agency for science and higher education

REPORT
OF THE EXPERT PANEL
ON THE
RE-ACCREDITATION OF
FACULTY OF ORGANIZATION AND INFORMATICS IN
VARAŽDIN, UNIVERSITY OF ZAGREB

Date of site visit:

November 20-23, 2018

May, 2019

EUROPSKI STRUKTURNI
I INVESTICIJSKI FONDOVI

Europska unija
"Zajedno do fondova EU"

CONTENTS

INTRODUCTION

The Agency for Science and Higher Education (the Agency) is an independent legal entity with public authority, registered in the court register, and a full member of the European Quality Assurance Register for Higher Education (EQAR) and European Association for Quality Assurance in Higher Education (ENQA).

All public and private higher education institutions are subject to re-accreditation, which is conducted in five-year cycles by the Agency, in accordance with the Act on Quality Assurance in Science and Higher Education (Official Gazette 45/09) and subordinate regulations, and by following *Standards and Guidelines for Quality Assurance in the European Higher Education Area* (ESG) and good international practice in quality assurance of higher education and science.

The Agency's Accreditation Council appointed an independent Expert Panel for the evaluation of the *Faculty of Organization and Informatics in Varaždin, University of Zagreb.*

Members of the Expert Panel:

1. Prof. Donald Sannella, University of Edinburgh, United Kingdom of Great Britain and Northern Ireland, Panel chair,
2. Prof. Sofia Gaio, University Fernando Pessoa, Portugal
3. Prof. Henrique Madeira, Universidade de Coimbra, Portugal
4. Prof. Željko Garača, Faculty of Economics, University of Split, Republic of Croatia
5. Asst. prof. Emmanuel Karlo Nyarko, Faculty of Electrical Engineering, Computer Science and Information Technology, Josip Juraj Strossmayer University of Osijek, Republic of Croatia
6. Dino Aljević, student, Department of Informatics, University of Rijeka, Republic of Croatia.

During the site visit, the Expert Panel held meetings with the following stakeholders:

- Management,
- Self-evaluation Report Committee,
- Students,
- Vice-Deans for Education, Scientific Research and Financial and Material Affairs
- Heads of study programmes,
- Full-time teaching staff,

- Heads of departments,
- Heads of doctoral programme and leaders of research projects,
- Alumni, external lecturers, representatives of the business sector, potential employers

The Expert Panel members had a tour of the library, laboratories, IT classrooms, student administration office and classrooms, and attended sample lectures, where they held a brief Q&A session with students.

In accordance with the site visit protocol, the Expert Panel examined the available additional documents and study programme descriptions (learning outcomes).

The Expert Panel drafted this Report on the re-accreditation of the *Faculty of Organization and Informatics in Varaždin, University of Zagreb* on the basis of the Faculty's self-evaluation report, other relevant documents and site visit.

The Report contains the following elements:

- Short description of the evaluated higher education institution,
- Brief analysis of the institutional advantages and disadvantages,
- List of institutional good practices,
- Analysis of each assessment area, recommendations for improvement and quality grade for each assessment area,
- Detailed analysis of each standard, recommendations for improvement and quality grade for each standard,
- Appendices (quality assessment summary by each assessment area and standard, and site visit protocol),
- Summary.

In the analysis of the documentation, site visit to the *Faculty of Organization and Informatics in Varaždin* and writing of the Report, the Expert Panel was supported by:

- Davor Jurić, coordinator, ASHE,
- Viktorija Juriša, assistant coordinator, ASHE,
- Igor Opić, interpreter at the site visit and translator of the report.

On the basis of the re-accreditation procedure conducted, and with the prior opinion of the Accreditation Council, the Agency issues a following accreditation recommendation to the Minister for Higher Education and Science:

1. **issuance of a confirmation on compliance with the requirements** for performing the activities, or parts of the activities
2. **denial of license** for performing the activities, or parts of the activities
3. **issuance of a letter of expectation** with the deadline for resolving deficiencies of up to three years. A letter of expectation can include the suspension of student enrolment within a set period.

The accreditation recommendation also includes a quality grade of a higher education institution, and recommendations for quality improvement.

SHORT DESCRIPTION OF THE EVALUATED HIGHER EDUCATION INSTITUTION

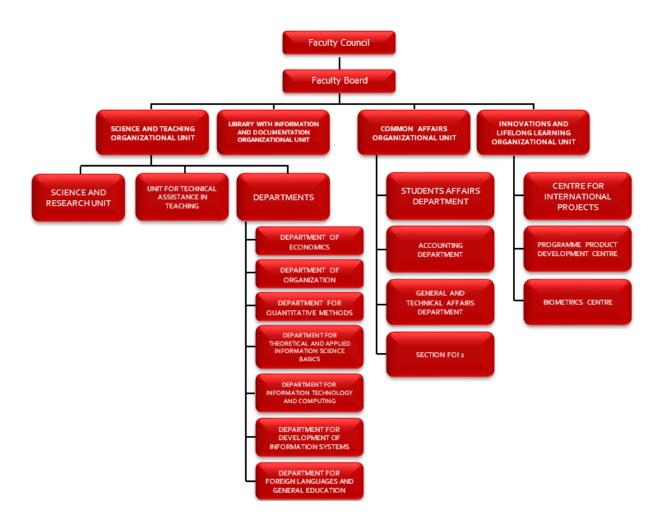**NAME OF HIGHER EDUCATION INSTITUTION:**
Faculty of Organization and Informatics, University of Zagreb

ADDRESS: Pavlinska 2, 42000 Varaždin

DEAN: Prof. Neven Vrček, Ph.D.

ORGANISATIONAL STRUCTURE:
Based on the Self-evaluation document.

STUDY PROGRAMMES:

Based on MOZVAG database

No.	Name of the study program	Type of program	Education provider	No. ECTS credits	CQF **Level
1.	Information Systems	Undergraduate university study programme	Faculty of Organization and Informatics in Varaždin (Varaždin)	180	6.
2.	Business Systems	Undergraduate university study programme	Faculty of Organization and Informatics in Varaždin (Varaždin)	180	6.
3.	Economics of Entrepreneurship	Undergraduate university study programme	Faculty of Organization and Informatics in Varaždin (Varaždin)	180	6.
4.	Information and Software Engineering	Graduate university study programme	Faculty of Organization and Informatics in Varaždin (Varaždin)	120	7.
5.	Business Systems Organization	Graduate university study programme	Faculty of Organization and Informatics in Varaždin (Varaždin)	120	7.
6.	Databases and Knowledge Bases	Graduate university study programme	Faculty of Organization and Informatics in Varaždin (Varaždin)	120	7.
7.	Economics of Entrepreneurship	Graduate university study programme	Faculty of Organization and Informatics in Varaždin (Varaždin)	120	7.

8.	Teacher of Informatics	Graduate university study programme	Faculty of Organization and Informatics in Varaždin (Varaždin)	120	7.
9.	Business Systems Management	Postgraduate specialist study programme	Faculty of Organization and Informatics in Varaždin (Varaždin)	90	7.
10.	Information Systems Security Management and Auditing	Postgraduate specialist study programme	Faculty of Organization and Informatics in Varaždin (Varaždin)	90	7.
11.	Information Age Organizations Engineering and Re-Engineering	Postgraduate specialist study programme	Faculty of Organization and Informatics in Varaždin (Varaždin)	90	7.
12.	Information Sciences	Postgraduate (doctoral) university study programme	Faculty of Organization and Informatics in Varaždin (Varaždin)	180	8.
13.	Information Technology in Business Application	Undergraduate professional study programm	Faculty of Organization and Informatics in Varaždin (Varaždin, Križevci, Sisak, Zabok)	180	6.

** Croatian Qualification Framework
Source: Data generated from the Mozvag Module Browser, http://mozvag.srce.hr/preglednik/

NUMBER OF STUDENTS:

The number of students per study programme for the current academic year is given in Table 3.1 in the Analytic supplement to the Self-evaluation document.

Study programme name	Full-time students	Part-time students
Information Systems (224)	674	93
Business Systems (225)	162	52
Economics of Entrepreneurship (239)	348	90
Total number for undergraduate level	**1184**	**235**
Information and Software Engineering (226)	97	23
Business Systems Organization (227)	54	13
Databases and Knowledge Bases (228)	33	9
Economics of Entrepreneurship (244)	144	17
Teacher of Informatics (229)	3	5
Total number for graduate level	**331**	**67**
Business Systems Management (227)	0	17
Information Systems Security Management and Auditing (237)	0	1
Information Age Organizations Engineering and Re-Engineering (238)	0	0
Total number for postgraduate specialist level	**0**	**18**
Information Technology in Business Application (240) (241) (242) 243)	207	745
Total number for undergraduate professional level	**207**	**745**
Information Sciences (235)	0	197
Total number for postgraduate doctoral level	**0**	**197**
Total number of students on all study programmes	**1722**	**1262**
Total number of students	**2984**	

NUMBER OF TEACHERS:

The structure of teachers is given in Table 4.1.a in the appendix to the Self-evaluation document.

Staff	Full-time staff	Cumulative employment	External associates
Full professors with tenure	7	-	8
Full professors	9	-	7
Associate professors	16	-	5
Assistant professors	19	-	7
Scientific advisor (permanent/with tenure)	-	-	-
Scientific advisor	-	-	-
Senior Research Associate	-	-	-
Research Associate	-	-	-
Teaching grades	9	-	4
Assistants	39	-	3
Postdoctoral researcher	-	-	-
Employees on projects	-	-	-
Expert assistants	-	-	-
Technical staff	10	-	-
Administrative staff	15	-	-
Support staff	25	-	-

SHORT DESCRIPTION OF THE EVALUATED HIGHER EDUCATION INSTITUTION
Based on the Self-evaluation document.

Faculty of Organization and Informatics of the University of Zagreb is a higher education institution in the field of information and communication sciences which, during the years of successful work, positioned itself as the centre of IT development in Croatia. In recent years, FOI has become a significant spot for development of studies and scientific work in the field of economics. The Faculty dates back to 1962 when College of Economics was founded. It was on its foundations that in 1975 FOI was established as a component of the University of Zagreb. According to the official classification of scientific fields FOI is dominant in the following fields of science: 5 social sciences, 5.04 information-communication sciences, 5.01 economics and to a lesser extent in other fields of science.

BRIEF ANALYSIS OF THE INSTITUTIONAL ADVANTAGES AND DISADVANTAGES

ADVANTAGES OF THE INSTITUTION

1. FOI's teachers are experienced and its study programmes are run smoothly and follow a mature process.
2. FOI has a consolidated brand which combines Informatics and Economics.
3. FOI has established excellent connections with many companies.
4. FOI's employees, at all levels, are motivated and well qualified.
5. FOI's support services (Student Support and Career Development Centre, Office for Students with Disabilities, Centre for International Projects, etc.) are well-organised and provide excellent support.

