



agency for science and higher education

**REPORT
OF THE EXPERT PANEL
ON THE
RE-ACCREDITATION OF
FACULTY OF FORESTRY UNIVERSITY OF ZAGREB**

Date of site visit: 4 – 5 December 2019

January 2020



The project is co-financed by the European Union from the European Social Fund. The contents of this document are the sole responsibility of the Agency for Science and Higher Education.

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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 the following independent Expert Panel for the evaluation of Faculty of Forestry, University of Zagreb:

- Prof. dr. sc. Jörn Erler, Technische Universität Dresden, Federal Republic of Germany, chair panel
- Prof. dr. (Agr. & For.) Heli Peltola, Faculty of Science and Forestry, University of Eastern Finland, Republic of Finland
- Assoc. prof. dr. sc. Monica Boscaiu Neagu, Department of Agroforest Ecosystems, Polytechnic University of Valencia, Kingdom of Spain
- Dr. sc. Tamara Jakovljević, Division for Forest Ecology, Croatian Forest Research Institute, Republic of Croatia
- Lucija Galić, student, Faculty of Agrobiotechnical Sciences, Josip Juraj Strossmayer, University of Osijek, Republic of Croatia

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

- Management of the Faculty,
- Working group that compiled the Self-evaluation,
- Students,
- Alumni,
- Full-time teaching staff,
- Heads of institutes,
- Assistants and post doctoral researchers,
- Leaders of research projects,
- Representatives of the business sector, potential employers.

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

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

The Expert Panel drafted this Report on the re-accreditation of Faculty of Forestry, University of Zagreb, based on the self-evaluation report of the Faculty of Forestry, University of Zagreb, 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), and
- Summary.

In the analysis of the documentation, site visit to the Faculty of Forestry University of Zagreb and writing of the Report, the Expert Panel was supported by:

- Viktorija Juriša, coordinator, ASHE,
- Ivana Borošić, assistant coordinator, ASHE,
- Marko Hrvatin, interpreter at the site visit, ASHE.

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 Forestry, University of Zagreb

ADDRESS: Svetošimunska cesta 25, 10000 Zagreb, Croatia

DEAN: Prof. dr. sc. Tibor Pentek

ORGANISATIONAL STRUCTURE:

The Faculty of Forestry is a public higher education institution and a scientific-teaching component of the University of Zagreb, with the status of an institution. The founder of the Faculty is the University of Zagreb. The seat of the Faculty is in Zagreb, Svetošimunska cesta 25. By the decree of the Ministry of Science and Technology of the Republic of Croatia adopted in September 2002, the Faculty was entered in the Register of Higher Education Institutions under number 0068. By the order of the Commercial Court in Zagreb of July 1997, the Faculty was entered in the Court Register under company registration number (MBS) 080159374.

The main activities of the Faculty are the organization and conducting of university under-graduate, professional under-graduate, university graduate, postgraduate doctoral, and postgraduate specialist studies, as well as scientific-research and professional work in the scientific field of biotechnological sciences, the scientific field of forestry, and the scientific field of wood technology. The Faculty is also registered for organizing and holding scientific and professional meetings, publishing scientific and professional publications, as well as for other forms of teaching, scientific and professional work, consulting in the field of forestry; urban forestry, nature and environment protection; wood technology and wood product design.

The organizational units of the Faculty according to the Statute are the following: 1) Departments; 2) Institutes; 3) Secretariat; 4) Accounting and Financial Services; and 5) Dean's Office.

The Faculty of Forestry consists of two departments: the Forestry Department with six institutes and the Wood Technology Department with five institutes. Within the institutes, there are 21 laboratories. Within the Institute of Training and Forest Research Centres, there are five training and research forest centres (hereinafter referred to as: NPŠOs), located in the most important climatic-zone forest communities of the Republic of Croatia: 1) NPŠO Lipovljani (including the State Hunting Ground Opeke II/39); 2)

NPŠO Zalesina; 3) NPŠO Zagreb; 4) NPŠO Velika; and 5) NPŠO Rab (including the State Hunting Ground Kalifront VIII/6).

The composition and function of individual organizational constituents are the following:

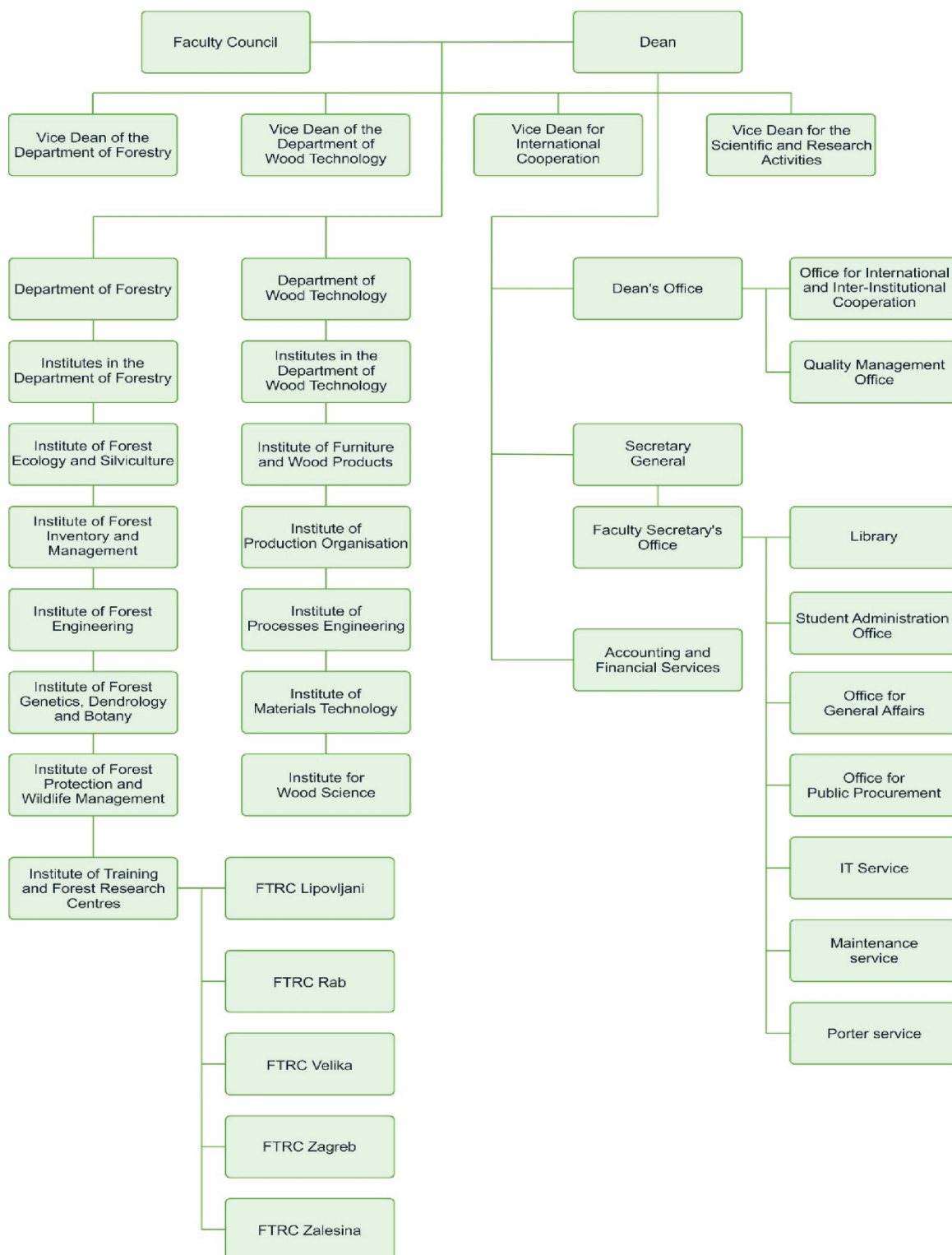
The Dean and the Faculty Council constitute the governing bodies of the Faculty. The Dean is assisted by four Vice Deans. The Dean's Board is a professional and advisory body convened by the Dean whenever necessary, and, in addition to the Dean, it is composed of Vice Deans and the Head of the Institute of NPŠOs.

