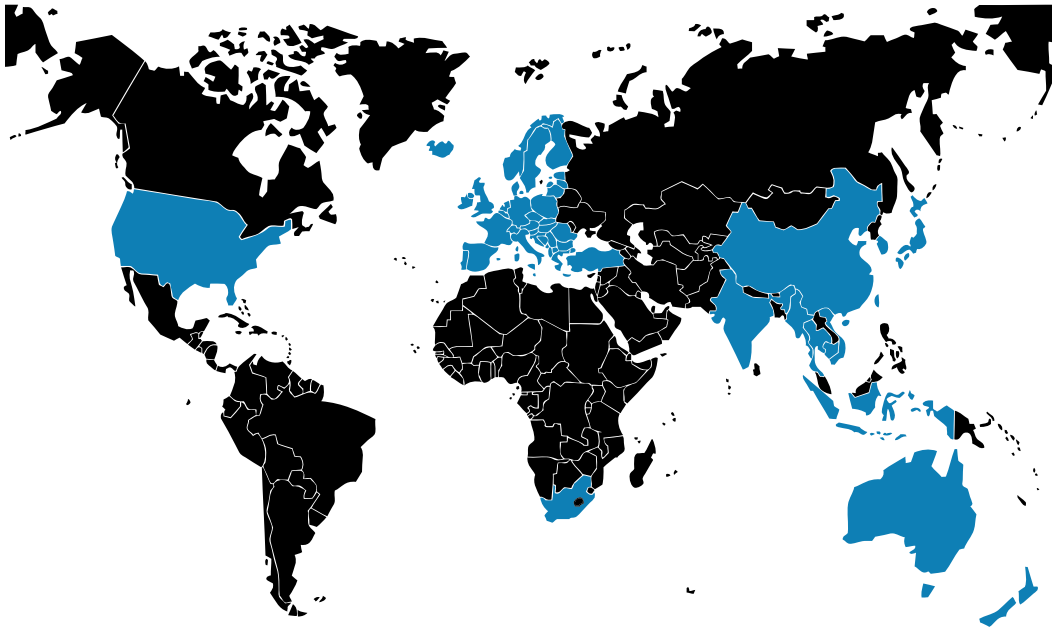
Students from EU countries and countries with which Slovenia has an agreement can enter without a visa and stay up to 90 days. They can apply for the residence permit in Slovenia. Non-EU students need a visa to enter the Republic of Slovenia.



International Connections

A step into the unknown, an invaluable life experience, an opportunity for new acquaintances, expanding horizon, gaining new knowledge – all this and much more is within the reach of your hand with study exchange programmes. Students who fulfilled part of their study obligations abroad have diverse experience, but all agree that the semester spent abroad was one of the best in their life.

Students can opt for a student exchange or practical training through various international programmes. The Master's programme in Computer and Information Science in cooperation with the Technical University of Graz even provides double degree study and two diplomas, whereas the interdisciplinary study of Cognitive Science requires students to spend at least one semester abroad at one of the partner universities.



Map of the countries we collaborate with:

Albania • Australia • Austria • Belgium • Bosnia and Herzegovina • Bulgaria • Cambodia • China • Croatia • Czech Republic • Denmark • Estonia • Finland • France • Germany • Greece • Hungary • India • Indonesia • Ireland • Israel • Italy • Japan • Kosovo • Latvia • Liechtenstein • Lithuania • Luxembourg • Malta • Montenegro • Myanmar • Netherlands • New Zealand • Norway • Poland • Portugal • Republic of Cyprus • Republic of Macedonia • Romania • Serbia • Slovakia • South Africa • South Korea • Spain • Sweden • Switzerland • Thailand • Turkey • United Kingdom • United States of America • Vietnam

Elective Courses Taught by Jure Leskovec, PhD., from Stanford University

Bachelor and master university study gives students a special opportunity, because in the framework of general elective courses they can choose two courses taught by Jure Leskovec, PhD., at the prestigious Stanford University. These are *Analysis of Networks* and *Mining Massive Datasets*. The latter can be selected also by students of doctoral study.

The *Analysis of Networks* deals with the practical approaches to analysis and understanding extremely large (real) networks based on various models of their set-up and development. The *Mining Massive Datasets* studies the machine learning algorithms, allowing processing of a vast quantity of data and used to derive knowledge and laws from data.