DISADVANTAGES OF THE INSTITUTION

1. FOI's research activity and outputs are at a relatively early stage of maturity.
2. Some of FOI's teaching structures are inflexible and unnecessarily complex.
3. FOI's overall organisation and development strategy is structured around teaching rather than around research.
4. The space that FOI occupies lacks flexibility and is not wholly adequate for its activities.

LIST OF INSTITUTIONAL GOOD PRACTICES

EXAMPLES OF GOOD PRACTICE

1. The Student Support and Career Development Centre provides integrated support for important aspects of student life.
2. The Centre for Software Development gives FOI the ability to flexibly analyse important data about its operations.
3. FOI's HR policy rewards teachers for producing good quality scientific publications.

ANALYSIS OF EACH ASSESSMENT AREA, RECOMMENDATIONS FOR IMPROVEMENT AND QUALITY GRADE FOR EACH ASSESSMENT AREA

I.Internal quality assurance and the social role of the higher education institution

Analysis

FOI has a well-established and functional internal quality assurance system that periodically evaluates all aspects of its activity, based on data that is systematically collected on all aspects of its processes, resources and results. Its Development Strategy for the next five years includes strategic goals with a map for achieving the vision based on balanced scorecards. Collection of feedback about courses from students via surveys is encouraged but is not done in many courses. Recommendations from previous evaluations have been implemented in most cases, and further improvements have been introduced following internal QA recommendations. FOI supports academic integrity and freedom and has robust procedures for preventing all types of unethical behaviour. It publishes detailed information on its study programmes and about other aspects of its activities on its website and through social networks and other media.

FOI contributes to the development of the economy through its development and knowledge transfer projects, through its excellent relationships with employers hosting student interns, and through the creation and support of new companies. There is modest activity to promote entrepreneurship and startups, but in view of its prominence within Croatia in the economics of business and entrepreneurship, together with Informatics which provides a fertile domain for establishing startups that require little capital while potentially addressing an international market, FOI has an opportunity to significantly increase its activity in this area.

Recommendations for improvement

FOI should implement an annual system of student surveys in all courses and make the results available to students. Its Development Strategy should be completed with a SWOT analysis, communication plan, mechanisms to monitor implementation of the strategy, and a risk analysis. FOI should strongly consider significantly increasing its activity to promote entrepreneurship and startups, with the aim of taking a leadership position on a national and regional level.

Quality grade
Satisfactory level of quality

II. Study programmes

The objectives of FOI's study programmes are generally in line with its mission and strategic goals. The study programmes are well established and address labour market needs. FOI's graduates are well received by the national and international labour markets. FOI's study programmes have a distinctive brand with a strong focus on Informatics and Economics. The learning outcomes of the study programmes are clearly defined and they are aligned with FOI's mission and Development Strategy. The definition of the study programmes and their learning outcomes takes recommendations from professional associations such as IEEE and ACM into account, as well as the results of the national Stand4INFO project. The achievement of the learning outcomes is ensured through internal mechanisms as well as through feedback from companies that host internships. There is evidence of regular revisions and improvements in the study programmes, but some courses retain outdated topics in their syllabi. FOI manages the adequacy of ECTS allocation using well-established procedures, including monitoring of students' workloads. ECTS allocation is appropriate in most cases but there appear to be some exceptions according to comments from students. FOI has a highly mature process to manage students' internships, which are an integral part of the graduate study programmes on Informatics and Economics of Entrepreneurship. The Student Support and Career Development Centre plays a key role in internships, acting as a proxy between the students and their hosts.

FOI's Development Strategy should be complemented with a communication and stakeholder engagement plan to clarify the alignment of the objectives of all study programmes with FOI's mission and strategic goals and to involve the academic community at FOI and the external stakeholders in changes planned for the near future. FOI should continue improving the alignment of learning outcomes with target qualifications and competencies required by employers and society, its process of monitoring the achievement of intended learning outcomes, its mechanisms to obtain feedback from stakeholders for the definition of study programmes, its mechanisms to assure the correct allocation of ECTS, and its mechanisms to ensure that student practice is an integral part of its study programmes. Surveys and other elements used to monitor the effort required by each course should be defined in a uniform manner and be done annually and at course level.

High level of quality

III. Teaching process and student support

FOI's criteria for admission and/or continuation of studies are clear and appropriately documented. The admissions criteria and the content of its study programmes are adjusted periodically in the light of data FOI collects on students' progress. The Expert Panel notes the rather high dropout rates that is evident in the statistics provided. A variety of methods beyond classic lectures are used to deliver study programme content, including internships in the graduate study programmes and specialised study programme, and Moodle is used in all courses. Students are mostly happy with the teaching methods used, but they voiced their dissatisfaction with some rules of assessment and progression. It is evident that FOI is moving in the direction of student-centered learning, but some methods used tend more towards teacher-centered learning. There is also some concern from students over the apparent lack of responsiveness to reports of problems, which makes them reluctant to raise issues.

The Student Support and Career Development Centre provides career guidance, plays a role in organising student internships, and maintains contact with a large number of companies. Together with other support organisations in FOI, it provides a good level of support to students. This includes support from the International Relations Office to students who wish to take advantage of opportunities to study abroad. Nevertheless, most students do not take advantage of international mobility opportunities. FOI also offers some of its courses in English for the benefit of incoming exchange students as well as its own students. Croatian language courses are available to exchange students but these take place in Zagreb, not Varaždin. Assessment criteria and methods are clearly documented and consistently applied. FOI's relationships with companies are strong and feedback from company representatives on the quality of interns was very positive.

FOI should continue gathering information in order to understand and address the causes of the dropouts. Some rules of assessment and progression, such as requiring attendance in lectures, are unnecessarily rigid and inflexible. Minor deficiencies in a student's performance should not lead to failure or otherwise have a disproportionate impact on their final grade. More use of interactive forms of learning, video, etc. should be considered. Although FOI has good formal mechanisms for resolving students' concerns in place, some attention is required to increasing students' confidence in the process. More students should be encouraged to take advantage of international exchange opportunities, the number of courses available in English should be increased, and Croatian language courses should be provided for foreign students.

High level of quality

IV. Teaching and institutional capacities

Analysis

FOI adheres to regulations concerning the employment of qualified and competent staff and follows clear, transparent and objective procedures in recruitment. The student/teacher ratio is too high, unless associates are taken into account, and about 20% of teachers' workload exceeds the recommended norm. Furthermore, ratios of coverage of several study programmes with permanently employed teachers are below 0.50. FOI is aware of these issues and is addressing them.

FOI's own revenues are used to support completion of long-term educational and scientific tasks and FOI's strategy. Teachers receive financial rewards for publication of high-quality scientific papers and textbooks as well as for applications for international projects. FOI supports professional development of teachers and assesses the quality of their teaching using student surveys. Good support for participation in international projects is provided by the Centre for International Projects and the International Relations Office. The space occupied by FOI is adequate with respect to size but is not well suited to modern needs and is difficult and expensive to maintain and adapt. The lack of new space may harm FOI's Development Strategy in the coming years. Library facilities are good but library space is particularly limited for FOI's needs and with respect to the size of the FOI community.

Recommendations for improvement

FOI should focus more attention on future plans to improve the student-teacher ratio, with attention to the ratio when associates are not taken into consideration, should continue efforts to ensure that the coverage of all study programmes with permanently employed teachers reach a ratio of at least 0.50, and should increase efforts to reduce the work overload. Teachers should formulate explicit plans for their professional development, in consultation with a more senior colleague and should be encouraged more to take advantage of international mobility opportunities. A new building for FOI is extremely important to ensure FOI's future sustainability and strategy and this should include provision of adequate library space.

Quality grade
Satisfactory level of quality

V. Scientific/artistic activity

FOI's teachers and associates are committed to the achievement of high quality and quantity of scientific research and there has been a positive trend in the number of publications over the past five years. Still, the number of scientific publications per person per year is relatively low. FOI addresses this by providing financial incentives to encourage scientific productivity. FOI holds a number of scientific/professional projects, and it is commendable that FOI has been involved in a gradually increasing number of scientific projects, the most notable of which is partnership in a Horizon 2020 project. FOI's research development strategy and scientific activities are aligned with its vision. Scientific activities are sustainable but not developmental since resources for FOI's scientific activities are rather strained. Teachers involved in research activities strive to transfer knowledge and results obtained during research through teaching in undergraduate and graduate courses.

FOI should continue and significantly intensify efforts to improve publication quality and quantity. An additional incentive that could be considered is to reduce the teaching load of teachers and associates who are involved in research projects. It is recommended that more effort is put into promoting entrepreneurship amongst students and trying to foster more student startups. FOI should increase its number of scientific projects, building on what it has already achieved. An element of this is building international networks by taking advantage of mobility opportunities and existing international project partners. The mindset of all teachers and associates should be teaching in a research organisation rather than – as at present – research in a teaching organisation. FOI, as an institution, should place more focus on its research strategy so as to achieve the same quality as for teaching.

Minimum level of quality

DETAILED ANALYSIS OF EACH STANDARD, RECOMMENDATIONS FOR IMPROVEMENT AND QUALITY GRADE FOR EACH STANDARD

I. Internal quality assurance and the social role of the higher education institution

1.1. The higher education institution has established a functional internal quality assurance system.

Analysis

FOI's internal quality assurance system periodically evaluates its study programmes, teaching and assessment procedures, learning resources and student support, teacher competencies, science, research and professional activities, mobility and international cooperation, resources for educational, scientific and research activities, the FOI's information system, and openness to the public. QA reports are produced annually according to these procedures. The system is explained in Sect. 1.1 of the Self-Analysis Report and documented in FOI's quality assurance regulations, published on its website in Croatian and English.

The internal QA procedures operate under FOI's Committee for Quality Assurance and involve representatives of all stakeholder groups. Most members are from scientific and academic staff with one member representing all external stakeholders.

FOI's quality assurance policy is an element of its Development Strategy for the period 2018–2023. This is described in detail in Sect. 1.1 of the Self-Analysis Report and confirmed by information in the Development Strategy. Included is a strategic research agenda with information about implementation including target values of Key Performance Indicators.

FOI's Development Strategy for the period 2018–2023 includes strategic goals with a map for achieving the vision based on balanced scorecards. All levels of management in FOI appear to have a good understanding of the strategy and their role in its implementation, and internal and external stakeholders were involved in the development of the strategy. However, the strategy is missing a clear SWOT analysis and would benefit from the addition of a communication plan, mechanisms to monitor implementation of the strategy, and a risk analysis. The Development Strategy is available in both Croatian and English on FOI's website and is promoted on notice boards in FOI.

FOI systematically collects data relating to all aspects of its processes, resources and results, and uses the data in its day-to-day management and monitoring of activities as well as in decision-making. Details of the databases and functionality of applications for analysing the data are given in Sect. 1.1 of the Self-Analysis Report. The scope of the information collected and the level of the analyses that can be performed is exemplary.