The Faculty Council is a professional council of the Faculty with 45 members, namely:

1. the Faculty's Dean by function,
2. four Vice Deans by function,
3. 30 representatives of teachers elected to the scientific-teaching title, 15 from each department,
4. two representatives of associates elected to the associate title, one from each department,
5. seven students, three from each department, and one postgraduate doctoral student, and
6. one representative of other employees.

The members of the Faculty Council are elected for a term of two years and can be re-elected.

Source: English Self-evaluation, page 9



Source: Structure of the Faculty of Forestry, English Self-evaluation, page 8

STUDY PROGRAMS: Based on Self-evaluation report page 13 and Mozvag Directory of accredited study programs in the Republic of Croatia

No.	Name of the study program	Type of program	No. ECTS credits	*CQF Level
1.	Forestry (591)	Undergraduate university study program	180	6
2.	Urban Forestry, Nature Conservation and Environmental Protection (592)	Undergraduate university study program	180	6
3.	Wood Technology (593)	Undergraduate university study program	180	6
4.	Forestry (594)	Graduate university study program	120	7
5.	Urban Forestry, Nature Conservation and Environmental Protection (595)	Graduate university study program	120	7
6.	Design of Wood Products (596)	Graduate university study program	120	7
7.	Wood Technology Processes (597)	Graduate university study program	120	7
8.	Forestry (598)	Graduate university study program	120	7
9.	Organisation of Production (599)	Postgraduate specialist university study program	120	7
10.	Technology of Wood Materials (600)	Postgraduate specialist university study program	120	7
11.	Forest Management (601)	Postgraduate specialist university study program	120	7
12.	Ecological Landscaping, Protection of Nature and Horticulture (602)	Postgraduate specialist university study program	120	7
13.	Forest Roads (603)	Postgraduate specialist university study program	120	7
14.	Silviculture and Forest Establishment (604)	Postgraduate specialist university study program	120	7
15.	Forest Techniques and Technologies (605)	Postgraduate specialist university study program	120	7
16.	Forest Tree Breeding and Conservation of Forest Genetic Resources (606)	Postgraduate specialist university study program	120	7
17.	Hunting (607)	Postgraduate specialist university study program	120	7
18.	Wood Technology (611)	Professional undergraduate study program	120	6
19.	Forestry and Wood Technology (613)	Postgraduate (doctoral) university study program	180	8

NUMBER OF STUDENTS: Analytical supplement to Self-Evaluation, page 2, table 3.1. Number of students per study program for the current academic year

Study program name	Full-time students	Part-time students
Forestry (591)	246	0
Urban Forestry, Nature Conservation and Environmental Protection (592)	150	0
Wood Technology (593)	125	0
Forestry (594)	56	0
Urban Forestry, Nature Conservation and Environmental Protection (595)	51	0
Design of Wood Products (596)	21	0
Wood Technology Processes (597)	40	0
Forestry (598)	49	0
Organisation of Production (599)	1	0
Technology of Wood Materials (600)	0	0
Forest Management (601)	0	0
Ecological Landscaping, Protection of Nature and	7	0
Forest Roads (603)	1	0
Silviculture and Forest Establishment (604)	0	0
Forest Techniques and Technologies (605)	0	0
Forest Tree Breeding and Conservation of Forest Genetic	0	0
Hunting (607)	2	0
Wood Technology (611)	39	0
Forestry and Wood Technology (613)	26	0
Total	814	0

NUMBER OF TEACHERS: Analytical supplement to Self-evaluation, page 16, table 4.1.a Staff Structure - in the current academic year

Staff*	Full-time		Cumulative employment		External associates	
	Number	Average age	Number	Average age	Number	Average age
Full professors with tenure	31	56,97	-	-	-	-
Full professors	12	51,75	-	-	6	61,
Associate professors	12	45,75	-	-	5	49,67
Assistant professors	40	40,51	-	-	8	46,86
Scientific advisor (permanent)	-	-	-	-	-	-
Scientific advisor	-	-	-	-	-	-
Senior Research Associate	-	-	-	-	-	-
Research Associate	-	-	-	-	-	-
Teaching grades	2	49,5	-	-	3	49,33
Assistants	6	24,67	-	-	-	-
Postdoctoral researcher	11	35,27	-	-	-	-
Employees on projects	-	-	-	-	-	-
Expert assistants	21	36,27	-	-	-	-
Technical staff	20	47,85	-	-	-	-
Administrative staff	25	50,4	-	-	-	-
Supporting staff	37	46,17	-	-	-	-

* Classification according to the Act on Scientific Activity and Higher Education

SHORT DESCRIPTION OF THE EVALUATED HIGHER EDUCATION INSTITUTION

On 20 October 1898, within the framework of the then Faculty of Philosophy, University of Zagreb, the Academy of Forestry began its activity, and thus forestry teaching gained university status. Gradually, over a number of decades, the Academy of Forestry transformed into an independent and modern Faculty of Forestry as we know it today, recognized, acknowledged and respected in Croatia and in Europe.

At the beginning, the studies at the Academy of Forestry lasted three years and the Academy was closely linked to the Faculty of Philosophy, with the dean of the Faculty of Philosophy also being the dean of the Academy. Following the transition from three-year to four-year studies in 1908, the Academy became independent and elected its heads among the teachers of the Academy of Forestry.

In 1918, after WWI, Croatian forestry was in a rather difficult position. Political dependence on Austria and Hungary was broken up. Until then, forest management was in the hands of foreigners, and there were not enough qualified personnel in Croatia. Professors Andrija Petračić and Đuro Nenadić from the Academy of Forestry strongly advocated the need to train forestry experts with the highest qualifications at their own Faculty, and immediately took action to transform the Academy of Forestry into an independent department of a new Faculty.

On 31 August 1919, a decree was signed for the establishment of the Faculty of Agriculture and Forestry at the University of Zagreb. The Faculty of Agriculture and Forestry consisted of two departments: the Department of Agriculture and the Department of Forestry, and on 10 April 1920, the Council of Professors elected Professor Andrija Petračić, PhD, as the first dean. The period from the Faculty's foundation to 1941 was marked by the teaching, scientific and organizational growth of the Faculty.

During WWII, educational programs at the Faculty were gradually fading. After WWII, educational programs at the Faculty were quickly revived, and as early as in 1947, the curriculum and syllabus, as well as the structure of the Faculty, changed significantly.

Classes at the Forestry Department were divided into two majors: 1) the forestry-silviculture major called the »bio-logical major«; and 2) the forestry-industrial major called the »technical major«. The forestry-industrial major represented the beginnings of the current Wood Technology Department of the Faculty of Forestry, that is, the beginning of higher education for wood technology experts for the needs of the then very propulsive wood industry.

In 1951, a conference of forestry faculties, i. e. forestry departments of the former state, was held in Sarajevo. It was concluded that a forestry engineer should receive education in the biological, technical and economic-organizational field, and also that a special department for the education of wood industry experts should be introduced at one or two faculties. Therefore, the Forestry Department of the Faculty of Agriculture and

Forestry in Zagreb was divided into two departments in the academic year 1952/1953: 1) the Department of Forestry and 2) the Department of Wood Industry.

Due to the intensive development of all economic branches that started in 1945, and especially the development of agriculture and forestry, the need for the independence of agriculture and forestry higher education teaching at separate faculties became stronger. On 1 January 1960, both departments of the Faculty of Agriculture and Forestry became independent faculties. In 1960, the Faculty of Forestry of the University of Zagreb consisted of two departments: The Department of Forestry and the Department of Wood Industry.