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MARINKA ŽITNIK, PhD

The international exchange is an excellent opportunity for a student to expand his/her horizon, for networking with peers from other cultures, learning about new fields of research and in general establishing connections outside the comfortable domestic environment. During the study I made several research visits to the University of Toronto, the Imperial College in London, the Baylor College of Medicine in Houston, and Stanford University. The Faculty of Computer and Information Science has always offered me extremely sound support, for which I am grateful. In my case, the Bioinformatics Laboratory played a particularly important role. I started cooperating with it while still an undergraduate, as Prof. Blaž Zupan, PhD., opened the door for me to many research institutions. I believe that the exchanges have enriched my perspective of the world. I therefore always strive to share my experience and enthusiasm of research with the environment that I return to.



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DUŠAN KALANJ,

*Computer and Information Science
Master's Graduate*

When I was leaving for the exchange in Denmark in the first year of my Master's study, I was not sure what to expect. I only wanted to experience independent life in a different environment. Six months later I realised that my wishes had been much too modest. I had the best experience of my life, which drastically changed my habits and my view of the future. I returned home with an insatiable appetite for life, craving new knowledge and experience. Now I make plans for the time until my departure for Erasmus practical training, because I realise that this could change everything.

Career Path

According to Forbes magazine the number of tech employment opportunities is expected to increase by 12% by 2024, which will lead to more and more jobs becoming available to IT professionals. Tech positions in web development, data analysis, IT architecture, cybersecurity, AI, VR and AR, are expected to grow exponentially within the next year. Furthermore, European Commission estimates that by 2020 Europe will lack 900,000 experts in IT.

Chief Information Officer

A chief information officer or CIO is responsible for the functioning of the information system according to the needs and goals of the business system. A CIO deals both with technology and organisation, human resources, and finance.

System Architect

A system architect produces the information solution architecture tailored to the clients' wishes in terms of efficiency, expandability, transferability, connectivity, etc.

Robotics Engineer

A robotics engineer develops robots for everyday use, for instance the iRobot Roomba, as well as specialised mobile robots for search under ruins, avalanches, and mine-fields.

Artificial Intelligence Expert

This expert programmes computers to simulate human thinking. He/She develops search algorithms, speech commands, facial identification, fastest route calculation and medical diagnostics for new generations of advanced technologies.

Development Manager

A development manager sees to the technological development of a company or organisation according to a long-term strategy. He/She coordinates development teams, creates new products and designs innovative solutions.

E-Training Designer

An e-training designer uses the knowledge of modern technologies and the understanding of educational processes to develop and support e-learning, such as on-line courses, as well as designs didactic e-material for various platforms.

Data Analyst

With the knowledge of data analysis and amoeba observation a data analyst can develop a new antibiotic, use the data on customers to double the profit or resolve the economic crisis with international banking transactions.





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ANDRAŽ TORI,
founder and CTO at Zemanta

My passion for computers was the reason why I enrolled in computer science studies. During my studies, I already used my computer skills in various ways - in the non-government sector, for activist and entrepreneurial purposes. It is important for students to get to know the great world out there, which is why at Zemanta we try to cooperate with the Faculty in order to

open student's minds and subsequently their future opportunities. We cooperate in the University challenge and in "in the Mud" lecture series. We started with "Up to our Ankles", continued with "Up to our Knees, Waists and Necks", while this year we are already "Over our Heads in (industrial) Mud". More is available at:

<http://meetup.com/vblatu>



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IZA LOGIN,
co-founder of Outfit 7, the creator of Talking Friends

Samo and I created our first multimedia app for children while we were still students at FRI. At the time, this represented quite a technological challenge and was a lot of fun. Later on, our business path led us to different enterprises, where we gained skills in business and leadership. When Samo decided to create a mobile app company in 2009, he invited me, along with six of his

colleagues. We decided to build entertaining apps for children, which had been my dream fifteen years ago. The scope of our work has grown considerably and now also involves the development of various apps (cartoons, films, physical products, music and so on). For areas where we had no experience, we hired top experts from Slovenia and abroad.