According to the Self-Analysis Report, teachers are encouraged to collect survey feedback from students in their courses but according to students this is not done in many courses. Feedback is collected from students regularly on their satisfaction with their study programme, teaching and assessment, and student support. Students on internships evaluate the quality of arrangements in the companies that they are hosted by, and the companies evaluate the interns. PhD students annually evaluate their own work, the work of their mentors and the quality of their doctoral study programme.

FOI encourages all its employees to continually develop their professional careers, and provides resources to support training activities, conference attendance, invited lectures, and other professional development activities, as explained in Sect. 1.1 of the Self-Analysis Report and confirmed in discussions with members of staff.

Recommendations for improvement
Do surveys in every course every year and publish the results, perhaps together with the teacher's response concerning actions planned to address selected negative points. Concerns about publication of personal information about teachers can be addressed by primarily asking questions about the teaching style and methods etc. and/or redacting results to remove any offensive comments.

Complete the Development Strategy with a SWOT analysis, communication plan, mechanisms to monitor implementation of the strategy, and risk analysis.

Quality grade
Satisfactory level of quality

1.2. The higher education institution implements recommendations for quality improvement from previous evaluations.

Analysis
Sect. 1.2 of the Self-Analysis Report provides detailed documentation on actions that have taken place in response to recommendations in the re-accreditation report of 29 April 2011. It is clear that the recommendations have been taken very seriously and

actions taken are well-considered and appear to have been effective in many or most cases. As explained there, some recommendations could not be carried out because they do not depend solely on FOI. One example of a recommendation that has not been carried out yet, but is within FOI's power, is the extension of the very successful mandatory internship course to the undergraduate university study programmes. But this change is planned for the upcoming revision of undergraduate university study programmes, according to Sect. 2.6 of the Self-Analysis Report. Further changes have been introduced as a result of an internal evaluation of FOI's quality assurance system in 2015/2016.

FOI's quality assurance system includes reporting on plans for further improvements and developments, as explained in Sect. 1.2 of the Self-Analysis Report and documented in the annual QA reports that are available on FOI's website. Based on analysis of the results achieved and their effectiveness, a plan is developed which defines further measures along with expected results and timescales.

Recommendations for improvement
None

Quality grade
High level of quality

1.3. The higher education institution supports academic integrity and freedom, prevents all types of unethical behaviour, intolerance and discrimination.

Analysis
FOI supports academic integrity through measures such as provision of GDPR training and training in plagiarism detection. Teachers have freedom to decide their area of scientific focus. See Sect. 1.3 of the Self-Analysis Report.

FOI's Ethics Committee adheres to the Ethics Code of the University of Zagreb and the Rulebook on Disciplinary and Material Responsibility of Students and Other Participants of the FOI, which is available on FOI's website.

Sanctioning of unethical behaviour is carried out by the Ethics Committee, Disciplinary Tribunal and the Dean / Vice-Dean according to the Rulebook.

The Student's Ombudsman deals with complaints from students and acts on their behalf, as explained in Sect. 1.3 of the Self-Analysis Report.

Staff of FOI who are planning new research projects consult and seek the approval of the Ethics Committee. Teachers are trained in academic ethics in connection with their mentoring work. Students are educated in ethics as part of their thesis work and topics regarding ethics are included in some business courses. Theses are required to include a Statement on Authenticity.

All cases of academic dishonesty, including plagiarism, are dealt with by the Ethics Committee according to procedures defined in FOI's Rulebook. Preventative measures include educating students in proper citation practices and warnings to students about the consequences of copying, as explained in Sect. 1.3 of the Self-Analysis Report.

Recommendations for improvement
Consider use of more advanced plagiarism detection tools, such as Urkund, to detect plagiarised material translated from other languages.

Quality grade
High level of quality

1.4. The higher education institution ensures the availability of information on important aspects of its activities (teaching, scientific/artistic and social).

Analysis
FOI publishes detailed information on its study programmes on its web pages in Croatian and English. Other information about FOI's activities are published on social networks including Facebook, Twitter, Instagram, YouTube, and LinkedIn, and through other media. This is explained in Sect. 1.4 of the Self-Analysis Report and was verified by consulting FOI's web pages and through discussions with the Centre for International Projects.

The published information on study programmes includes admission criteria, learning outcomes etc. Information concerning student support is provided through the Student Support and Career Development Centre and the Office for Students with Disabilities.

Information relating to the social role of FOI, in which the Centre for Volunteering and Humanitarian Work is prominent, is available from its website. This is explained in Sect. 1.4 of the Self-Analysis Report. Information that is provided by FOI on its activity on contribution to the economy through entrepreneurship is explained in Sects. 1.5 and 5.2.

FOI's website contains data about numbers of students and projects, and about international mobility. The results of evaluations and other quality assurance activities is published on the QA section of its website.

Recommendations for improvement
None

Quality grade
High level of quality

1.5. The higher education institution understands and encourages the development of its social role.

Analysis

As explained in Sect. 1.5 of the Self-Analysis Report, FOI contributes to the development of the economy through its development and knowledge transfer projects, through its excellent relationships with employers hosting student interns, and through the creation and support of new companies within the Varaždin Technology Park, of which FOI is part owner. There is modest activity to promote entrepreneurship and startups. However, in view of its prominence within Croatia in the economics of business and entrepreneurship, together with informatics which provides a fertile domain for establishing startups that require little capital while potentially addressing an international market, FOI has an opportunity to significantly increase its activity in this area.

FOI contributes to the development of the local community through its knowledge transfer activity and involvement in regional development projects, as explained in Sect. 1.5 of the Self-Analysis Report.

FOI employees contribute to the running of the University of Zagreb through involvement in university management roles. It contributes to the local community through active participation in the work of local and regional government.

The social role of FOI as a socially responsible organisation, with a culture of tolerance, volunteering engagement, equal opportunities, and transparency, is explicit in its Development Strategy for the period 2018–2023.

FOI should strongly consider significantly increasing its activity to promote entrepreneurship and startups, with the aim of taking a leadership position on a national and regional level.

Satisfactory level of quality

1.6. Lifelong learning programmes delivered by the higher education institution are aligned with the strategic goals and the mission of the higher education institution, and social needs.

FOI carries out a small amount of activity in lifelong learning, with programmes in public procurement and pedagogy and specialised postgraduate studies in business systems management. The Centre for International Projects also offers workshops to help its staff apply for and manage international projects. These activities are in line with FOI's mission and strategic goals, as explained in Sect. 1.6 of the Self-Analysis Report.

The FOI's lifelong learning programmes have passed the required licensing procedures.

Lifelong learning programmes are reviewed and revised regularly, as required by the relevant regulations.

None

Satisfactory level of quality

II. Study programmes

2.1. The general objectives of all study programmes are in line with the mission and strategic goals of the higher education institution and the needs of the society.

Analysis

The objectives of all study programmes are generally in line with FOI's mission and strategic goals. However, the organisation of FOI's Development Strategy for the period 2018–2023 makes the establishment of links between the study programmes objectives and FOI's strategic goals somewhat obscure. In particular, tables 1 and 2 of the Development Strategy document, used to translate the vision into operational goals and activities, are rather cumbersome.

The study programmes are well established and the labour market needs / reasons evoked by FOI when applying for the creation of the study programmes are even stronger today. The resources required for delivering the study programmes are satisfactorily analysed in the Self-Analysis Report.

The current situation of the labour market in the areas covered by FOI's study programmes is highly favourable, and evidence shows that FOI's graduates are well received by the national and international labour markets.

Recommendations for improvement

FOI's Development Strategy for the period 2018–2023 should be complemented with a communication and stakeholder engagement plan to clarify the alignment of the objectives of all study programmes with FOI's mission and strategic goals.

Since FOI's Development Strategy proposes a comprehensive reform of the study programmes currently being delivered, the communication plan is essential to involve the academic community at FOI and the external stakeholders in changes planned for the near future. Furthermore, a plan for monitoring the implementation of the Development Strategy is clearly needed to reduce the risks of the profound changes that will be introduced in the study programmes.

Quality grade
Satisfactory level of quality

2.2. The intended learning outcomes at the level of study programmes delivered by the higher education institution are aligned with the level and profile of qualifications gained.

Analysis

FOI has clearly defined the learning outcomes of the study programmes and they are aligned with FOI's mission and Development Strategy. However, although FOI's Development Strategy document clearly defines the scientific areas established at FOI and the strategic vision for future development, the alignment of the learning outcomes with FOI's mission and Development Strategy cannot be verified directly in the Development Strategy document or in the Self-Analysis Report. The Expert Panel confirmed such alignment through the information gathered during the site visit.

The learning outcomes at the level of courses are described in detail in a specific document ("Topic 2 – Study Programmes") and these are well aligned with the learning outcomes at the study programme level. At the operational level, the executive plan defined for each study programme at the beginning of each academic year is instrumental to managing courses and the alignment of their learning outcomes with the learning outcomes of the study programme.

Learning outcomes achieved in the study programmes are aligned with the CroQF and EQF level descriptors, more specifically with levels 6 (university undergraduate studies; professional undergraduate studies), 7 (university graduate studies; postgraduate specialist studies) and 8.2 (doctoral programmes) as defined in CroQF.

FOI has considered recommendations from professional associations such as IEEE and ACM in the definition of the study programmes and their learning outcomes and in the subsequent updates of the courses. This is explicitly mentioned in the Development Strategy and could be generally confirmed through analysis of the syllabi of the courses.

The mechanisms at FOI to gather the relevant feedback to keep the programmes and learning outcomes up to date include surveys and informal and periodic meetings with employers and FOI graduates. Additionally, the Student Support and Career Development Centre maintains regular contacts with a very large number of companies to help students in the definition of their internships. FOI was involved in the project Stand4INFO (Development of Higher Education Standards of Professional Interest, Qualification Standards and Study Programs based on the Croatian Qualifications Framework in the field of Informatics) that included tasks to gather data

from employers concerning the knowledge and skills necessary for different professional profiles in informatics. This data is being used in the update of the undergraduate study programmes in Informatics that is currently in progress at FOI.

A less positive aspect with respect to updating study programmes and courses is the relatively long cycle of the entire process of updating learning outcomes.

Recommendations for improvement
FOI should continue improving the process of aligning learning outcomes with the target qualifications and competencies required by employers and society in general.

Quality grade
High level of quality

2.3. The higher education institution provides evidence of the achievement of intended learning outcomes of the study programmes it delivers.

Analysis
FOI effectively ensures the achievement of the intended learning outcomes of the study programmes and provides evidence of that in multiple ways. In fact, FOI accumulates the experience of running the study programmes for a considerable number of years and has developed routines and procedures to ensure consistency in the delivery of the learning outcomes. The Student Support and Career Development Centre collects feedback from more than 700 companies and from former FOI students, confirming on a regular basis that graduates' learning outcomes correspond to the ones expected from the study programmes. The adequacy of the learning outcomes is also assessed at specific and relevant points in the course, such as project tasks and final thesis defences. The Expert Panel confirmed the routine collection and analysis of this feedback during the site visit, namely in the meetings with external stakeholders and with the staff of the Student Support and Career Development Centre.