The curriculum and syllabus, the manner and conditions for sitting the exams, the structure of the Faculty and the names of departments, etc., changed over the years. In the academic year 2005/2006, the Bologna process was introduced at the Faculty of Forestry of the University of Zagreb, and the Faculty has since been using the said new model.

Source: English Self-evaluation, page 7-8

BRIEF ANALYSIS OF THE INSTITUTIONAL ADVANTAGES AND DISADVANTAGES

ADVANTAGES OF THE INSTITUTION

1. Modern facilities, very good conditions for research and teaching,
2. Specialised research laboratories, two of them accredited,
3. Five training and research forest centres located in the most important climatic zones of the country, offering unique possibilities for experimental research and teaching activities,
4. Intensive research collaboration with industry,
5. Good study programs for Forestry and Wood Technology,
6. Well balanced ratio between teachers and students,
7. Students work in small groups in laboratories, which allows good learning outcome,
8. External stakeholder's engagement in different working groups for the improvement of study programs,
9. Library with the most important literature for students, and
10. High social relevance of scientific and professional research activities and transfer of knowledge at the regional and national level.

DISADVANTAGES OF THE INSTITUTION

1. The relatively low number of both scientific research articles in high quality international journals and international and national competitive research projects by the Faculty teachers,
2. Usage of mobility programs and sabbatical by teachers is minimal,
3. The lack of a systematic and transparent awarding system for achievements of teaching, supervision and research excellence,
4. Study program for Urban Forestry, Nature Conservation and Environmental Protection not regarded on the labour market (though on the international level it is unique),
5. Imbalance between teaching related work, scientific activities, professional and personal development and administrative duties of the Faculty teachers,
6. High percentage of students, who cancel their studies within first two semesters,
7. Number and content of specialised study programs on the post-graduate level does not meet the needs of students, and
8. Low visibility of the Office for International and Inter-Institutional Cooperation (full name) and its role for the students and teachers of the Faculty.

LIST OF INSTITUTIONAL GOOD PRACTICES

EXAMPLES OF GOOD PRACTICE

1. Study programs for Forestry are well-coordinated with the needs of the Croatian Forests Ltd,
2. Study programs for Wood Technology are in line with the national market needs,
3. Graduate study program for Urban Forestry, Nature Conservation and Environmental Protection on graduate level is unique among European forest faculties, and its role will be emphasized in the future if offering the courses in English, and
4. Faculty has high competence and strong scientific and professional research activities at the regional and national level.
5. Availability of five training and research forest centres under five different and relevant environmental conditions for the acquisition of practical experience during the studies and for research work,
6. Functions as editors and publishers of two international scientific journals, one for forest technology (WoS, Q1) and one for wood industry (WoS, Q3),
7. Quality day celebration with presentations of various achievements,
8. Students of design of wood products have developed, designed and built an e-learning classroom for their own for the sake of their study colleagues, and
9. Graduate and post graduate doctoral students are involved in scientific and professional projects and scientific and professional publications as co-authors.

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

A quality assurance system has been established, and its documents cover all faculty activities. The Faculty has adopted a quality assurance policy. A strategic plan for the next years has been developed. The Faculty uses various methods for collecting data of the quality. It prepares the annual quality system report. On the other hand, too many activities are planned on yearly bases, which are difficult to fulfil.

External stakeholders are also involved in different working groups for the improvement of study programs. Nevertheless, more effort is needed for the Urban Forestry, Nature Conservation and Environmental Protection study program to be satisfactorily recognized in the Croatian labour market.

Faculty has analysed the recommendations of previous evaluation, but not yet fully implemented them all. There is room for improvement, in order to make the Faculty one of the leading higher education institution in forestry sector internationally.

The Faculty contributes to public and local communities. It is involved in various social activities.

Recommendations for improvement

- Annual activity plans should be more realistic.
- All relevant information on important aspects of faculty activities should be equally presented in Croatian and English.

Quality grade

Satisfactory level of quality.

II. Study programs

Analysis

The study programs for Forestry and Wood Technology have been well constructed, and students have very good chances on the labour market. The learning outcomes are in line with academic demands and professional requirements. The study programmes are also internationally recognized. Feedback procedures provide evidence that intended

learning outcomes are achieved. Hints from stakeholders and other target groups have been used to monitor the success of the study programs.

The study program for Urban Forestry, Nature Conservation and Environmental Protection, instead, is not recognized on the Croatian labour market. Its education is seen to be too theoretical. Also, the title of study programme starting with wording “urban forestry” may give a wrong (too narrow) picture of the content of the study program, considering Croatian labour market. On the other hand, internationally this study program is unique.

Under the roof of Wood Technology an under-graduate professional study program has been delivered, which is not integrated into the consecutive study programs. Panel members doubt whether the teachers of the Faculty are the optimal choice for this target group, regarding their fields of expertise and already too high workload.

ECTS points are recognized in some cases not to represent well the realized workload. Between the courses there are significant differences of their workload that make any comparability difficult. A harmonization of the course layout appears advisable. This is particularly important when calculation average grades, in which the courses are included to the same extent without taking the various ECTS into account.

In some respects, all study programs tend to be a bit too theoretical due to the lack of practices (training).

Recommendations for improvement

- The Faculty should elaborate a profile, that makes forestry students, who passed the bachelor degree, attractive for the market outside state forestry.
- The name of the program of Urban Forestry, Nature Conservation and Environmental Protection should be revised to better reflect its content (qualifications) and to better meet the Croatian labour market needs.
- The practical skills on the use of software tools should be improved for the students of Urban Forestry, Nature Conservation and Environmental Protection.
- It is recommended to adapt the ECTS closer to the real workload and to harmonize the workload of different courses when possible.
- When calculation gradepoints, the courses should be weighted according to their ECTS.
- Facing the fact that teachers are very busy, the Faculty is asked to check whether the under-graduate professional programs for Wood Technology could better be educated by teachers out of the Faculty.

Quality grade

Satisfactory level of quality.

III. Teaching process and student support

Analysis

The information on student progress in the study program has been regularly collected and analysed. However, there is high percentage of out drops in first study year in all under-graduate programs, and especially in professional studies of Wood Technology. A better knowledge of the difficulties faced by many students would be achieved by applying a more versatile enquiry system. Practical classes in the bachelor program of Urban Forestry, Nature Conservation and Environmental Protection should be increased and practical (training) stages of minimum two weeks in companies should be ensured.

The activities of the International Office should be considerably increased and gained visibility. The financial system should be modified in the way, that students receive at least part of the mobility scholarship prior to and during their studies abroad, and not after they arrive home from abroad.

There is an insufficient international projection of the Faculty of Forestry mostly due a lack of teaching of courses in English. The Faculty has also only a few Erasmus bilateral agreements. The main recommendation is to teach the complete graduate program (Master) of Urban Forestry, Nature Conservation and Environmental Protection in English, for attracting more students also from other countries.

More efforts are needed to recognize the degree of Urban Forestry, Nature Conservation and Environmental Protection on the Croatian labour market and to stimulate the employability of undergraduates.

Recommendations for improvement

- For solving the gap after the first year of under-graduate programs, a better knowledge of the difficulties faced by many students should be achieved by applying every academic year an enquiry system for each course (and teacher).
- As Urban Forestry, Nature Conservation and Environmental Protection is a study program, which is offered seldom in other European Universities, it is recommended to offer it in English. This is expected to attract also many foreign students and increase the international visibility of the Faculty of Forestry.
- The International Office should gain more visibility and offer a better support for faculty students in terms of guidance and recommendations for mobility, including

available higher education institutes and their study programs abroad, and available financial support for the mobility by the faculty.

Quality grade

Satisfactory level of quality.

IV. Teaching and institutional capacities

Analysis

The number of the full-time teachers performing lectures and the ratio between students and teachers are adequate. However, some teachers have a too high overall workload. There is also obvious imbalance between teaching related work and scientific activities, professional and personal development and administrative duties of the Faculty teachers.

