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# 1. A Message from the Dean

Dear Prospective Students



I am delighted that you are taking the opportunity to look at this study guide as it means you are thinking about embarking on a course of higher education study. For those of you who have not made their selection yet, let me pen down my thoughts about why the Faculty of Organization and Informatics may be an excellent choice indeed.

The Faculty of Organization and Informatics is proud of its half-century tradition in research and education in the field of Information and Organizational Sciences and application of Information Technology in various domains encompassing industry, public administration and education. Upon finishing a three-year undergraduate or a two-year graduate study, our graduates acquire knowledge, competences and skills that enable them to gain employment quickly and grow professionally. The study programmes and courses are themselves flexible enough to allow students to manage their future career development in the fields including, among others, information systems design, software and web programming and development, business processes management, finance management, marketing, strategic planning, business decision-

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making, public administration, and non-profit sector and civil society management, since their arrival at FOI. We offer a doctoral study to students who strive to develop themselves scientifically, and specialist postgraduate studies to those interested in expanding themselves professionally. If you are looking for a programme that would equip you to work in a small and medium-sized enterprise, or if you are business-oriented, you can choose between the university study programme 'Economics of Entrepreneurship' and the vocational study programme 'Information Technology in Business Application'.

Although upon first impression FOI reveals itself as an informatics faculty, the perspectives, knowledge and competences it offers are far more comprehensive, making students capable of devising solutions to various problems of the modern global society.

It will be a great pleasure to welcome you to FOI, and I hope you will enjoy a fulfilling student life. FOI is committed to providing state-of-the-art instruction, quality and internationally acknowledged studies, enjoyable and friendly atmosphere as well as opportunities for personal development within and outside the Faculty's boundaries.

Welcome to FOI!

Prof. Vjeran Strahonja, Ph.D.  
Dean of the Faculty of Organization and Informatics  
Varaždin



## 2. Our Mission and Vision

### Our Vision

To be a national higher education institution renowned for academic excellence in education, scientific and research work as well as knowledge transfer into practice in the fields of Organization and Informatics and complementary disciplines.



### Our Mission and Goal

**1.** To conduct scientific research in Information and Communication Sciences as well as in other scientific disciplines that FOI researchers are engaged in, which can be performed within international and national scientific research and development projects, leading to its implementation in the process of instruction or transfer of knowledge into practice.

**2.** To deliver unique accredited study programmes in Informatics, Organization and Economics at the undergraduate, graduate and postgraduate levels as well as those pertaining to lifelong learning.

**3.** To encourage, organize and execute applied projects and transfer the existing and newly discovered knowledge to economy, public services and the society in general.







square. The stately baroque building makes for a setting imbued with history that is both vivid and rich while housing studies for technologies of the future.

**For education of students all the necessary infrastructure has been provided: well-equipped computer rooms, videoconferencing facilities, e-learning system, wireless Internet access on the entire Faculty premises as well as a newly refurbished modern library and reading room.**



The Faculty of Organization and Informatics is an institution that reaches back nearly half a century, which is a comparably long tradition when modern technologies studies are concerned. Over the decades, the Faculty has been providing education to future experts in the field of implementation of information technologies. Moreover, its former and present students are eager to share experiences, either through business cooperation or informal networking events organized by the Student Council or student associations AIESEC, AMAC and ACADEMICA.

### 3. About the Faculty: Brief Historical Overview

The Faculty of Organization and Informatics is located in the very heart of the town of Varaždin, overlooking the popular 'Corso', with the main entrance to the Faculty building also facing the main

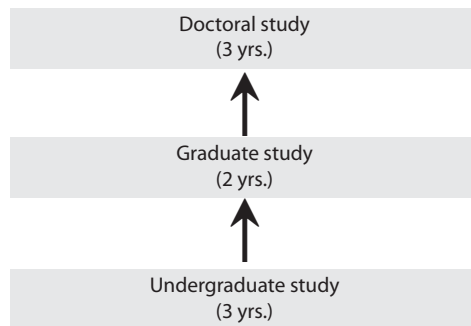
Since 2007 the Faculty's premises have extended to FOI 2, the usage of which was granted to the Faculty of Organization and Informatics by the Town of Varaždin. In this way an additional building was ensured that is currently housing several study programmes. The FOI 2 building is located in the vicinity of the town centre and the Student Dormitory.