Concerning the improvement of the teaching process as a result of the feedback mentioned above, both the Self-Analysis Report and the site visit provided evidence of regular revisions and improvements in the study programmes (e.g. Form 7: Description of amendments of undergraduate, graduate and integrated undergraduate and graduate study programmes). However, in spite of these regular changes, the Expert Panel observed that some courses more related to technological aspects retain outdated topics in their syllabi.

FOI should continue improving the process of monitoring the achievement of the intended learning outcomes of the study programmes it delivers and should continue introducing regular updates and improvements in the teaching process. Special care should be placed on ensuring that the updates and improvements cover all the courses that have been identified as requiring changes.

High level of quality

2.4. The HEI uses feedback from students, employers, professional organisations and alumni in the procedures of planning, proposing and approving new programmes, and revising or closing the existing programmes.

FOI carries out regular activities to obtain feedback from students, employers, and alumni, and uses such feedback for the revision of its study programmes. More specifically, FOI revised the professional study programme on Information Technology in Business Application and the undergraduate study programme on Economics of Entrepreneurship in the last 5 years, and is currently developing an ambitious plan of study programme revision, including the undergraduate and graduate study programmes on Informatics and the graduate study programme on Economics of Entrepreneurship.

FOI organizes most of its contacts with external stakeholders, especially companies, through its Student Support and Career Development Centre. FOI has organized events such as "Career Development Day" and "Career Week" on an annual basis since 2012. Student internships at graduate level are also an effective instrument used by FOI to keep close contact with companies and assess labour market trends.

In general, FOI's study programmes have a distinctive brand with a strong focus on Informatics and Economics. Section 4.3 of the Self-Analysis Report describes the connection of FOI's study programmes with its strategic vision in an acceptable manner.

The available study programmes are described on FOI's website and the changes introduced can be verified through the archives of previous academic years.

FOI should continue improving its mechanisms to obtain feedback from relevant stakeholders for the definition and approval of study programmes and the periodic revision (or closing) of existing ones.

Quality grade
High level of quality

2.5. The higher education institution ensures that ECTS allocation is adequate.

Analysis
FOI manages the adequacy of ECTS allocation using well-established procedures. The monitoring of students' loads is done at course level through surveys and by monitoring students' progress in the different learning / evaluation elements (e.g. lectures attendance, experimental work, exams, etc.). Additionally, students' workload is also discussed at Department level (as was confirmed by the Expert Panel in meetings held during the site visit) to improve consistency between the ECTS planned/estimated for each course and the actual load perceived by students.

The general opinion of the Expert Panel, from both the Self-Analysis Report and the information gathered during the site visit, is that ECTS allocation is appropriate in most courses. However, students consistently reported to the Expert Panel some deviations (i.e. more effort than expected considering the ECTS allocation defined for the course) and, above all, mentioned the apparent lack of response from teachers to feedback provided by students on the effort required by courses.

FOI has documented experience in applying corrective adjustments to its courses and ECTS allocation to solve deviations detected by the ECTS monitoring mechanisms, as described in the second paragraph of Sect. 2.5 of the Self-Analysis Report. But these corrective measures are applied only at the end of the whole study programme cycle, which means a period of three years for the undergraduate study programmes. This represents a rather slow response to deviations in ECTS allocation, which is consistent with the remarks made to the Expert Panel in meetings with both undergraduate and graduate students.

Recommendations for improvement
FOI should continue improving the mechanisms and procedures already in place to assure the correct allocation of ECTS in its courses. In particular, the surveys and other

elements used to monitor the effort required by each course should be defined in a uniform manner at course level, instead of being dependent on the teacher. FOI should enforce annual monitoring of students' effort through surveys in order to assure that corrective adjustments are visible to the students in the short term.

Quality grade
Satisfactory level of quality

2.6. Student practice is an integral part of study programmes (where applicable).

Analysis
FOI has a highly mature process to manage students' internships, which are an integral part of the graduate study programmes on Informatics and Economics of Entrepreneurship. Section 2.6 of the Self-Analysis Report describes in detail the process used by FOI to run students' internships and follow up students during the entire process, including gathering feedback to evaluate the internship learning process and outcomes. Relevant documents such as the "Rulebook about the internship on the Graduate Study" and "Rulebook about internship on Vocational Study PITUP" are consistently used at FOI.

The Student Support and Career Development Centre has a key role in the internships, acting as a proxy between the students and the host companies and organisations. The list of companies and organisations where FOI students carried out their internships includes more than 370 entities. The Student Support and Career Development Centre is also deeply involved in monitoring and confirming that students are effectively involved in their planned internships. The site visit largely confirmed the detailed description of the process presented in the Self-Analysis Report.

One aspect not sufficiently described in the Self-Analysis Report is student practice through assignments and hands-on training in the context of their courses. However, an analysis of the syllabi and the information obtained in the meetings held during the site visit allowed the Expert Panel to confirm that student practice is an integral part of study programmes at FOI, covering and being used in most courses.

Recommendations for improvement
FOI should continue developing and improving even further its existing mechanisms to ensure that student practice is an integral part of its study programmes.

Quality grade
High level of quality

III. Teaching process and student support

3.1. Admission criteria or criteria for the continuation of studies are in line with the requirements of the study programme, clearly defined, published and consistently applied.

FOI publishes criteria for admission and/or continuation of studies in a clear and concise way on its website, and also on the University website in the form of a formal/legal document. Evaluation of high school GPA and state matura levels including the elective state matura exams are well documented, and are summarized on FOI's website.

Applications to the undergraduate study programmes are conducted by the Central Admission Office through the National Information System for Entries to Higher Education (NISpVU) which is the case for most, if not all, public HEIs in the Republic of Croatia. Applications to the graduate study programmes are conducted by FOI directly. The admissions process is adequately documented.

FOI adjusted admissions criteria for enrolment into Economy of Entrepreneurship in 2016/17. This just one example of how FOI uses the data it collects on students' progress to make adjustments to the admissions criteria.

Students have the right to recognition of certain courses regardless of whether they transferred from another study programme or from a different HEI. The procedure is clearly defined, and the documentation provided is adequate.

FOI accepted the recommendation from the last accreditation and introduced the state matura exams as one of the admission criteria for the professional undergraduate study programme.

Recommendations for improvement
None

Quality grade
High level of quality

3.2. The higher education institution gathers and analyses information on student progress and uses it to ensure the continuity and completion of study.

Analysis
FOI employs a number of different mechanisms for tracking not just student progress, but also admission to the study programmes. The data is used to perform analysis and adjustment of the admission criteria, courses, study programmes, etc.

A similar example of adjusting admissions requirements to the one mentioned in Sect. 3.1 above can be found in the "Information Systems and Business Systems" study programme, where FOI increased the quota from 265 to 285 but tightened the admission criteria to require level A in the state matura exam in Croatian instead of level B.

In the case of the professional study programmes, the Vice Dean of education said that analysis and student feedback showed that students were having trouble with programming courses in the second and third years, and therefore FOI decided to introduce an additional course in the first year to better prepare them for the second and third years.

FOI considers that input from the students is very important and has introduced a monthly Q&A and discussion forum. In addition, students who fail their final exam in a course for the fourth or seventh time are invited to a meeting with the Vice Dean for education.

According to the Self-Analysis Report, each year FOI analyses the results of the students with the highest grade averages and gives the Dean's Award to exemplary students in order to further motivate them to continue with their studies.

The Expert Panel's primary concern is the high dropout rates reflected in MOZVAG Table 3.5.

Recommendations for improvement
Continue gathering information, analyse the causes of the dropouts and act accordingly.

Quality grade
High level of quality

3.3. The higher education institution ensures student-centred learning.

Analysis
FOI uses a variety of methods to deliver study programme content. These include classic lectures, videoconferences, practical projects, simulations, presentations, use of Moodle, field work, etc. In addition, FOI has introduced internships to the graduate study programmes and specialised study programme, and is considering doing the same for the undergraduate study programmes.

FOI introduced workshops on advanced topics which are not covered during regular teaching. At the time of writing of the Self-Analysis Report, seven such workshops have been organised. There are also workshops for students who are doing their final or graduate thesis, as well as workshops for training young associates who have not yet had experience as mentors for final and graduate theses.

Students are mostly happy with the teaching methods used, but they voiced their dissatisfaction with some rules of assessment and progression, e.g. strict attendance rules. From the information gathered during the visit, it is evident that FOI is moving in the direction of student-centered learning, but some methods used tend more towards teacher-centered learning.

Every three years, FOI uses student surveys to evaluate teachers' performance. Upon receiving the results of these surveys, it acts in accordance with the recommendation for acting upon results of academic service of the University of Zagreb. In addition, course teachers can themselves ask for the opinion of the students about their methods of teaching. According to the students, few teachers do that.

FOI defines special models for tracking the work of part-time students. For these students, 50% of the lectures are delivered online in the form of video conferences, self-evaluations, discussion forums, wiki pages, etc. Lectures and consultations for part-time students are held in the afternoon.

FOI allows teachers to adjust exams and learning materials based on recommendations from the Office of the University of Zagreb for Students with Disabilities. FOI is a partner of the IMAGINE association on a project which aims to adapt literature for students with impaired vision.

FOI uses Moodle as its learning management system, and since 2009/10 all courses use Moodle. The application nastava.foi.hr enables students to get a detailed view of their courses and study programme.

Students together with their teachers participate in national and international competitions, work on projects, and compete for the Rector's Award, with the teachers acting as mentors.

In effort to increase the number of candidates for the Rector's Award, FOI provides support to students who compete for the Rector's Award as described in the Decision on Support to Students who worked for the Rector's Award.

In addition to the competitions and projects mentioned above, FOI has started a programme called startup@foi which provides administrative, legal and financial support to student startups. FOI also provides financial support to students who attend competitions and conferences.

FOI has an extensive volunteering programme which is managed by the Centre for Volunteering and Humanitarian Work.

Recommendations for improvement
Some rules of assessment and progression, such as requiring attendance in lectures, are unnecessarily rigid and inflexible – teacher-centered rather than student-centered. These should be reconsidered.

Consider more use of interactive forms of learning, video, etc.

Quality grade
Satisfactory level of quality

3.4. The higher education institution ensures adequate student support.

Analysis
The backbone for studying and career guidance is the Student Support and Career Development Centre. The Centre provides career guidance through organisation of lectures by employees of different companies, meetings with alumni, different kinds of workshops and personal consultations with students. In cooperation with the Vice Dean for education, the student ombudsman and student counselor, the Centre organises an open forum on a monthly basis where students can highlight specific topics in advance and discuss them together.

The Centre also plays a role in organising student internships, resolving potential problems and assisting with the administrative portion of the student's internship diary.