The teacher appointment procedure is prescribed by legislations and internal acts. The vacancies are properly advertised. The selection and the promotion of the teacher in higher grade are prescribed by the national minimum conditions for the area of biotechnical sciences. Systematic and transparent rewarding system of excellence and internal competitive criteria are not in use.

The University of Zagreb provides opportunities for improving teaching competences by organising workshops and seminars. Teachers have participated in international and national conferences and workshops, but they have not used mobility programs and sabbatical.

Faculty`s infrastructure is appropriate and satisfactory for the implementation of study programs and the research and professional activities. Further development is in line with the strategic goals. The Faculty has five training and research forest centres primary used for field classes. These centres are very well located throughout Croatia representing different forest ecosystems of Croatia.

The Library has the available literature and online access to publication resources is provided mostly by National and University Library in Zagreb and Ministry of Science and Education. Nevertheless, students are not completely satisfied with their library resources. Space and equipment do not meet the conditions for a high quality of study activities.

Recommendations for improvement

- Teacher's too high workload should be reduced ensured sufficient balance between teaching related work, and scientific activities, professional and personal development and administrative duties
- The library should have adequate space and sufficient number of modern computer etc facilities for the studies of the faculty students.
- Additional, excellence rewarding criteria for the promotion of the teachers should be developed.
- Teachers, assistants, Post Doc researchers and PhD students should use the opportunity of mobility programs.

Quality grade

Satisfactory level of quality.

V. Scientific/artistic activity

Analysis

The scientific research at the Faculty of Forestry falls within the area of biotechnology sciences, the fields of Forestry and Wood Technology. The Faculty has numerous laboratories (of which two have been accredited), and five training and research forest centres in the most important climatic zones of the country, providing unique possibilities for experimental research. Graduate and PhD students have been involved in scientific and professional projects.

The number of different kinds of scientific and professional activities by the Faculty teachers have been well recognized especially at the regional and national level. However, the average scientific performance of the Faculty teachers is relatively low, in terms of number and quality of research articles in international (WoS) journals, and the number of international and national competitive research projects. On the other hand, the Faculty teachers have strong research collaboration with industry. The strong stakeholder interaction and research collaboration activities with several stakeholders in forestry and wood technology have also high social relevance both regionally and nationally. The development of international research excellence may have been hindered by the lack of competitive research projects, and by inadequate support and systematics of an awarding system for research excellence.

Recommendations for improvement

- The Faculty is recommended to further develop its research strategy with the vision and research priority areas as well as its implementation plan.

- The Faculty is recommended to ensure enough working time for the teachers for their scientific activities (incl. acquisition of competitive research funding), to improve internationally the scientific impact and social relevance of research, and transfer of knowledge.
- The Faculty is recommended to encourage and support teachers and younger researchers (Post docs and PhD students) to increase the number of scientific papers in top level international scientific journals (WoS, Q1) with researchers from abroad.
- Interdisciplinarity in research (and teaching) activities is recommended to be increased at the Faculty, in order to tackle internationally and nationally relevant and timely multidisciplinary challenges and to attract more competitive research funding.
- Recruiting processes for teachers and younger researchers (Post docs and, PhD students) are recommended to be developed to increase competition, and to hire internationally recognised teachers (part-time professors or alike) for Faculty positions.
- A transparent and systematic awarding system for achievements of research excellence is recommended to be established.

Quality grade

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

The faculty has established an internal quality system. The quality management office is obliged to organize its implementation. They have made all necessary documentation like quality assurance policy and development strategy which includes action plan for the period of 5 years.

According to the self-evaluation report the Quality Management Commission consists of six professors from different departments, 2 students and 2 external stakeholders (two alumni from relevant companies), one member from joint services and the head of the integrated quality and environmental management systems. External stakeholders (alumni) are also involved in different working groups for the improvement of study programs to compile with market needs.

The unit for internal quality assurance prepares an action plan with more than 70 activities. The Faculty collects and analyses data on all activities and prepares the annual quality system report. However, this plan seems to be too ambitious so that the fulfilment of all planned activities is not possible within a one-year period.

Within the Quality Management System, data from online student surveys have been statistically analysed. But the analyse of the university student survey on three years bases using the pencil-paper method has not been developed yet which would improve the efficiency of internal quality system unit. Furthermore, upon completion of undergraduate or graduate studies, students fill out a survey questionnaire for the evaluation of the total study program.

Furthermore, the quality of teaching of post-doctoral students has also been monitored though the surveys. According to the self-evaluation report the data on the quality of the teaching process of post-doctoral students are systematically collected for each teaching unit per year, within the context of lectures and in agreement with the holder of the course.

Each year, a Quality Day is celebrated as an example of good practice.

Recommendations for improvement

- To make the quality assurance system more user-friendly.
- To reduce the number of yearly planned activities of the action plan in order to be able to cope well with all planned activities.
- To form one unique database with all collected data.

Quality grade

Satisfactory level of quality.

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

Analysis

Faculty has analysed the recommendations of previous evaluation in 2013. Action plan and the reports on its implementation has been done.

The working group for the revision of post-graduate specialist studies programs was appointed. The analyses of the working group results in a reduction of nine postgraduate studies which should be reduced to fewer specialist studies. The duration of the study programmes has been adapted, too. Furthermore, in accordance with the recommendations of previous evaluation and the adopted Action Plan, The Fund for International and Interinstitutional Collaboration has been activated, a bilingual website of the doctoral studies has been created, a Doctoral Dissertation Day was organized, etc.

However, there are still a lot of recommendations, which have not yet been implemented or are still in the progress of implementation. For example, the database for gathering all collected data has not been developed, graduates in Urban Forestry, Nature Conservation and Environmental Protection are not recognized in Croatian market, systematic monitoring of the balance between teaching, research and administrative work is not induced, English courses are organized only when needed, although there is an evident need of English courses especially in Urban Forestry, Nature Conservation and Environmental Protection study program etc.

Recommendations for improvement

- To adopt and work on majority of recommendations inside adopted strategic plan for the period 2018-2023.

- To reduce the number of activities in annual action plan to a level that can be achieved in that period, concentrating on the most important and relevant actions according to recommendations.
- More courses of international importance in English would help the institution to become the leading Forest Faculty in the region.

Quality grade

Minimum level of quality.

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

Analysis

The academic integrity and freedom are endorsed by the faculty. The Code of Ethics of the University of Zagreb has been implemented on the level of Faculty. Mechanisms for preventing unethical behaviour, intolerance and discrimination are established.

For managing any conflicts and resolving irregularities, the Ethics Commission has been appointed. There is only one example of unethical behaviour that has been processed by the Croatian Scientific Foundation.

Students' thesis as well as journal articles are not generally checked for plagiarism. According to self-evaluation report and additional confirmations, teachers sometime use available free software packages, such as Plagiarism Checker, Viper, and the Anti-Plagiarism Scanner, to detect plagiarism, but in most cases trust on their own overview over the relevant literature.

Recommendations for improvement

- To put more effort on engagement in preventing plagiarism and academic cheating.

Quality grade

Satisfactory 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

The information of study programs, enrolment quotas, facilities etc. is publicly available in the Croatian language. The English version, instead, has not all necessary information. The Faculty has established the office for international and inter-institutional cooperation. The office has organized workshops for students to introduce them to their activities. Nevertheless, students do not know enough about the existence and purpose of this office.

The Faculty informs stakeholders about the study programs, admission criteria, the data on graduate employment, outcomes of previous evaluations etc. However, the step forward to a public recognition of the absolvents of the master program for Urban Forestry, Nature Conservation and Environmental Protection is very low. There is no evidence of achievements since the last re-accreditation cycle.

The Faculty organises and participates in activities such as open days, scientific picnic and Ambienta, an international fair, which is organized by Zagreb fair. The Faculty has also been present in various media events by radio and print media.

Recommendations for improvement

- To prepare English webpages of the Faculty with informations that are identical to those on the Croatian webpage.
- To work on the visibility of the office for international and inter-institutional cooperation for the students.