## 4. Curriculum and Syllabus

Study programmes at the Faculty of Organization and Informatics are based on contemporary models applied worldwide, principles of the Bologna Declaration and ECTS credit system. As such, they facilitate competitiveness, improve student and teacher mobility as well as allow for an easier inclusion of Croatian experts into the common European educational and labour market. Furthermore, such a system of studying considerably reduces the age limit for obtaining a doctoral degree for the most advanced and distinguished students, which in turn will provide a huge impetus for the development of science and higher education in Croatia.

**The study structure has been devised as a three-level 3 + 2 + 3 model, comprising a 3-year undergraduate study, 2-year graduate study and 3-year doctoral study.**



The **undergraduate vocational study programme 'Information Technology in Business Application'** is also delivered at the Faculty, including the study centres located in Križevci, Sisak and Zabok. Upon finishing this study programme students receive the vocational degree of Bachelor of Business Informatics.

The postgraduate study is structured so as to offer **doctoral** programmes (which normally take 6 terms) and **specialist** programmes (which normally take 3 terms), upon whose completion students receive the academic degree of University Specialist.

#### 4.1. Undergraduate studies – Information Systems and Business Systems

**Two study programme orientations** are delivered at the undergraduate level at FOI: Information Systems and Business Systems.

The first four semesters of study are common to both undergraduate study orientations. The differentiation between the Information Systems and Business Systems is based on the selection of subjects forming the study's core discipline, that is, on the difference between the subjects selected from particular subject categories. It should be noted that, regarding the minimum number of required ECTS credits in each given category, there is no major distinction between the two study orientations.

Each student is required to earn a portion of ECTS credits in the deliberate selection category. It is in this segment, as well as in the topic of the final thesis, that the difference between the two programmes of study is notable. The minimum required distribution of ECTS credits established by the Faculty ensures that

students gain necessary knowledge to justify their academic title in their professional field that enables them to face the challenges of professional practice.

**A particular study programme orientation is not enrolled in advance. Instead, prior to enrolling the bachelor thesis, the ratio between the ECTS credits categories is determined by Student administration in order to verify the student's right to choose a topic pertaining to a particular study orientation domain.**

At the undergraduate level a student is required to earn a minimum of **180 ECTS credits** in accordance with the pre-defined classification of subjects.

#### 4.2. Undergraduate joint study – Economics of Entrepreneurship

In order to respond to the emphasis on interinstitutional cooperation that is contained in the Bologna Declaration, the Faculty of Organization and Informatics and the Faculty of Economics and Business in Zagreb, as constituents of the University of Zagreb, decided to establish and execute an undergraduate joint study programme in Economics of Entrepreneurship.

The study is delivered at the Faculty of Organization and Informatics in Varaždin. After a three-year study, students will have acquired key competences in Economics, Law and Informatics that will enable them to improve business processes in organizations in the public and private sector. Upon graduating from the study programme students receive the degree of **Bachelor of Economics**.





#### 4.3. Graduate study

The graduate study is structured so as to allow students to select one of five study programme orientations to be specified in the diploma. The duration of each study is four terms. The selection of core subjects and the corresponding number of ECTS credits earned determines the orientation that a student pertains to.

Students are introduced to the required distribution of ECTS credits within the classification of subjects for each study programme orientation in advance so they can independently plan their course of study by distributing the subjects in accordance with the principle of prerequisites. Students can thus profile their knowledge without a previous administrative procedure.

Students can choose among the following five study programme orientations:

1. Information and Software Engineering
2. Business Systems Organization
3. Databases and Knowledge Bases
4. Informatics in Education
5. Economics of Entrepreneurship.