Student feedback gathered by the Centre shows that 89% of the students are satisfied with the support it provides.

A number of students voiced their concerns over the availability of teachers during consultation hours. They also expressed their feelings of dissatisfaction with the way that problems with teachers or grading are handled by FOI's hierarchy. As a result, they say that they are reluctant to raise issues with their teachers or to bring them to someone higher up.

In addition to the Student Support and Career Development Centre, FOI also has an International Relations Office (handling mobility programmes and international cooperation), an Office for Students with Disabilities (providing assistance to student with disabilities, as well as psychological counseling) and an Office for Student Affairs (handling student administrative services). These facilities were visited by the members of the Expert Panel.

The study facilities in FOI's library are inadequate due to lack of space, see Sect. 4.5. Students are often forced to look elsewhere for a place to study.

FOI has established formal relations with a number of student associations through contracts and continues to support their work, primarily through the Student Support and Career Development Centre. FOI also hires students to accompany and help students with disabilities in their daily routines at the faculty.

Students generally consider their teachers to be very competent and professional. FOI organises different educational workshops for its teachers and other staff, and teachers are able to join mobility programmes.

Recommendations for improvement
Although FOI has good formal mechanisms for resolving students' concerns in place, some attention is required to increasing students' confidence in the process.

Quality grade
High level of quality

3.5. The higher education institution ensures support to students from vulnerable and under-represented groups.

FOI has a coordinator for student with disabilities working through the Central Office for Students with Disabilities on the University level. In addition, FOI has student coordinator who is elected every year.

FOI reserves the right to enroll students outside of approved entry quotas based on the relevant law and signed agreement.

FOI ensures that all classes which include students with disabilities are conducted its main building which is equipped with elevators, ramps, etc. According to the Vice Dean for education, same standard applies to the buildings in dislocated centres.

FOI built an elevator in its main building to give students with disabilities access to all teaching rooms and laboratories. According to Sect. 3.5 of the Self-Analysis Report, the elevator was built in 2014. In 2017 and 2018, FOI built ramps and handrails where needed. As mentioned earlier, it hires educational assistants for disabled students and finances their training.

Recommendations for improvement
None

Quality grade
High level of quality

3.6. The higher education institution allows students to gain international experience.

Analysis
The International Relations Office, established by FOI in 2002, plays a key role in informing students about opportunities to study abroad. This is done through FOI's website, a guide prepared by the International Relations Office, and various information activities as detailed in Sect. 3.6 of the Self-Analysis Report.

Students are offered mobility opportunities through the Erasmus+ programme, but other mobility programmes are also available. Despite this, data from MOZVAG Table 3.6 and gathered during the visit suggests that most students do not take advantage of international mobility opportunities.

The International Relations Office provides support to students with administrative and logistical issues, documentation and advice on all other issues that may arise when applying for and organising an exchange. The ECTS coordinator supports students in creating a study plan and choosing courses, and offers personal consultations and help with matters pertaining to the recognition of courses studied abroad.

FOI's recognition of ECTS credits gained at other HEIs is in line with the Rulebook on International Mobility of the University of Zagreb. FOI maintains a mapping of courses from about 20 foreign universities in the Erasmus+ programme which are similar in content to its own courses. Students can also do an Erasmus+ professional internship.

Although the International Relations Office communicates with students on a regular basis, formal data collection on satisfaction with the support offered started only in 2018 according to Sect. 3.6 of the Self-Analysis Report. FOI shares stories of students who participated in an exchange programme on its website.

In addition to offering opportunities for students to study and do internships abroad, FOI also offers some of its courses in English, enabling students to work with incoming exchange students and to listen to lectures in English. FOI also organises or assists with the organisation of various activities in which students can work with or compete with international teams without going abroad.

Recommendations for improvement
Take measures to encourage more students to take advantage of international exchange opportunities.

Quality grade
Satisfactory level of quality

3.7. The higher education institution ensures adequate study conditions for foreign students.

Analysis
FOI provides accurate and adequate information in English to foreign students interested in studying there. Foreign students have access to information on

opportunities for enrolment and study at FOI from its website, in an information package for foreign students, and in a printed and digital brochure, as described in Sect. 3.7 of the Self-Analysis Report.

According to procedures and student feedback, the International Relations Office and the Faculty ECTS Coordinator provide adequate support to foreign students in enrolment, study and for dealing with students' obligations. FOI assigns a student buddy to each foreign student to help with various aspects of their studies and student life.

FOI has procedures to deal with issues related to foreign students' study, and mechanisms for collecting feedback on their satisfaction and needs. Students can share their experiences on FOI's webpage.

FOI does not offer Croatian language courses to foreign students. Such courses are offered by the university, but in Zagreb. FOI is considering introducing Croatian language classes in Varaždin, and to that end, it has organised a few classes for international students in 2018.

Recommendations for improvement
The number of courses available in English should be increased.
Croatian language courses should be provided for foreign students.

Quality grade
Satisfactory level of quality

3.8. The higher education institution ensures an objective and consistent evaluation and assessment of student achievements.

Analysis
Undergraduate and graduate studies at FOI have pre-determined criteria and methods for evaluation and grading for each course. Criteria and methods for all study programmes are described in the course's Model of Student's Work Monitoring, available at nastava.foi.hr. Rules for assessment are given in the Rulebook on Undergraduate and Graduate Studies at UNIZG, which is published on FOI's website.

The elements of the model of student's work are discussed by the members of the department the course belongs to, and the model is continually improved as described in Sect. 3.8 of the Self-Analysis Report.

FOI provides support for teachers in improving their competencies through various development workshops and guidelines. These include workshops on evaluating knowledge in the higher education curriculum and on evaluating seminar papers in the higher education curriculum, and others as described in Sect. 3.8 of the Self-Analysis Report.

Each course at FOI has a pre-determined plan and programme with clearly defined student obligations. Objectivity and reliability of assessment are ensured through the definition of a Model of Student's Work Monitoring that has defined transparent elements and rules, and by measures that are described in Sect. 3.8 of the Self-Analysis Report.

Some students believe that some of the grading rules are unfair. For instance, failing an exam that covers a part of a course or failure to attend sufficient classes can directly lead to failing the whole course.

If a student is not satisfied with an exam result, they may request to repeat the exam in front of a commission. Such requests have to be made within 24 hours after the announced deadline for inspecting the written part of the exam or failing at the oral part of the exam, and have to be approved by the Dean of FOI.

FOI's Office for Students with Disabilities deals with students who need adjustments due to health conditions or disabilities. Details are provided in Sect. 3.8 of the Self-Analysis Report.

Teachers give feedback on students' results in different ways, as outlined in Sect. 3.8 of the Self-Analysis Report: through e-Learning system activities, through discussion forums, individual consultations, etc.

Recommendations for improvement
Rules for assessment should be revised to ensure that minor deficiencies in a student's performance cannot lead to failure or otherwise have a disproportionate impact on their final grade. For example, one could adopt a principle that failure on a task (homework assignment, exercise, midterm exam, attendance requirement) should not, by itself, lead to failure in the course unless it represents at least 35% of the assessment for the course.

Quality grade
Satisfactory level of quality

3.9. The higher education institution issues diplomas and Diploma Supplements in accordance with the relevant regulations.

Documentation provided to the Expert Panel confirms that FOI issues a diploma and diploma supplement that confirms the completion of studies and the academic degree achieved.

These documents are issued to students based on Article 84 Paragraph 7 of the Act on Scientific Activity and Higher Education and the Regulation on the Content of Diplomas and Additional Documents on Studies, as specified in Sect. 3.9 of the Self-Analysis Report.

According to the appropriate act, as specified in Sect. 3.9 of the Self-Analysis Report, FOI issues a diploma supplement free of charge, in both Croatian and English, that confirms which exams a student has passed and their individual grades.

Recommendations for improvement
None

Quality grade
High level of quality

3.10. The higher education institution is committed to the employability of graduates.

Analysis
As outlined in the Self-Analysis Report, FOI collects information regarding the employability of students and graduates through different questionnaires and surveys. FOI participated in research carried out by the Agency for Science and Higher Education (AZVO) in which employment of students was analysed. FOI also receives data from the Croatian Employment Service (HZZ).

FOI defines enrolment quotas for the first year of studies on the undergraduate and graduate level by taking into consideration market needs given by Croatian

Employment Service' recommendations. Based on monitoring market needs, FOI has increased the quota for the study programmes on Information Systems and Business Systems. In addition, analysis of the number of students who have finished their high school education and want to enroll in the first year of undergraduate studies is taken into consideration when deciding on enrolment quota, as detailed in Sect. 3.10 of the Self-Analysis Report.

Contact between FOI and graduates is maintained through stories on successful alumni published on its website, and former students regularly participate in Career Week. Information on opportunities for competitions, grants, student jobs, internships, and jobs for graduates are given through the Student Support and Career Development Centre's portal and Facebook, as described in Sect. 3.10 of the Self-Analysis Report. FOI also publishes some of this information on its LinkedIn and Instagram profile.

The Student Support and Career Development Centre offers a range of student support activities, as described in detail in Sect. 3.10 of the Self-Analysis Report: career week, company visits, professional lectures and workshops at FOI, career workshops held by experts, career counselling, help and support when looking for employment and presenting for employers, support for student initiatives and associations, etc.

According to the Self-Analysis Report, FOI expanded its cooperation with companies in 2018 due to increased demand. Companies participate in Career Weeks and by giving lectures organised by FOI. During the Expert Panel's meeting with company representatives, alumni and stakeholders, feedback from company representatives was very positive.

FOI maintains contact with its alumni through its alumni association, AMAC – FOI, and the Student Support and Career Development Centre collects data regarding its alumni's employability as described in Sect. 3.10 of the Self-Analysis Report. AMAC - FOI holds meetings once a year, and informs its members of events related to FOI. Anyone interested in such events can also subscribe to the Student Support and Career Development Centre's newsletter or leave contact details in the office.

Recommendations for improvement
None

Quality grade
High level of quality

IV. Teaching and institutional capacities

4.1. The higher education institution ensures adequate teaching capacities.

Analysis

FOI adheres to prescribed legal regulations that ensure the employment of qualified and competent staff. Qualifications of teaching staff are in accordance with the requirements of FOI's study programmes and achievement of the intended learning outcomes and for performing scientific activity. According to the Rulebook on the content of permits and the conditions for issuing a permit for performing higher education activities, the introduction of study programmes and the re-accreditation of higher education institutions requires that at least six employees in scientific education and/or artistic education are employed full-time for the undergraduate study programme. FOI largely exceeds these numbers.

The ratio between full-time teachers and the total number of enrolled students at FOI is not ideal, unless associates are taken into account. In view of this situation, FOI has been taking active measures during recent years to improve the student/teacher ratio. Measures taken have led to a positive evolution in the ratio. In academic year 2015/16 the ratio was 31.23 students per teacher (with associates included) while for academic year 2017/18 it was 29.88 students per teacher (with associates included). FOI is aware of this issue and plans future measures to obtain better ratios.