Quality grade

Minimum level of quality.

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

Analysis

There is an evidence of a contribution to the development of the economy. With the economic sector a dense collaboration is established by professional development projects, trainings of students and PhD-students, which is important for the sector. Furthermore, the department of Wood Technology contributes to the wood companies,

which play an important role in the Croatian economy with its two accredited and referenced laboratories.

Recommendations for improvement

- To increase the collaboration with society, official partners and NGOs

Quality grade

Satisfactory level of quality.

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

Analysis

Following the information from self-evaluation report, the lifelong learning activities are mostly related to the program of the Croatian Chamber of Forestry and Wood Technology Engineers, while the Faculty for its own does not deliver any syllabus for lifelong learning.

In the professional training programs for lifelong learning, which is organized by the Croatian Chamber of Forestry and Wood Technology Engineers, the Faculty is involved.

Aside this, several contributions to public and local communities are made by voluntary works on different projects all over Croatia like – for example - tree planting in the city of Osijek.

Recommendations for improvement

None.

Quality grade

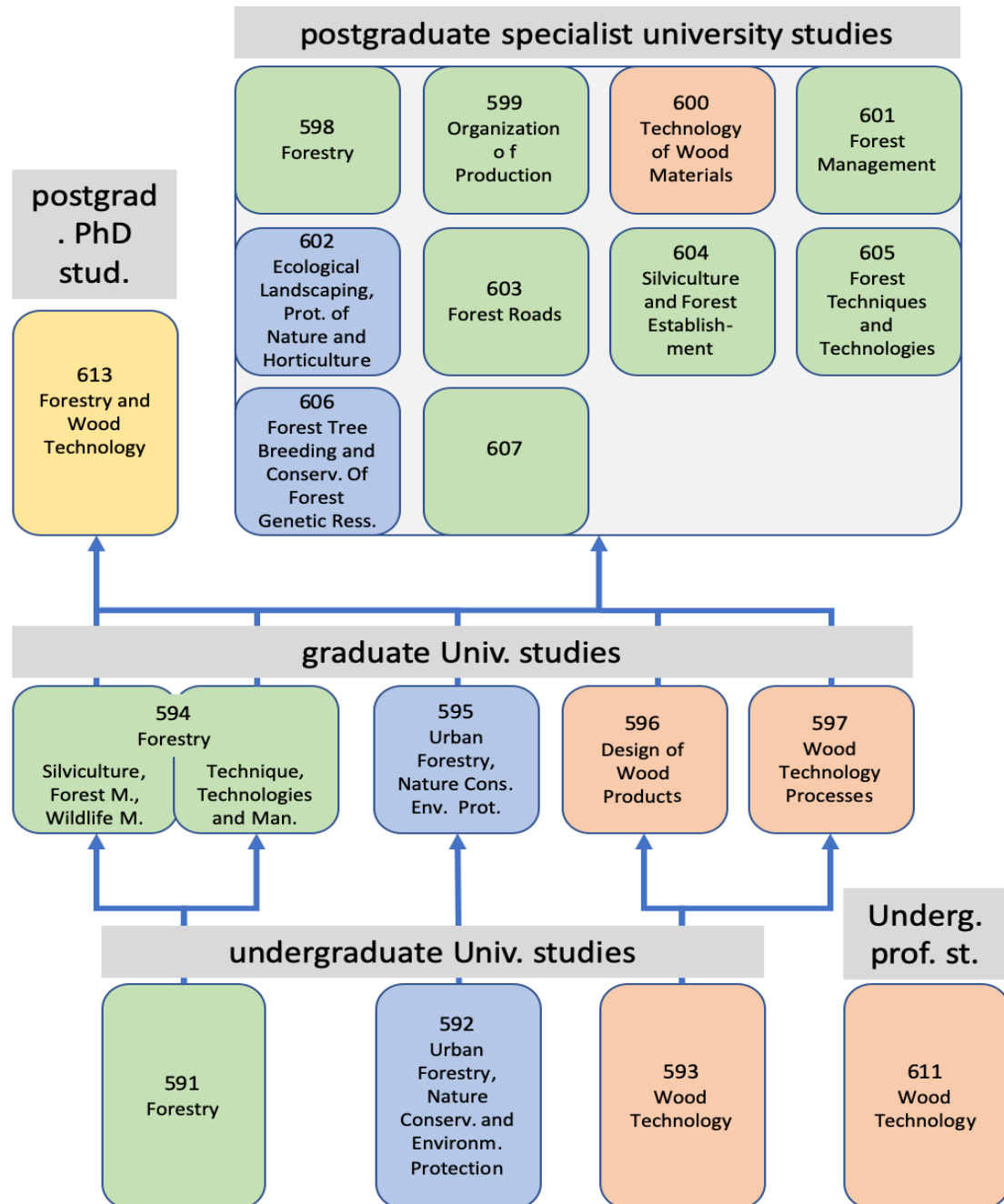
Not applicable.

II. Study programs

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

Analysis

The Faculty has developed several study programs, which cannot be regarded as equal. Therefore, this standard should be checked depending on each particular study program (see fig. below).



The study programs for Forestry follow up the 3-2-2 or 3-2-3 strategy, beginning with under-graduate university studies with bachelor degree (No. 591) over graduate university studies on master degree with two different profiles (No. 594) leading to two post-graduate studies, one of them for doctoral degree (No. 613, 3 years) and seven programs for specialist studies (No. 598, 599, 601, 603-605, 607, 2 years). Based on the former diploma-program these studies are well in line with the mission and strategic goals of higher education institutions.

Due to traditional roles in forestry and distribution of ownership in forestry the private sector is not as much addressed by the study programs. Stakeholders have made plausible that knowledge on economy and management of private companies is underdeveloped. But this seems to be the only shortcoming, in total the studies are fine shaped regarding social and economic needs of the state and its forests. This is the reason why the master and postdoc professionals are good employed on the national market.

This – however – cannot be stated for the under-graduate level. Students on that level have no chance on national market nor in state forest positions neither in private employment because the skills and knowledge of this educational level is not recognized in the public. Consequently, nearly every bachelor absolvent enrolls for graduate studies in order to reach the graduate level, which is well known and accepted by the Croatian Chamber of Forestry and Wood Technology Engineers.

According to Analytic supplement to Self Evaluation report, table 3.3. Structure of enrolled students and interest in graduate and postgraduate programmes in the current and last two academic years – only one of the post-graduate specialist studies is filled up with an appropriate number of students, while the other studies are not demanded at all or have as maximum 2 students. The Faculty evidently has reacted and plans to reduce the number of special studies radically.

Though the undergraduate and graduate study programs for Urban Forestry, Nature Conservation and Environmental Protection are subordinated to Forestry, their learning outcomes are very different from those of Forestry and they should therefore be regarded separately. Here, too, one under-graduate university study program (No. 592, 3 years) is followed by a graduate university study program (No. 595, 2 years), from which the student can voluntarily chose between a doctorate study (No. 613, 3 years) or two post-graduate specialist studies (No. 602 and 606, 2 years; No. 606 is not mentioned in the full text of the self-evaluation, but listed in MOZVAG analytics table 3.1).

These study programs evidently are also in line with the mission and strategic goals of higher education institutions. But they are not recognized nor by the local economy neither by the State Forest Ltd. and currently have not obtained the authorization by the Croatian Chamber of Forestry and Wood Technology. This means that since a couple of years a high number of alumni have reached their degree without a real chance to work in their own field in Croatia. This is regrettable, because the members of the panel regard these study programs as unique on international European level, producing competitive professionals for international markets without comparable study programs at other universities.

On the university level the studies for Wood Technology are organized with one undergraduate study (No. 593, 3 years) and two different graduate studies (No. 596 and 597, 2 years), from which one is more technical oriented while the other deals more with wood design. Following up students can voluntarily choose a doctoral study (No. 613, 3 years) or a postgraduate specialist study (No. 600, 2 years). These studies are in line with the mission and strategic goals of higher education institutions. The absolvents are listed by the Croatian Chamber of Forestry and Wood Technology, have apparently good chances on the local market and are highly regarded as young academics in international context.