At the graduate level a student is required to earn a **minimum of 120 ECTS credits** in accordance with the pre-defined classification.



#### 4.4. Specialist postgraduate study

The specialist postgraduate study is aimed at students interested in pursuing a specific field of application of information technology to enhance their enterprises' performance or at those who strive to improve their competences as part of lifelong learning.

By offering this type of study the higher education system addresses the needs of the Croatian economy based on knowledge and information technology and gives an impetus to its development.



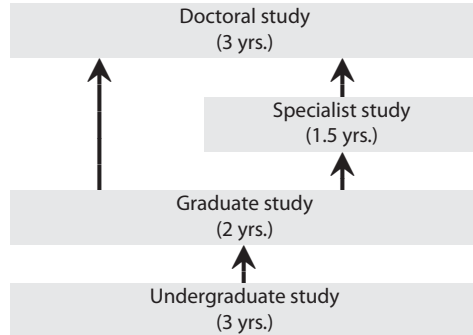


The following specialist postgraduate programmes are delivered at FOI: **Information Society Organizations Re-Engineering, Business Systems Management, and Information Systems Security and Auditing Management.**

#### 4.5. Postgraduate doctoral study in Information Sciences

The purpose of the postgraduate doctoral study in **Information Sciences** is candidates' further development and training for independent scientific work leading to their achievement of scientific results.

During their doctoral study, students become familiar with contemporary research and the latest developments in the area of Information Sciences as well as in interdisciplinary research related to Information Sciences. By introducing this study, the Faculty of Organization and Informatics aims to create quality researchers capable to actively contribute to and promote this dynamic scientific field.



**Overview of study structure at FOI**

## 5. Studying at FOI: Study Planner

### Flexibility in choosing the study programme

One of the major advantages of studying at FOI is the ability to independently make decisions regarding study programme preferences.



The picture shows the system developed by FOI to enable students to independently design their studies by selecting subjects. Although such a system allows students to plan their studies themselves, their selection cannot be entirely random. In the very first term there are predefined compulsory subjects, most of which present prerequisites for subjects to be enrolled later. Therefore, the system is organized by prerequisites, with direct or transitive dependence of certain subjects on other subjects.

## Study regulations

**A student can only enrol the subjects for which the prerequisites have been satisfied.** The only exception to this are cases in which a particular subject and its direct prerequisite are delivered in two subsequent terms, with the prerequisite delivered in the winter term and the dependent subject in the spring term. This exception allows for a transition between two terms within the same academic year.

To be able to sit for an exam in a subject, a student first has to pass the exams in its prerequisites. During their course of study, **students have to earn a minimum number of required credits for a particular academic degree they intend to obtain, within the period they determine themselves.**

The subjects are classified according to their content and constitute eight categories defined by the following groups of knowledge:

- \* *General Subjects*
- \* *Business Systems Organization and Management*
- \* *Pedagogical Subjects*
- \* *IS Development and Implementation*
- \* *IS Strategy, Planning and Management*
- \* *Theoretical Basics*
- \* *Technical Basics*
- \* *IS Services, Consulting and Implementation*



### General Subjects

Foreign Language I  
 Foreign Language II  
 Business Foreign Language I  
 Business Foreign Language II  
 Applied Research Methods in Social Sciences  
 Search Methods and Information Classification  
 Foreign Language for Managers  
 Physical and Health Education I  
 Physical and Health Education II  
 Physical and Health Education III  
 Physical and Health Education IV

### Business Systems Organization and Management

Organizational Performance Measurement  
 Organization  
 Business Communication  
 Business Economics  
 Business Ethics  
 Accountancy  
 Market Law  
 Business Planning and Projects  
 Entrepreneurship  
 Controlling  
 Corporate Governance  
 Public Administration Organization  
 Fundamentals of Economics  
 Organizational Theory  
 Financial Institutions and Capital Markets  
 Organizational Design  
 Customer Relationships Management  
 Strategic Management  
 Marketing  
 Organizational Communication