Although the Collective Agreement on Science and Higher Education is no longer applicable, FOI adheres to its provisions. However about 20 percent of employees have a workload that is larger than the recommended norm. FOI appears to be actively focused on the re-allocation of teaching hours so that all teachers are equally loaded.

Regarding workload and distribution of teaching, scientific/artistic activities, professional and personal development and administrative duties, FOI has made a strategic decision to reduce the administrative obligations of teachers. FOI's Management Board has decided that as many business processes as possible should take place in digital form rather than on paper. Special attention is paid to restricting the load of young assistants who have acquired the conditions to be mentors to a maximum of 5 mentorships per academic year. The maximum load for other teachers is 20 mentorships per academic year.

Ratios of coverage of several programmes with permanently employed teachers are below 0.50. Two post graduate specialist study programmes still do not meet this minimum criterion. The same holds for the following undergraduate programmes: Information Systems (0.47), Business Systems (0.48) and Economics of Entrepreneurship (0.46). FOI is taking measures to address this situation by hiring new scientific teaching staff.

FOI ensures that teachers are qualified for the courses they deliver by analysis of their CVs and by teachers' statements on their competences in the subject, as well as information from student surveys.

Recommendations for improvement
The ratio between the total number of full-time teachers and the total number of enrolled students should not be more than 1:30, and FOI fulfils these criteria. Nevertheless, FOI should focus more attention on future plans to improve the student-teacher ratio, with attention to the ratio when associates are not taken into consideration.

FOI should continue efforts to ensure that the coverage of all study programmes with permanently employed teachers reach a ratio of at least 0.50.

About 20 percent of employees' workload is larger than the recommended norm. Regardless of FOI efforts to minimize the impact of this – namely by employment of assistants and salary increases – FOI must increase efforts to reduce the work overload.

Quality grade
Satisfactory level of quality

4.2. Teacher recruitment, advancement and re-appointment is based on objective and transparent procedures which include the evaluation of exellence.

Analysis
The recruitment policy for teachers is aligned with FOI's Development Strategy for the period 2018–2023, and FOI's recruitment and selection procedures are in accordance with legal regulations, namely the Act on Scientific Activity and Higher Education, the Ordinance on the Conditions for Election to Scientific Titles, the Decision on the Essential Requirements for Assessment of Teaching and Scientific-Professional Activities in the Procedure of Election to Scientific-Teaching Titles, and other subordinate acts.

The statutes of FOI clearly regulate procedures for election into scientific-teaching ranks. Teaching-related issues are also part of FOI's quality focus. FOI's quality system encompasses issues like rank advancement, disposition of the required skills and experience for quality teaching, continuous education for improvement of the teaching and learning process, grading and self-evaluation of the teacher's work, and procedures for employment and promotion of teachers.

Site meetings with full-time employed teachers and teaching assistants reinforced the perception that FOI employs clear, transparent and objective procedures for recruitment, promotion and re-appointment of teachers.

In selecting, appointing and evaluating teachers, FOI considers their previous activities including teaching activity, research activity and feedback from students. FOI also applies clear indicators and methods for ensuring the selection of the best candidates.

FOI has a clear policy on the evaluation and rewarding of excellence of its teachers. Evidence of this is internal criteria for valuing excellence in promotion of teachers, as well as FOI's use of its own income (as defined by the Rulebook on the allocation of own revenues) to reward the publication of university and faculty textbooks authored by FOI's teachers, authorship of scientific papers referenced in Science Citation Index Expanded (SCI-E), Social Science Citation Index (SSCI) or Current Contents (CC), as well as applications for international projects.

Recommendations for improvement
FOI should continue with its current strategy to increase teachers' excellence.

Quality grade
High level of quality

4.3. The higher education institution provides support to teachers in their professional development.

Analysis
FOI encourages the assessment and improvement of teaching competencies through various measures. FOI periodically organises workshops and training related to pedagogical and didactic issues, mentoring and supervision of students' research, as well as scientific research work.

In order to encourage teachers to increase scientific production, FOI has implemented a clear and adequate policy for co-financing of scientific-professional development and mobility of teachers.

Professors and associate professors at FOI can, after every six years of work, obtain a sabbatical for the purpose of scientific and/or professional development.

FOI encourages the assessment and improvement of teaching through the results of student satisfaction surveys. Teachers who rank in the lowest 10% according to students' surveys are required to submit a plan for improvement. On the other hand, the 10% of teachers with the highest position in the ranking are publicly announced and praised.

Teachers' participation in international projects is supported by both the Centre for International Projects and the International Relations Office. Long term outgoing mobility of teachers and associates (3 months and more) is still very low, with only five cases in the last five academic years.

Recommendations for improvement
Teachers should formulate explicit plans for their professional development, in consultation with a more senior colleague.

FOI could be pushing its staff more to take advantage of international mobility opportunities.

Quality grade
Satisfactory level of quality

4.4. The space, equipment and the entire infrastructure (laboratories, IT services, work facilities etc.) are appropriate for the delivery of study programmes, ensuring the achievement of the intended learning outcomes and the implementation of scientific/artistic activity.

Analysis
FOI occupies two buildings. The main building is the former Pauline Fathers monastery and the second is the former building of the Varaždin Music School. Regardless of the important cultural heritage of FOI buildings and FOI's effort to maintain them, the buildings' layout and characteristics are not aligned with modern needs and are difficult to adapt and adjust to those needs.

FOI has a total of 6280 m2 of net usable area for a total of 2890 students, which is 2.17 m2 per student; this is quite a good ratio. A total of 1325 m2 is allocated for 17 classes, while 420 m2 are occupied by 8 computer laboratories with a total area of 420 m2. Teachers' offices add up to 1109 m2 and student areas to 310 m2.

These quantities of space may appear to be adequate, but nevertheless – and mainly due to the difficulty of adjusting these buildings to new needs of FOI – there is a real need for new space like teaching rooms, laboratories, research centres, offices, a new library, and new areas for interaction between researchers and students. Students and teachers explicitly expressed the need for more adequate space for study and research. The lack of new space may harm FOI's Development Strategy in the coming years, especially for scientific and research purposes.

Equipment and the infrastructure such as IT services are appropriate for the delivery of study programmes and ensuring the achievement of the intended learning outcomes. Classes are well-equipped with multimedia equipment for teaching. Another positive aspect is FOI's policy on periodic renewal of computer equipment.

Recommendations for improvement
A new building for FOI is extremely important to ensure FOI's future sustainability and strategy.

Quality grade
Satisfactory level of quality

4.5. The library and library equipment, including the access to additional resources, ensure the availability of literature and other resources necessary for a high-quality study, research and teaching.

Analysis
The library space is extremely limited for FOI's needs and with respect to the size of the FOI community.

In terms of resources, FOI ensures adequate and up-to-date reference literature required for the study programmes. The number of copies of the required reading, relative to the number of enrolled students, is adequate. Besides its own resources, it has access to interlibrary loan services that are current and well implemented.

The library information and communication mechanisms appear to be efficient, through a web site, exhibition shelves and a web bulletin. Access to information and

resources is well provided by the library web catalogue which allows access to detailed information on resources as well as services for reservation etc.

Adequate access to digital international scientific databases is provided to students and researchers in a simple and accessible way. Databases available include Croatian Scientific Bibliography, CROSBI, Portal of scientific journals of Croatia, HRČAK, Digital Academic Archives and Repositories, DABAR, and Open access doctoral dissertations. FOI also provides a library web site in English.

FOI ensures adequate archiving and access through the institutional repository of FOI final, graduate, specialist, and PhD theses.

According to surveys, most student seem satisfied with the library services and in particular its working hours, availability of literature and access to databases.

Recommendations for improvement
Improve library space, especially study space and including providing of space for group work.

Quality grade
Satisfactory level of quality

4.6. The higher education institution rationally manages its financial resources.

Analysis
The financial management of FOI complies with regulations and with standards for transparency, reporting and publication.

FOI passed a business audit for the fiscal year 2014 without shortcomings or irregularities found. FOI makes a Statement of Fiscal Responsibility for each year and executes several controls using questions and test forms in areas like budget/financial planning, budget/financial plan execution, public procurement, accounting and reporting.

FOI does not have a financial plan of income and expenditures covering a period of at least five years. Instead, FOI's financial plan is adopted annually, covering a rolling three-year period.

FOI's income is increasing. FOI's annual total revenue in 2017 increased 6% compared to the previous year. Its revenue from the MZOS and the University was 7% more than

in the previous year and represents 65% of its total revenue. FOI's own revenue amounted to 35% of its total revenue.

FOI's rationale for distribution of funds appears to be adequate. Its own revenues are used to support completion of long-term educational and scientific tasks and FOI's strategy. This allocation is regulated by a clear and specific internal rulebook.

FOI efforts to increase its own revenue are visible. Its main additional sources of funding are national and international projects and professional projects.

Recommendations for improvement
FOI should carry out formal financial planning of income and expenditure covering a period of at least five years.

FOI could be doing a little more to earn income with local companies, although care must be taken to avoid negative impact on its research and academic activity.

Quality grade
Satisfactory level of quality

V. Scientific/artistic activity

5.1. Teachers and associates employed at the higher education institution are committed to the achievement of high quality and quantity of scientific research.

Analysis

There is a positive trend in the number of publications by FOI's employees since 2013. It is evident that the major contribution to this trend can be attributed to an increase over the years in scientific conference papers with international peer-review and some increase in scientific papers in other journals. In general, the number of scientific publications per teacher and associate per year is relatively low, with this ratio being exceedingly low for high-quality scientific publications. This can be seen in Sect. 5.1 of the Self-Analysis Report and in the evidence referred to there, especially in MOZVAG Table 5.1. This fact was further confirmed during the Expert Panel's visit to FOI during discussions with the Vice-Dean for Scientific Research, the Head of PhD Study and heads of currently ongoing projects.

Several procedures and measures have been put in place by FOI, as described in Sect. 5.1 of the Self-Analysis Report, for encouraging high-quality scientific publications. These include: Articles in the Rulebook on the Allocation of Own Revenues issued by the Faculty Council of FOI in 2010 that provide incentives for authors of scientific papers referenced in the Science Citation Index Expanded (SCIE), Social Science Citation Index (SSCI) and the Current Contents Database as well as incentives related to the submission of competitive scientific projects; and decisions by management on financing of additional literature and co-financing scientific-educational training up to a given maximum amount.

Records of publications (publication index, citation impact, h-index, if applicable) are kept by FOI, as described in Sect. 5.1 of the Self-Analysis Report and shown by the evidence provided. This involves the teachers and associates of FOI using the portal of the Croatian Scientific Bibliography (CROSBI, bib.irb.hr) and the Digital Academic Archives and Repository (DABAR). Since 2017, the scientific papers of the employees are being stored in a FOI repository.