In addition, the Faculty offers one program for under-graduate professional studies (No. 611, 3 years). The table of learning contents discloses, that this program absolutely is not in line with the mission and standards of a higher education institution. Though the students are highly demanded in the society and economy it is doubtful whether teachers on an academic level with their specific knowledge on research and teaching of future officers really fit well to the more practical needs of this target group.

Recommendations for improvement

- The absolvents of the under-graduate Forestry studies evidently are well educated for lower grade management tasks in forests. While specialists on this level are currently not demanded by the state forests and are not listed by the corresponding Chamber, the Faculty should work out, whether bachelor absolvents can be appropriate professionals for the needs of private forests or associations in this field. Herewith it can be more attractive for a student to finish its under-graduate study and to look for a job on this level.
- While the Faculty cannot take the responsibility for students who have no chance on the market, it strongly needs to find a solution for the students of the study programme for Urban Forestry, Nature Conservation and Environmental Protection, especially on graduate level. The panel members have the impression that this study program is so valuable and unique, that it should be further developed towards a third stable and attractive pillow of the key study programs of the Faculty.

- The number of post-graduate specialist studies should radically be reduced. Apparently, one study program with focus on forestry (No. 598) and one on Wood Technology (No. 600) will fulfil the demand of the students and the market. In order to improve the flexibility to react on actual developments or allow a certain specialisation, a bigger range of eligible courses can be added to a main body of obligatory courses, which should not cover more than 90 ECTS.
- The Faculty should consider, whether a university with its academic staff should teach students of under-graduate professional studies on Wood Technology. Though there is a real need in the industry, which has to be fulfilled, and though the pure number of students is attractive for the Faculty, this engagement takes a high amount of energy and time from other undergraduate and graduate teaching and research activities, while the required learning outcome may be reached by practitioners with their daily skills (also with lower cost) and organized on local level.

Quality grade

Minimum level of quality.

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

Analysis

According to Analytic supplement to Self Evaluation report, table 2.1 Learning outcomes at the level of the study programme for the current academic year the learning outcomes of all study programs are listed. It can be stated that they are clearly defined and aligned with the mission and goals of the Faculty. The Faculty checks frequently by workshops that the learning outcomes of courses are aligned with the appropriate program. Two projects have been run on the subject to check, whether the learning outcomes are aligned with the CroQF and EQF level descriptors:

1. IPA-project “Development of Higher Education Qualification Standards and Study Programs based in the CROQF for the Sector of Industrial Wood Processing”
2. ESF-project “Improvement of study programs in the biotechnical field according to the principles of the CROQF” with a specific part for the Faculty of Forestry.

With a long tradition the study programs are in line with professional requirements and internationally recognized professional standards. Workshops and other feedback tools are used to ensure that the program is up to date.

Most programs on graduate level reflect that the competences are required for employment on one hand and for continuing education on post-graduate level. Under-graduate studies also are developed to fulfil the demands of society and markets, but they are barely recognized. The consequence is, that students who have passed exams on under-graduate level, in most cases start on graduate level in order to assure the gained qualification by consecutive studies. This is not in line with the aims of the European Bologna process.

A severe exception is the study program for Urban Forestry, Nature Conservation and Environmental Protection. Here the student has nearly no chance to be employed with the result, that the students dare to lose valuable years of their life. The reason is that the Croatian society does not recognize the contents and societal significance of this well organized and valuable qualification. This can have two reasons:

1. While the study program for Urban Forestry, Nature Conservation and Environmental Protection is quite young, society might not have the chance to recognize its value und significance. This is mirrored by the fact, that the Croatian Chamber of Forestry and Wood Technology Engineers not yet has decided to obtain the studies. In this case efforts of the Faculty to increase the visibility of this study program can be helpful.
2. Another reason can be seen in the name of the study program. It is not only long and cumbersome to understand and remember but may consternate the target group. Taking into account that the focus of this study lays on nature conservation and environmental protection in urban context, the term “urban forestry” can be misunderstood by those officers and decision makers, who worry about their environment and rarely will commit it to anybody who is under the cloud mainly to maximize the economic income like it can be suggested by the word forestry.

On the other hand, this study program stands alone and seeks for competing programs world-wide. This unique selling point is not elaborated, because the study program is delivered in Croatian language. If the total study (under-graduate and graduate study) or at least the study on graduate level would generally only be delivered in English, it could attract students from abroad. In addition, the employability of the Croatian students of this study program would expand to the European level and moreover.

Recommendations for improvement

- The panel members strongly recommend changing the general language of the study programs for Urban Forestry, Nature Conservation and Environmental Protection to English. This can be done on both levels, under-graduate and graduate, but should be done without exception on the graduate level.
- It is recommended to look for a shorter and more pregnant name of the study program for Urban Forestry, Nature Conservation and Environmental Protection, which does not accentuate the origin of forestry because it can be misunderstood by the target group.

Quality grade

Satisfactory level of quality.

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

Analysis

There are different ways, how the Faculty ensures the achievement of intended learning outcomes of the study programs it delivers:

1. Each teacher gets a permanent feedback from the students during the lessons and at the end of semester. This is not formalized and depends on the correlation between the acting persons.
2. Normally a formalized feedback should be given by the participants on courses each semester. But this feedback tool is poorly used because it is organized online and demands an additional effort for the students.
3. When a student has finished his study program, he is asked to assess the courses and teachers. This feedback tool is used intensively, but the participants complain that it is too voluminous. Apparently, there is no procedure by which this tool is evaluated and used to modify the study program.
4. In addition, several meetings, workshops, discussions with employers etc. are used to receive a permanent feedback on the outcome of the study programs.

The outcome of the teaching process can be proved by written products like tests, seminar papers, bachelor and master theses and dissertations. The few tests, that have been checked, show an appropriate academic level. Master theses and dissertations apparently are in line with international standards, both in formal dimensions as also in academic quality. But the bachelor theses have a very low standard, which remembers more to a seminar paper and goes along with an extreme low amount of ECTS-points.

This is not in line with the Bologna-Standards where the bachelor-theses is regarded as a first scientific monography by which the student can make some experiences on the field of scientific research work.

Recommendations for improvement

- At the end of each course a short offline feedback should be asked from each student that points out the average workload per week or in the semester, positive comments as well as things to improve and suggestions.
- The Faculty should evaluate these feedback-sheets in a short period that the teacher can mirror the feedback to the students.
- The weight of bachelor theses should be increased together with enhanced demands of the formal and academic contents.

Quality grade

Satisfactory 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 programs, and revising or closing the existing programs

Analysis

In the self-report the Faculty gives some examples on the permanent process of improvement of its study programs. There the involvement of stakeholders in workshops and other meetings can be seen. Extraordinary roles have played two projects, one dealing with the study programs for Wood Technology (IPA-project "Development of Higher Education Qualification Standards and Study Programs based in the CROQF for the Sector of Industrial Wood Processing") und one for the study programs of Forestry (ESF-project "Improvement of study programs in the biotechnical field according to the principles of the CROQF").

Apparently, the participation of stakeholders and other important groups has missed, when the Faculty developed and installed the study programs for Urban Forestry, Nature Conservation and Environmental Protection. This results in a lack of recognition and several appeals from the side of the students.

The up-to-date versions of study programs are published, and the changes are recorded. While in the University no comparable study programs are delivered, any justification for the necessity of the study programs is obsolete.

Recommendations for improvement

- As the study program for Urban Forestry, Nature Conservation and Environmental Protection needs to be improved and modified, a systematic feedback process including students, employers, alumni, professional organisations as well as non-government-organisations should be organized to prepare a transparent and constructive change process.

Quality grade

Satisfactory level of quality.