Logistics  
 Public Sector Economics and Management  
 Foreign Trade  
 Taxation Systems  
 Entrepreneurship Finance  
 Business Processes in Organizations  
 Electronic and Mobile Business  
 Business Decision-Making

### Pedagogical Subjects

General Pedagogy  
 Fundamentals of General and Developmental  
 Psychology  
 Interdisciplinary Approach to Visual and Media  
 Culture  
 Informatics Methodology I  
 Informatics Methodology II  
 Methodological Practicum (school practice) I  
 Methodological Practicum (school practice) II  
 Non-Violent Conflict Management  
 Practice in Special Conditions  
 Psychology in the Classroom  
 Didactics I – Curricular Approach  
 Educational Sociology  
 Didactics II – Teaching and Instruction  
 Educational Psychology

### IS Development and Implementation

Data Structures  
 Knowledge Management  
 Information Systems Design  
 Software Engineering  
 Web Design and Programming  
 Advanced Formal Methods  
 Software Analysis and Design

Logical Programming  
Advanced Web Technologies and Services  
Databases II  
Programming I  
Programming II  
Modelling and Simulations  
Design Patterns  
Introduction to Formal Methods  
Databases I  
Database Theory  
Multiagent Systems  
Algorithms  
Data Mining  
Databases and Semantic Web  
Physical Databases Design

### IS Strategy, Planning and Management

Project Management  
Strategic Planning of Information Systems  
Information Systems Security  
Informatization Management  
Quality and Measuring in Informatics  
Business Processes Modelling

### Theoretical Basics

Statistics  
Financial Mathematics  
Introduction to Information Theory  
Knowledge-Based Systems  
Discrete Structures and Graph Theory  
Decision Theory  
Mathematics I  
Mathematics II  
Operations Research I

Systems Theory  
Selected Chapters in Mathematics  
Operations Research II  
Statistical Methods for Students of Informatics

### Technical Basics

Computer Systems Architecture  
Computer and Informatics Law  
Computer Networks I  
Informatics I  
Computer Networks II  
Operating Systems I  
Informatics II  
Operating Systems II

### IS Services, Consulting and Implementation

Geographic Information Systems  
Multimedia Systems  
Computer-Mediated Communication  
Data Repositories and Business Intelligence  
Intelligent Systems  
E-learning Systems  
Selected Chapters in Biometrics  
Office Information Systems  
ERP Systems  
Text and Image Processing  
Government and Administrative Information Systems  
Defense Information Systems  
Internet Security  
Computer Graphics  
Informatics Services Management

### Designing the study/timeline using *FOI Study Planner*

Students select subjects in accordance with the criteria of the selected programme orientation within the entire range of subjects comprised in the studies.

To provide assistance to students independently designing their study, FOI developed an application (*FOI Study Planner*) available on FOI Web pages that students can use to select subjects while having a clear view of their prerequisites.

The selection process can be facilitated by simply adopting one of the models predesigned by FOI. Similarly, students can modify the adopted models in accordance with their needs and preferences. In this way they can design their own course of studies that meets all the requirements for obtaining a given academic degree.

This PHP-based application is run on an Apache Web server and uses a database powered by PostgreSQL. Since the FOI Study Planner is a Web application, all it takes to run it is the Internet connection and a Web browser.

However, should you have any queries selecting the subjects and, consequently, the study programme orientation itself, you will be assisted by your **mentor**. Each student at FOI is assigned their mentor that affords them assistance during the study.

We recommend you search the FOI Web pages at [www.foi.unizg.hr](http://www.foi.unizg.hr) for details regarding individual courses and course directors.

### Student initiatives

FOI affords students the opportunity to work in a stimulating environment in which students' innovative projects are supported by their mentors as well as the Faculty management. There are numerous competitions worldwide, from India, Korea and Great Britain to Austria and Slovenia, among others, at which FOI students achieved international success in categories ranging from programming and business excellence to software design and photography.