left is the index of the leftmost element
right is the index of the rightmost element
number of element in subarray = right - left + 1
partition(array, left, right)
pivotIndex = choosePivot(array, left, right)
pivotValue = array[pivotIndex]
swap array[pivotIndex] and array[right]
storeIndex = left
for i from left to right - 1
if array[i] < pivotValue
swap(array[i], array[storeIndex]), storeIndex++
swap(array[storeIndex], array[right])
return storeIndex

Doctoral Study Programmes

The Faculty of Computer and Information Science delivers a doctoral programme in Computer and Information Science. The study programme aims to deepen the student's knowledge of computer science and train them for research. We recommend it for students who intend to stay in academia and also others whose goal is to work in more demanding development and innovation computer science industries. The entire study programme is conducted in English language. In addition, the Faculty participates in the interdisciplinary study programme Biosciences, offered jointly with the Biotechnical Faculty, the Faculty of Electrical Engineering and the Faculty of Mechanical Engineering.



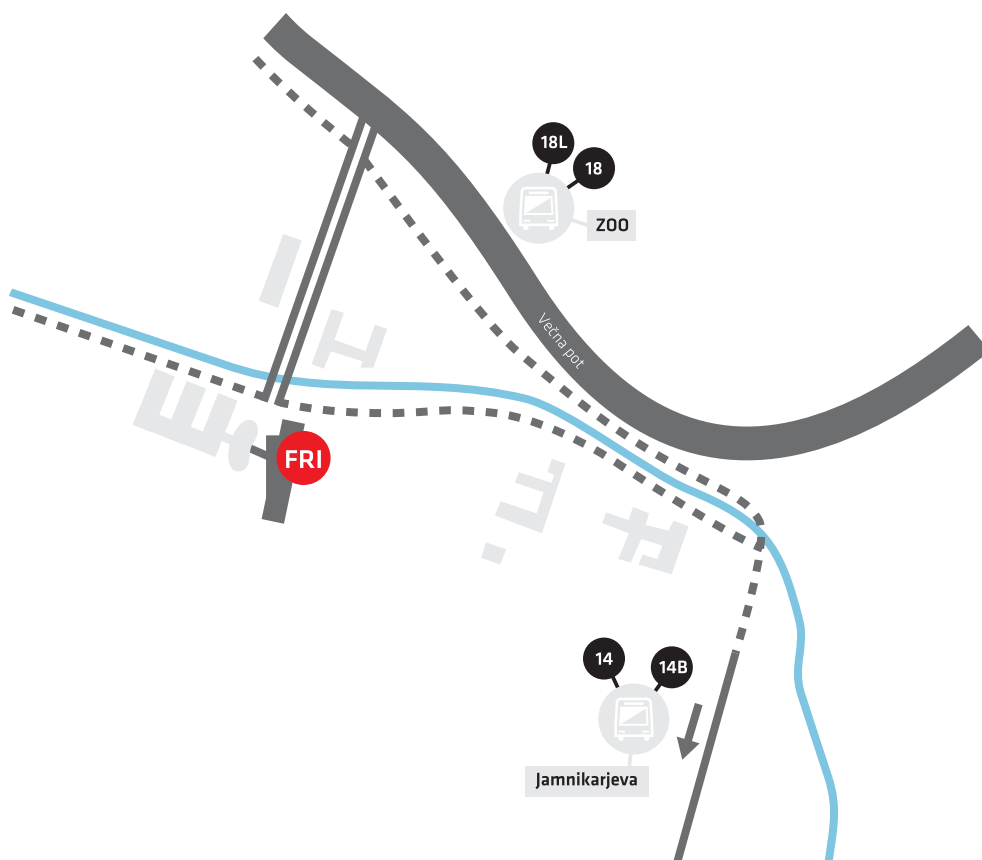
MATEVŽ PESEK,
doctoral student

A computer science engineer must be an expert in two fields: in his or her own and in the field of the task assumed. Doctoral study enables me to work during the day on ideas that I dream about at night. Research, which is an essential component of doctoral studies, is appealing not only because of the approach to the unknown, but it is also personally fulfilling, because I grow and am becoming a better man as I achieve research progress.



The Faculty of Computer and Information Science of the University of Ljubljana is located in the South-West part of the city, in a pleasant green environment next to the Rožnik hill. The area has been evolving into a hub, connecting technology and natural science students and researchers.

The Faculty can be accessed by city bus routes nr. 14, 14B, 18 and 18L. Leading to the Faculty are also a nice bike and walking trail.



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