Scientific activity at FOI is evident in PhD theses. For example, in academic year 2017/2018, 13 doctoral theses were defended in the scientific discipline of Information Science.

Teachers and associates of FOI actively promote scientific achievements at national and international conferences. Based on data from the mobility database that FOI maintains, employees participated in 48 national and international conferences during academic year 2017/2018.

Recommendations for improvement
FOI should continue and significantly intensify efforts to improve publication quality and quantity. Increasing the number of research projects (see Sect. 5.3) will help.

The procedures and measures already put in place for encouraging high-quality scientific publication have obviously contributed to the positive trend that is visible in the number of publications over the years. These procedures could be evaluated with respect to their effectiveness and modified if necessary, and perhaps some additional measures proposed. One incentive that could be considered is to reduce the teaching load of teachers and associates who are involved in research projects.

Quality grade
Minimum level of quality

Note: Prof. Željko Garača expressed disagreement with the rest of the Expert Panel and was of the opinion that for standard 5.1, FOI should be graded at satisfactory level of quality.

5.2. The higher education institution provides evidence for the social relevance of its scientific / artistic / professional research and transfer of knowledge.

Analysis
In Sect 5.2 of the Self-Analysis Report and the evidence referred to there, it can be seen that since 2014, FOI actively monitors the needs of society and the labour market. FOI has organized or co-organised, through some of its projects, a large number of round tables and panel discussions dealing with the needs of society or the labour market. The information gathered from such sources has successfully resulted in quality relations with employers, for example, through organized internships for students at companies as well as through projects

A relatively efficient support system for research, described in Sect 5.2. of the Self-Analysis Report, has been put in place in FOI by establishing 14 research laboratories and 3 research centres. These organisational units foster inter-departmental cooperation on research and projects, and are backed up by the Centre for International Projects which provides legal aid, helps in project application, monitors

project activities, etc. They also provide services and support for the transfer of knowledge and technologies.

According to the list of scientific projects in MOZVAG Table 5.3a that FOI is currently a research partner in 5 projects in the application of knowledge, some of which involve cooperation with industry and transfer of technology.

As well as collaborating intensively with technology parks in the region, FOI also has one-third ownership in the Varaždin Technology Park which is home to mainly ICT companies, employing more than 200 employees, among which a significant part are former FOI students. FOI started a project startup@foi in 2015 with the aim of promoting entrepreneurship at the university level by providing administrative, legal, technical and some financial assistance to students who wish to set up their own business. To date, two successful companies have come out of this project.

Teachers and associates participate in the activities of scientific and professional organisations as shown by evidence provided in Sect 5.2. of the Self-Analysis Report.

Recommendations for improvement
FOI is aware of its role in society and in the transfer of knowledge. These responsibilities are visible in the large number of activities they are engaged in. As a faculty that is involved with entrepreneurship, with technology from informatics providing excellent opportunities for startups requiring little capital, it is recommended that more effort is put into promoting this amongst students and trying to foster more student startups.

Quality grade
Satisfactory level of quality

5.3. Scientific/artistic and professional achievements of the higher education institution are recognized in the regional, national and international context.

Analysis
Various university, national and international awards have been awarded to some of the teachers, associates and professional staff of FOI for their scientific and professional achievements. A list of over 10 awards is provided in Sect 5.3 of the Self-Analysis Report, some of which include:
- Europe's Open Access Champions award by SPARC Europe, awarded to a professor;
- Inclusion in a list of European examples of good practice of cooperation between academic and business sectors by the European Commission's University-Business

Cooperation initiative, awarded to the Student Support and Career Development Centre.

FOI holds a number of scientific / professional projects (university, national and international projects). It is evident from the list of scientific projects in MOZVAG Table 5.3a that FOI has for the past five years been involved in over 20 scientific projects and is currently a research partner in five such projects (funded by ERASMUS+, COST, Horizon 2020, European Fund for Regional Development). In the same time period, FOI has been involved in over 50 professional / commercial projects and is currently a partner in one ERASMUS+ project (MOZVAG Table 5.3b). It is commendable that FOI has been involved in a gradually increasing number of scientific projects, the most notable of which is partnership in a Horizon 2020 project.

Over the past five years, teachers, associates and professional staff of FOI have participated as invited lecturers in a relatively small number of national and international conferences.

Teachers and associates have been members of programme and organisational committees of quite a number of conferences and members of editorial boards of journals, the majority of which are international journals published by a national (Croatian) publisher.

Recommendations for improvement
FOI needs to increase its number of scientific projects. The support provided by the Centre for International Projects and experience with a H2020 project provide an excellent basis for expanding project activity. More attention needs to be paid to research and innovation actions in H2020, as well as Marie Curie actions such as Initial Training Networks (ITNs). FOI also needs to work on building international networks by taking advantage of mobility opportunities and existing international project partners.

For judging quality of international conferences in Informatics, the [CORE ranking](#) could be useful.

Quality grade
Minimum level of quality

Note: Prof. Željko Garača expressed disagreement with the rest of the Expert Panel and was of the opinion that for standard 5.3, FOI should be graded at satisfactory level of quality.

5.4. The scientific / artistic activity of the higher education institution is both sustainable and developmental.

Analysis
FOI's research development strategy and scientific activities are aligned with its vision. In FOI's Development Strategy for the period 2018–2023, the purpose and main activities of FOI as a scientific organisation are provided. A brief analysis of FOI's business potential and its position in the scientific and business environment is also given, as well as a list of strategic goals and some strategic research programmes with expected outcomes. Apart from a plan for the organisational development of FOI, the strategy also contains the scientific themes that FOI intends to focus on, with a corresponding detailed work programme and specific goals. Indicators of the successful implementation of the strategic research programme are provided for the following:

- Improve professional competencies and potential of staff
- Intensify research activities within strategic fields
- Foster internationally recognised excellence in research activities
- Intensify cooperation with business and the general public, focusing on strategic fields.

FOI is mainly financed through MZOS and the University of Zagreb, see Sect. 4.6 of this report. A relatively small amount comes from projects. Thus, with respect to research, FOI needs to cover expenses using its own resources. From the financial plan provided, it is visible that scientific activities are sustainable but not developmental since resources for FOI's scientific activities are rather strained.

Several measures have been put in place by FOI to recognise and reward the scientific achievements of its employees. FOI's Rulebook on Awards and Acknowledgments issued in 2009 provides for the following awards and acknowledgments, among others: Lifetime Achievement for Teachers in Scientific and Teaching Professions, Special Achievement in Scientific and Teaching Activity, Successful Young Scientist, and Successful Mentoring of Students. As already mentioned in Section 5.1 of this report, the Rulebook on the Allocation of Own Revenues recognises and rewards all scientific activities of teachers and associates related to applications for new competitive projects, publication of scientific papers, publication of university textbooks, etc.

Since 2013, FOI has increased its total staff by more than 20 new employees, so new funding sources (own funds, project funds) are constantly required. Given the

unavailability of coefficients from MZOS and the University, FOI employs new staff using project funds and other sources of own revenue. Likewise, given its very limited spatial capacity, FOI strives to maximise the potential of its existing resources. Laboratories are suitably equipped and maintained. Over the past three years, FOI has continually invested in equipment necessary for the purpose of research and project activities. As confirmed by interested parties (associates, research assistants, heads of research projects, the head of PhD study) during the Expert Panel's visit to FOI, the faculty provides financial support important for the development of doctoral theses, dissemination of research results and visibility of projects.

Recommendations for improvement

FOI's Development Strategy is sustainable but not developmental. See the recommendations in Sect. 4.6 for suggestions for improvement.

The mindset of all teachers and associates should be teaching in a research organisation rather than (as at present) research in a teaching organisation. FOI, as an institution, should place more focus on its research strategy so as to achieve the same quality as for teaching.

Quality grade

Minimum level of quality

5.5. Scientific/artistic and professional activities and achievements of the higher education institution improve the teaching process.

Analysis

Due to the general lack of space at FOI, all available equipment and space for scientific research and professional activities is used in teaching at undergraduate, graduate and postgraduate levels.

All postgraduate students are involved in scientific and professional projects of FOI. Research activity of students at undergraduate and graduate levels is also encouraged through the work of research laboratories and centres which cooperate on projects. These activities are most evident through final thesis work, mainly at the graduate level.

Teachers involved in research activities strive to transfer knowledge and results obtained during research through teaching in undergraduate and graduate courses. Most doctoral thesis reflect these research activities and achievements.

Increasing the number of research projects (see Sect. 5.3 of this report) will provide more opportunities for involvement of PhD and graduate students in research.

Satisfactory level of quality

APPENDICES

1. Quality assessment summary - tables

Quality grade by assessment area				
Assessment area	Unsatisfactory level of quality	Minimum level of quality	Satisfactory level of quality	High level of quality
I. Internal quality assurance and the social role of the higher education institution			X	
II. Study programmes				X
III. Teaching process and student support				X
IV. Teaching and institutional capacities			X	
V. Scientific/artistic activity		X		

Quality grade by standard				
I. Internal quality assurance and the social role of the higher education institution	Unsatisfactory level of quality	Minimum level of quality	Satisfactory level of quality	High level of quality
1.1. The higher education institution has established a functional internal quality assurance system.			X	
1.2. The higher education institution implements recommendations for quality improvement from previous evaluations.				X
1.3. The higher education institution supports academic integrity and freedom, prevents all types of unethical behaviour, intolerance and discrimination.				X
1.4. The higher education institution ensures the availability of information on important aspects of its activities (teaching, scientific/artistic and social).				X
1.5. The higher education institution understands and encourages the development of its social role.			X	
1.6. Lifelong learning programmes delivered by the higher education institution are aligned with the strategic goals and the mission of the higher education institution, and social needs.			X	

Quality grade by standard				
II. Study programmes	Unsatisfactory level of quality	Minimum level of quality	Satisfactory level of quality	High level of quality
2.1. The general objectives of all study programmes are in line with the mission and strategic goals of the higher education institution and the needs of the society.			X	
2.2. The intended learning outcomes at the level of study programmes delivered by the higher education institution are aligned with the level and profile of qualifications gained.				X
2.3. The higher education institution provides evidence of the achievement of intended learning outcomes of the study programmes it delivers.				X
2.4. The HEI uses feedback from students, employers, professional organisations and alumni in the procedures of planning, proposing and approving new programmes, and revising or closing the existing programmes.				X
2.5. The higher education institution ensures that ECTS allocation is adequate.			X	
2.6. Student practice is an integral part of study programmes (where applicable).				X