**Laura Adarve**

Student from USA



*„Life seems great in Varaždin. The people all seem so stress-free despite the extensive workload. Croatian people care very much about their country and their history. It is a blessing to socialize with them and be in a place so rich in culture. ... I cannot express it in words how WONDERFUL the FOI students have been. They are genuine, welcoming, hilarious, and down to earth. I was somewhat nervous about meeting the students but they could not have made us feel more comfortable.“*

**International cooperation and student exchange**

At the Faculty of Organization and Informatics there are two offices dedicated to international cooperation and exchange and involved in international projects: International Relations Office and International Projects Centre (<http://www.foi.unizg.hr/medjunarodna/>).

One of the major goals of the Bologna Process is increasing teacher mobility and student exchange. Information on grant opportunities at universities outside Croatia can be obtained from the FOI Web site or at the International Relations Office. Along with obtaining additional training in your field of interest, spending a couple of months or a year outside Croatia is an excellent opportunity for developing your foreign language proficiency and familiarizing yourself with foreign cultures and traditions. In addition, it is an opportunity for promoting one's own country, university and faculty among students from other countries from EU and beyond.

To attract and host foreign students who wish to spend their study-abroad term in Croatia, several subjects at the Faculty of Organization and Informatics are also delivered in English.

The International Projects Centre has been successfully cooperating with students on international and domestic projects, including TEMPUS, EUREKA, FP and ERASMUS. One of its activities is involving students in professional, scientific and development projects, providing them with an opportunity to develop skills required for participating in international projects and team work. Such a practice also provides an opportunity for students to visit FOI's partner institutions in EU.

## 6. Student Associations

**Student Council** is a student organization whose members include all the students enrolled in undergraduate and graduate studies at the University of Zagreb. In students' elections, held every second year, students in each year of study at a particular faculty elect their representative that will express their ideas, suggestions, problems and attitudes on their behalf and thus influence current and forthcoming developments at the faculty and university level.

**AIESEC** is the global student association that comprises over 800 universities. Its goal is to facilitate students to discover and develop their potentials at the international level through their own engagement in the association's activities and programmes, in order to be able to make a positive impact on the development of society.

**AMAC-FOI** is the alumni association of graduates of the Faculty of Organization and Informatics aimed at establishing and strengthening links and cooperation between the Faculty and its former students. In June 2000 the first convention of FOI alumni was held in which around a hundred alumni, visitors and friends of the Faculty participated.

**ACADEMICA**, or Academic Network, is a student association formally established in August 2008. The association attempts to provide assistance to academic citizens in realizing their own ideas and projects. Shortly after it was established, the association initiated the first student programme broadcast at the regional TV channel between 2008 and 2010. Another project started by the association is a student information portal ([www.academica.hr](http://www.academica.hr)). The association's activity is also directed at enriching student life in Varaždin.

## 7. Student Dormitory

Student Dormitory in Varaždin, which opened its doors in 2007, is among the most modern of its kind in Croatia. Its facilities include well-equipped rooms (all of which have their own en-suite bathrooms, fridge, Internet access and cable TV connection), 5 dormitory kitchens with television sets, hot and cold drinks machines, a fully-equipped computer room, two dedicated study rooms, gym, laundry and drying room, as well as video surveillance of its entry and exit. The Dormitory is conveniently located in the vicinity of the Faculty (both FOI 1 and FOI 2) and the town centre.

The competition for accepting full-time students to the Student Dormitory and subsidizing accommodation of students renting private accommodation in Varaždin, Čakovec and Križevci is announced on the Web pages of the Student Centre in Varaždin ([www.scvz.unizg.hr](http://www.scvz.unizg.hr)). The competition is also announced on FOI Web pages and its noticeboard.





## 8. Getting to Varaždin

Varaždin can be reached by:

- coach
- train
- car
- motorcycle, and
- bicycle.