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

Analysis

In the self-analysis the authors have already stated that the ECTS-credits are not in accordance to the realistic workload of an average student. This assessment could be approved during the meetings with different target groups, pointing out that the workload varies much between different types of classes and need of homework.

When – as seen in some programs – the workload varies much, it is not fair to weight the outcoming notes on an equal level. Instead it seems fairer to the students to weight the notes with the corresponding workload in order to highlight the outcome of heavy courses more than that from a light course.

Recommendations for improvement

- The panel members appreciate the suggestion given in the self-evaluation to evaluate the workload of the students under the supervision of the Vice-Dean for Education in order to adjust the ECTS points to the realistic workload.
- Members recommend avoiding and, if necessary, reducing large fluctuations in the workload between courses.
- It is recommended to base the amount of ECTS even more closely on the real workload of a course.
- When calculating grade points, courses should be weighted according to their workload

Quality grade

Minimum level of quality.

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

Analysis

In the self-evaluation some common features to practice in the study programs of the Faculty are described. The panel members appreciate that the Faculty has paid a lot of attentiveness to improve laboratories, botanical gardens, e-learning lab etc. in order to ease obtaining personnel insights and haptic skills. In all study programs practice blocks form an integral part of the study programs. But in most cases, they are organized inside the range of the higher education institution and don't fulfil the attribute to be organized outside higher education institution in cooperation with the labor market.

Beyond these common attributes, every study program has some specialties concerning the organization and framework of student practices.

The study programs for Forestry enjoy the advantage to have at their disposal five teaching and experimental forest areas with about 3600 ha of forests and forest lands in different relevant ecosystems, where students find enough capacities to stay overnight. Here teaching can be organized directly at the object to obtain multidimensional insights. But in the study program no space is reserved for any expertise obtained outside the range of the Faculty directly in the state forest or a private forest organization. Practice like this in the setting of real working situations provides an irreplaceable insight to real life situations which occur regularly on the work site.

With study programs for Urban Forestry, Nature Conservation and Environmental Protection "practice" also includes the work with software tools for planning and presentation. Concerning to complaints of students these important tools are mainly presented without getting the chance to obtain skills on their own and explore the potential of the tools. In this field, too, some weeks under the guidance of private companies or state organizations could deliver valuable insights to the student and – along the way – improve the visibility of this study program to the local economy and labor market.

In the field of Wood Technology practical work is integrated in a comparable high percentage. During cooperation with companies the student will also get enough insights to the daily work situations.

The under-graduate professional study program on Wood Technology is the only study program that integrates a real practice of 270 hours in a company outside the range of the Faculty. Due to well elaborated rules this practice is carried out in a systematic and responsible manner, ensuring the achievement of intended learning outcome.

Recommendations for improvement

- In order to get insights to real working situations it is recommended to integrate some weeks of practice work in a field outside the range of the Faculty with offering an appropriate sum of ECTS points. For the regularities to carry it out in a responsible manner the rules for the professional study program can serve as a rough blueprint.
- In case of Urban Forestry, Nature Conservation and Environmental Protection, the students need to get access to modern and high-end software tools, where they get the chance to develop real professional skills.

Quality grade

Minimum 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 program, clearly defined, published and consistently applied

Analysis

The criteria for admission and continuation are clear. The enrolment procedure and quotas for each under-graduate and graduate program are published on the Faculty website. Immediately after admission, students are provided with a booklet with the list of all courses they have been enrolled in.

The criteria are applied, but not every accepted candidate in the under-graduate programs has enough prior knowledge, and therefore many of them are not able to pass after the first year of study or require more than 3 years for finalising their studies. A transfer from other related faculties is possible and seems not to be a problem for the transferring students.

As stated above, the number of out-drops under-graduate level is high. This is also reflected in the students' satisfaction with the study program, which in some cases is rather low, e.g. students at the professional level of Wood Technology and students of Urban Forestry. However, in this latter case the dissatisfaction of the students is related more to the employability than to the difficulty of the studies itself.

Recommendations for improvement

- For improving the level of future students, grades obtained in biology or similar subjects during high school may be included as elective course that would provide an additional instrument for selection of those, who are truly interested in Forestry and Urban Forestry under-graduate programs.

Quality grade

Satisfactory 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

There is sufficient information on the student progress, as shown by the evidence summarised in Tables 3.4 and 3.5 of the Analytic Supplement to Self Evaluation Report. To increase the pass rate, which is rather low from first to second year of study at the undergraduate level, some actions have been undertaken by the Faculty, such as offering optional or elective courses, which would insure more flexibility according to the interest of students for some specific subjects. A mentoring programme is also organized by the faculty and students have a direct contact with their teachers to solve doubts related to the study subjects. The schedule of examination periods is provided from the beginning of the academic year, and therefore students have the possibility to better organize their time.

Although students enrolled in the masters programs have a good performance, the weak point is the high number of out drops after the first year in all under-graduate programs, but especially in Urban Forestry and professional studies of Wood Technology. Only a few students of all study programmes fulfil 60 ECTS in the first year and none from Urban Forestry, and the majority achieve less than 30 credits in the first year of study, as can be seen in Table 3.4 of the Analytic Supplement to Self Evaluation Report. The average duration of studying is higher than 3 years in all undergraduates programmes, as reflected in Table 3.5.

However, most students, who have completed their under-graduate studies at the Faculty of Forestry, enrol in graduate programs, where they have a good performance, as reflected by the data provided.

Recommendations for improvement

- For solving the dropping out of studies after the first year of under-graduate programs, a better knowledge of the difficulties faced by many students would be achieved by applying every academic year an enquiry system for each course and each professor, which is more versatile. We strongly recommend using this system at all levels, including graduate programs, for a better feedback by the students.
- We recommend stimulating the participation to enquiries, either by performing them during classes or, if on-line, by providing a certificate of fulfilment of the questionnaire, that could be required for the immatriculation for the following academic course.
- In case of courses that are considered to be difficult by the students, the credit points should be adapted to the higher workload. More ECTS credits could be assigned to difficult subjects, such as Botany in the Forestry programme, so students would be

more motivated feeling a better compensation for their effort. Another possibility of increasing the passing rate is splitting of such difficult subjects with a high workload, for example Botany I in the winter semester and Botany II in the summer semester.

Quality grade

Satisfactory level of quality.

3.3. The higher education institution ensures student-centred learning

Analysis

The teaching methods used are satisfactory, including classical teaching, e-learning, individual consultations, project work, laboratory classes and field/practical work. However, students from Urban Forestry, Nature Conservation and Environmental Protection receive only few laboratory classes and field trips. Practical work in companies are formalised only in the under-graduate program at professional level in Wood Technology. Modern teaching technologies are implemented in many subjects, such as multimedia use, e-learning, project work and seminars.

Teachers are committed and motivate their students, especially in the graduate programs.

Many teachers promote e-learning, for example at the Faculty of Forestry 415 of all courses are open e-courses, very advantageous for students. They are also involved in students association programmes and stimulate students' participation in research activities.

Available and committed teachers contribute to the motivation of students and their engagement. The higher education institution encourages autonomy and responsibility of students. As can be understood from student's enquiries "free thinking", autonomy and responsibility are encouraged.

Students do not have obligatory professional practice in companies.

Recommendations for improvement

- The number of practical courses in the bachelor program of Urban Forestry, Nature Conservation and Environmental Protection should be increased. More laboratory lessons and field trips would be appreciated by the students.
- Introduce obligatory professional practice in companies for a minimum of two weeks in all under-graduate study programs.

- There are no options to include in the study programs those students, who are forced to work. This should be considered, especially for master students, either by concentrating the classes in blocks or by ensuring alternative evaluation for such students.

Quality grade

Satisfactory level of quality.

3.4. The higher education institution ensures adequate student support

Analysis

The Faculty created a Student Administration Office, and first year students have selected mentors under senior students. There is a teacher who is coordinator of students with disabilities or other students from vulnerable groups, and there is a good coordination with the University of Zagreb for adjusting teaching methods and evaluation to their needs. There is also, in general, a good communication between teachers and students regarding their needs.