Quality grade by standard				
III. Teaching process and student support	Unsatisfactory level of quality	Minimum level of quality	Satisfactory level of quality	High level of quality
3.1. Admission criteria or criteria for the continuation of studies are in line with the requirements of the study programme, clearly defined, published and consistently applied.				X
3.2. The higher education institution gathers and analyses information on student progress and uses it to ensure the continuity and completion of study.				X
3.3. The higher education institution ensures student-centred learning.			X	
3.4. The higher education institution ensures adequate student support.				X
3.5. The higher education institution ensures support to students from vulnerable and under-represented groups.				X
3.6. The higher education institution allows students to gain international experience.			X	
3.7. The higher education institution ensures adequate study conditions for foreign students.			X	
3.8. The higher education institution ensures an objective and consistent evaluation and assessment of student achievements.			X	
3.9. The higher education institution issues diplomas and Diploma Supplements in accordance with the relevant regulations.				X
3.10. The higher education institution is committed to the employability of graduates.				X

Quality grade by standard				
IV. Teaching and institutional capacities	*Unsatisfactory level of quality*	*Minimum level of quality*	*Satisfactory level of quality*	*High level of quality*
4.1. The higher education institution ensures adequate teaching capacities.			X	
4.2. Teacher recruitment, advancement and re-appointment is based on objective and transparent procedures which include the evaluation of exellence.				X
4.3. The higher education institution provides support to teachers in their professional development.			X	
4.4. The space, equipment and the entire infrastructure (laboratories, IT services, work facilities etc.) are appropriate for the delivery of study programmes, ensuring the achievement of the intended learning outcomes and the implementation of scientific/artistic activity.			X	
4.5. The library and library equipment, including the access to additional resources, ensure the availability of literature and other resources necessary for a high-quality study, research and teaching.			X	
4.6. The higher education institution rationally manages its financial resources.			X	

Quality grade by standard				
V. Scientific/artistic activity	*Unsatisfactory level of quality*	*Minimum level of quality*	*Satisfactory level of quality*	*High level of quality*
5.1. Teachers and associates employed at the higher education institution are committed to the achievement of high quality and quantity of scientific research.		X		
5.2. The higher education institution provides evidence for the social relevance of its scientific / artistic / professional research and transfer of knowledge.			X	
5.3. Scientific/artistic and professional achievements of the higher education institution are recognized in the regional, national and international context.		X		
5.4. The scientific / artistic activity of the higher education institution is both sustainable and developmental.		X		
5.5. Scientific/artistic and professional activities and achievements of the higher education institution improve the teaching process.			X	

2. Site visit protocol

<table>
<tr><td colspan="2" align="center">**Reakreditacija**
Fakulteta organizacije i informatike
Sveučilišta u Zagrebu</td><td colspan="2" align="center">**Re-accreditation of th*e***
Faculty of Organization and Informatics
University of Zagreb</td></tr>
</table>

Edukacija Stručnog povjerenstva

Training of Panel members

Mjesto događanja:
Agencija za znanost i visoko obrazovanje

Venue:
Agency for Science and Higher Education

Donje Svetice 38/V, Zagreb

	Ponedjeljak, 19. studenog 2018.	**Monday, 19th November 2018**
12:00 – 12:30	• Predstavljanje AZVO • Sustav visokog obrazovanja u RH	• Presentation of ASHE • Higher education system in Croatia
12:30 – 13:00	• Postupak reakreditacije • Standardi za vrednovanje kvalitete • Pisanje završnog izvješća	• Introduction to the re-accreditation procedure • Standards for the evaluation of quality • Writing the final report
13:00 – 14:00	**Ručak**	**Lunch**
14:00 – 15:00	Priprema povjerenstva za posjet (rasprava o Samoanalizi i popratnim dokumentima)	Preparation of the expert panel members for the site visit (discussion on the Self-evaluation and supporting documents)
approx. **15:00**	**Odlazak za Varaždin**	**Departure for Varaždin**

Hotel Turist, Aleja Kralja Zvonimira 1, Varaždin	
17:00 – 19:00	Priprema povjerenstva za posjet (rasprava o Samoanalizi i popratnim dokumentima)	Preparation of the expert panel members for the site visit (discussion on the Self-evaluation and supporting documents)

PROTOKOL POSJETA	**VISIT PROTOCOL**
Utorak, 20. studenoga 2018	**Tuesday, November 20th 2018**
Mjesto događanja:	*Venue:*
Pavlinska 2, 42000 Varaždin	*Pavlinska 2, 42000, Varaždin*

	Utorak, 20. studenoga 2018.	**Tuesday, 20th November 2018**
09:00 – 10:00	Sastanak s Upravom	Meeting with the Management
10:00 – 10:15	*Interni sastanak članova Stručnog povjerenstva*	*Internal meeting of the panel members*
10:15 – 11:00	Sastanak s radnom grupom koja je priredila Samoanalizu	Meeting with the working group that compiled the Self-evaluation
11:00 – 12:00	*Sastanak članova stručnog povjerenstva (**Analiza dokumenata**)*	*Internal meeting of the panel members (**Document analysis**)*
12:00 – 13:00	Sastanak sa studentima (otvoren za sve studente)	Meeting with the students (open meeting)
13:00 – 14:30	*Radni ručak Stručnog povjerenstva*	*Working lunch*
14:30 – 15:30	Sastanak s alumnima i vanjskim dionicima - predstavnicima strukovnih i profesionalnih udruženja, poslovna zajednica, poslodavci, stručnjaci iz prakse, organizacijama civilnog društva, vanjski predavači	Meeting with the alumni and external stakeholders - representatives of professional organisations, business sector/industry sector, professional experts, non-governmental organisations, external lecturers
15:30 – 16:30	Sastanak s prodekanicom za znanstveno-istraživački rad i prodekanom za financijsko i materijalno poslovanje	Meeting with Vice-Dean for Scientific Research and Vice-Dean for Financial and Material Affairs
16:30 - 17:00	Organizacija dodatnog sastanka o otvorenim pitanjima, **prema potrebi**	Organisation of additional meeting on open questions, **if needed**

Hotel Turist, Aleja Kralja Zvonimira 1, Varaždin		
17:30 – 20:00	*Sastanak članova Stručnog povjerenstva (**Rasprava**)*	*Internal meeting of the panel members (**Discussion**)*

Re-accreditation of the
Faculty of Organization and Informatics
University of Zagreb

PROTOKOL POSJETA

Srijeda, 21. studenoga 2018
Mjesto događanja:

Pavlinska 2, 42000 Varaždin

VISIT PROTOCOL

Wednesday, November 21st 2018
Venue:

Pavlinska 2, 42000, Varaždin

	Srijeda, 21. studenoga 2018.	**Wednesday, 21st November 2018**
09:00 – 10:00	Sastanak s prodekanicom za nastavu i voditeljima studija	Meeting with the Vice-Dean for Education and Heads of study programmes
10:00 – 10:30	*Sastanak članova Stručnog povjerenstva (Analiza dokumenata)*	*Internal meeting of the panel members (Document analysis)*
10:30 – 11:30	Sastanak s nastavnicima (u stalnom radnom odnosu, koji nisu na rukovodećim mjestima)	Meeting with full-time employed teachers (open meeting)
11:30 – 12:30	Sastanak s asistentima	Meeting with teaching assistants
12:30 –14:00	*Radni ručak Stručnog povjerenstva*	*Working lunch*
14:00 – 15:00	Sastanak s pročelnicima katedri	Meeting with heads of departments
15:00 – 16:00	Organizacija dodatnog sastanka o otvorenim pitanjima, **prema potrebi**	Organisation of additional meeting on open questions, **if needed**

Hotel Turist, Aleja Kralja Zvonimira 1, Varaždin		
17:00 – 20:00	*Sastanak članova Stručnog povjerenstva (Rasprava)*	*Internal meeting of the panel members (Discussion)*

	Reakreditacija *Fakulteta organizacije i informatike Sveučilišta u Zagrebu*	**Re-accreditation of the** *Faculty of Organization and Informatics University of Zagreb*

PROTOKOL POSJETA
Četvrtak, 22. studenoga 2018
Mjesto događanja:

Pavlinska 2, 42000 Varaždin

VISIT PROTOCOL
Thursday, November 22nd 2018
Venue:

Pavlinska 2, 42000, Varaždin

	Četvrtak, 22. studenoga 2018.	**Thursday, 22nd November 2018**
09:00 – 10:00	Sastanak s voditeljima znanstvenih projekata i voditeljem doktorskog studija	Meeting with heads of research projects and the head of the PhD study
10:00 – 12:00	Obilazak Fakulteta (knjižnica, uredi studentskih službi, ured međunarodne suradnje, informatička služba, predavaonice) i prisustvovanje nastavi	Tour of the Faculty (library, student services, international office, IT services, classrooms) and participation in teaching classes
12:00 – 13:00	*Interni sastanak članova Stručnog povjerenstva*	*Internal meeting of the panel members*
13:00 – 14:30	*Radni ručak Stručnog povjerenstva*	*Working lunch*
14:30 – 16:00	Posjet dijela povjerenstva dislociranom studiju u **Zaboku** (polazak u 14:30, povratak do 18:30) / Organizacija dodatnog sastanka o otvorenim pitanjima u **Varaždinu**, **prema potrebi**	Visit to the dislocated centre in **Zabok** by part of the panel (departure at 14:30, return before 18:30) / Organisation of additional meeting on open questions in **Varaždin**, **if needed**

Hotel Turist, Aleja Kralja Zvonimira 1, Varaždin		
17:30 – 20:30	*Sastanak članova Stručnog povjerenstva, izrada nacrta završnog izvješća*	*Internal meeting of the panel members, drafting the final report*

| | **Reakreditacija**
Fakulteta organizacije i informatike
Sveučilišta u Zagrebu | **Re-accreditation of the**
Faculty of Organization and Informatics
University of Zagreb |

PROTOKOL POSJETA

Petak, 23. studenoga 2018

Mjesto događanja:

Pavlinska 2, 42000 Varaždin

VISIT PROTOCOL

Friday, November 23rd 2018

Venue:

Pavlinska 2, 42000, Varaždin

	Petak, 23. studenoga 2018.	**Friday, 23rd November 2018**
09:00 – 9:30	Završni sastanak s Upravom	Exit meeting with the Management
approx. **10:00**	*Odlazak u Zagreb*	*Departure for Zagreb*

Hotel International, Miramarska 24, Zagreb		
12:00 – 13:00	*Pisanje nacrta završnog izvješća*	*Drafting the final report*
13:00 – 14:00	*Ručak*	*Lunch*
14:00 –	*Pisanje nacrta završnog izvješća*	*Drafting the final report*

SUMMARY

The general conclusion of the Expert Panel is that HEI achieved a *high level of quality* in assessment areas **II. Study Programs** and **III. Teaching processes and student support**.

Assessment areas **I. Internal Quality Assurance and Social Role of the Higher Education Institution** and **IV. Teaching and Institutional Capacities** were evaluated as *satisfactory level of quality*, while **V. Scientific / Artistic Activity** was evaluated as *minimum level of quality*.

Prof. Željko Garača expressed a difference of opinion with regard to the assessment of standards 5.1. and 5.2., maintaining that the said standards are at the satisfactory level of quality instead of the minimum. The final grade for 5.1. and 5.2. was therefore passed by a majority vote of Panel members.