If you are arriving from Dubrovnik, Split or another remote location outside Croatia, it is recommended that you reach Zagreb by plane and then take a coach or train to Varaždin. Getting to the greenest and most charming town in North West Croatia will only take one or two hours.

Distance between Varaždin and other cities in Croatia and the region:

Vienna: 328 km  
Budapest: 274 km  
Dubrovnik: 635 km  
Maribor: 73 km  
Osijek: 236 km  
Pula: 360 km  
Rijeka: 262 km  
Sarajevo: 470 km  
Split: 455 km  
Trieste: 282 km  
Zagreb: 77 km

**Bicycle – favourite means of transport in Varaždin**

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## 9. About Varaždin

Telling Varaždin's history means travelling down its transition from a former capital of Croatia to its present in which the town hopes to realize its ambition of becoming a regional centre.

Lying at the crossroads between north and south, east and west, over the centuries it has slowly emerged like a bridge in which the destinies of a myriad of travellers – its builders, artists, craftsmen, traders, idle nobles and visionaries – were imprinted. Each of them embedded their stone in the rich history carried by the town in which you can indulge in the charm of incunabula preserved at the Franciscan and Capuchin monasteries, or take part in the atmosphere cherished by its residents and nourished by its many students who, driven by youthful energy, strive to facilitate the town's and their own journey into the future.

As one of the oldest towns in Croatia, the first record of its historical name – Garestin – dates back to 1181, when it was mentioned in a charter by Béla III, King of Hungary and Croatia.

A world apart, the town's most striking feature is its impressive historical and artistic heritage, with a well-preserved baroque urban complex, unique in inland Croatia, candidate for UNESCO World Heritage List. In addition to the Old Town complex and the Town Hall, remarkable among its sights are also the horticultural complex of the Town Cemetery, itself a protected natural monument, and the neoclassicist



building of the Croatian National Theatre, built in 1873 and designed by the Viennese architect Herman Helmer.

Besides these treasures of civil architecture, Varaždin possesses rich sacral architecture. The most impressive and stylistically complex among them are the Parish Church of St. Nicholas, Jesuit Church of St. Mary, Franciscan Church of St. John the Baptist, Capuchin Church of the Holy Trinity and the Ursuline Church of the Nativity.

In continuation to its cultural history and a tradition in economic activity that in the past boosted the town's prosperity with crafts and trade, Varaždin currently boasts the most attractive free zones in Croatia and the Technology Park, which, along with the town's educational, economic and cultural activities, account for its status as a prospective regional centre.

Quality higher education institutions and employment prospects for their graduates explain why Varaždin increasingly appeals to young people from all over Croatia. Along with educational and professional opportunities, students can also enjoy a social standard that is constantly being improved. Numerous festivals, museums, theatre performances and cultural events that make up the town's cultural landscape complement its residents' busy working schedule. The festival of baroque music known as **Varaždin Baroque Evenings** has been hosting the performances of internationally distinguished soloists and ensembles for thirty-five years. Špancirfest is a spectacular street festival that every August brings thousands of visitors to Varaždin. During more than one week the town centre becomes a lively stage featuring performers, jugglers, acrobats, clowns and street musicians as well as renowned Croatian and European names belonging to various genres. In addition to the **International Traditional Jazz Festival, Days of Croatian Performance** and **Summer in Varaždin**, throughout the year the town offers plenty for a variety of different tastes.

Besides its cultural agenda, among favourite pastimes are also various sports activities. Varaždin is situated by the River Drava and surrounded by mild hills, so the combination of its location and modern sports infrastructure (three sports centres: Graberje, Srednjoškolec and Sloboda, and indoor and outdoor swimming pool facilities) provides an opportunity for recreational and sporting activities, both indoor and outdoor.

**Its embeddedness in tradition, openness to trends and challenges of the future, its outgoing people and new opportunities all merge together to form an invitation to not only visit Varaždin, but also stay here.**