However, students are highly dissatisfied regarding the support for outgoing mobilities and practice in companies. Many students do not even know that there is an International Office at the Faculty. Information about Erasmus programs were merely given by some of the teachers. They also feel lost when they tried to learn from practice for example in private companies. In many occasions, they were forced to find the placements by their own without the support of the Faculty.

There is no structure of the type of a Career Centre to guide students regarding employment opportunities after graduating.

Recommendations for improvement

- Only in the professional under-graduate study of Wood Technology practical studies in companies are formalised and included in the study program; we suggest extending this to all other under-graduate programs. The Faculty should establish contracts with companies, where students may perform the obligatory professional practice.
- A better career guidance would be helpful especially for students from Urban Forestry, Nature Conservation and Environmental Protection. The establishment of a Career Guidance Office at the Faculty would increase the students' confidence in their employability.

Quality grade

Minimum level of quality.

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

Analysis

The needs of students with physical handicaps and special learning disabilities are attended. Access to the Faculty by ramps and special parking places are insured. The higher education institution invests resources in the support to students from vulnerable and under-represented groups.

Students with economic needs are supported by the Faculty by reducing taxes in some specific situations, when they do not pass the examinations, or even by providing some of them with laptops. Pregnant students or students with children can suspend their activity up to one year using maternity/paternity leave.

Recommendations for improvement

- Mentoring of each student from the vulnerable and underrepresented group by senior students or young teacher assistants would help handling personal issues that may interfere with the activity of these students at the Faculty.

Quality grade

Satisfactory level of quality.

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

Analysis

Although there is an Office for International and Inter-Institutional Cooperation, which is in charge to inform the students about mobility programs, its activity is not sufficiently known under the students. Many students are not aware that such an office even exists at the Faculty. Instead they try to get any information about mobility programs mainly from some of their teachers. Therefore, the number of outgoing students is extremely low.

The Faculty encourages learning of foreign languages, English and German are offered in the first years of study. Nevertheless, the willingness to study abroad is not only limited by the lack of ability to speak a foreign language. Uncertainties regarding the validation of exams and recognitions of ECTS credits and the lack of support when choosing study programs in other universities diminish the interest of students in studying abroad. An additional problem is that students receive the financing for their Erasmus mobilities

not earlier than their return at home. Therefore, students from families with lower income are excluded from these mobility programs.

Recommendations for improvement

- The International Office should gain more visibility and offer a better support to students in terms of recommendations and guidance when choosing destinations and study programs.
- The results obtained in other universities should be validated with similar subjects at the Faculty of Forestry and ECTS credits recognized.
- The financial system should be modified, and students should receive at least part of the mobility scholarship prior to their studies and during their study abroad, and not only at the end.
- The competences required by the international market are fulfilled by the study programs of the Faculty, but some students had to organize by themselves a stage abroad. This should also be supported and formalized at the Faculty level.

Quality grade

Minimum level of quality.

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

Analysis

Information on the opportunities for enrolment and study is available to foreign students in a foreign language. The higher education institution provides support to foreign students in enrolment and study at the Croatian higher education institution.

Although there is an offer, that courses for foreign students should be given in English, due to the small number of foreign students in practice this is converted in individual consultations, exercises, and examinations in English without intercorrelation to the Croatian courses. The entire course delivered in English for such a reduced number of students is not sustainable.

Incoming foreign students, who wish to learn Croatian, have the possibility to enrol to courses of Croatian for foreigners at the University of Zagreb. There is only a very low number of incoming students via Erasmus or other programs. There are no foreign students who study an entire program at the Faculty of Forestry because there is no such option.

In total, there is an insufficient international projection of the Faculty. There are only few Erasmus bilateral agreements, which limit not only the number of outgoing but also of incoming students. Foreign students attend usually only one semester and there are no foreign students enrolled in a complete program.

Recommendations for improvement

- Due to the good level of English of many teachers and the interest of own national students to have the choice to attend classes in English, several courses could be offered in English, especially at the graduate level.
- As Urban Forestry, Nature Conservation and Environmental Protection is a degree that is offered in only relatively few European Universities, we recommend turning the whole study program of the master into English. We expect that this step would attract many foreign students and would definitely increase the international projection of the Faculty of Forestry.
- Introduce additional workshops (which can be conducted by students from other faculties) in English for local and foreign forestry students to increase the knowledge of both languages.

Quality grade

Minimum level of quality.

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

Analysis

The criteria and methods for evaluation and grading are aligned with the teaching methods. Assessment methods and criteria are clear and accessible. The assessment methods and grades are transparent for students, as they are published on the faculty website. Students are introduced to the assessment criteria before taking classes and the professors present the evaluation criteria in the lecture. There are various methods of assessment, such as midterm examinations, seminars, homework, written exams, oral exams, etc. Written exam results are published on ISVU and Merlin platform where students have free access. Students with disabilities and students with speech or reading difficulties have written decisions about the need to exam adjustments. The results of written and oral exams are public to increase the objectivity of the evaluation.

The students have the right to appeal the grade within 24 hours of the announcement of the grading. Upon receipt of the request, the Teachers Committee is appointed by the Dean and the examination must be held within 3 working days. The

teaching committee has three members, and the chairman of the committee cannot be the head of the subject, who has previously evaluated the student from that subject.

The faculty conducts student surveys that are not obligatory for students and not frequent enough because, as shown by the low student turnout for student surveys.

Recommendations for improvement

- The student appeal procedure should be extended to different issues and not limited to the fact of dissatisfaction with the scores received.
- The Faculty should activate a protocol for solving different conflicts, even though, in its long experience, it had faced very few formal conflicts.
- A Commission that is responsible for appeals should be appointed for every study program, including both teachers and students' delegates.
- Surveys regarding students' satisfaction with the evaluation methods should be optimized. For increasing the participation in such surveys, a possibility is to perform them during classes at the end of each subject, and not on-line.

Quality grade

Satisfactory level of quality.

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

Analysis

Upon the completion of their studies, students are issued appropriate documents (diploma and Diploma Supplement). Diploma and Diploma Supplements are issued in accordance with relevant regulations. The higher education institution issues the Diploma Supplement in Croatian and English, free of charge.

Recommendations for improvement

- None.

Quality grade

High level of quality.

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

Analysis

The Faculty analyses the employability of their graduates, but the presented data are insufficient. There is the intention to align quotas with the demands of the market, but this is not achieved for under-graduate students and in case of Urban Forestry, at both study levels. Practically all students, who finalize the under-graduate level, continue with the study on master's degree instead of being partly integrated to the labour market as recommended by the Bologna agreement. A problem of employability was detected also for graduate students of Urban Forestry, Natural Conservation and Environmental Protection.

The Faculty has contacts with stakeholders and alumni. An alumni club of the Faculty has been in progress of being established for the last five years, but it is not yet achieved.

Recommendations for improvement

- It would be recommended to have more detailed information of the employability of graduates.
- Much more efforts are needed to recognize the degree of U Urban Forestry, Nature Conservation and Environmental Protection on the labour market. A change in its name may facilitate its recognition.
- A revision of the study programs in connection to the demands of the labour market would be recommended.
- In addition to the “Open Days” regarding employability organized by the Faculty, the establishment of a “Career Guidance Centre” would improve the degree of satisfaction among students.

Quality grade

Minimum level of quality.

IV. Teaching and institutional capacities

4.1. The higher education institution ensures adequate teaching capacities

Analysis

Teachers are well qualified to deliver the study programs and achieve the learning outcomes. The number of full-time teachers is adequate as well as the student-teacher ratio. Nevertheless, too high teaching workload is evident for many teachers. Although, the total amount of annual working hours for teaching is prescribed by the Ministry (annually 300 hours), some teachers have a very high teaching workload (more than 500 hours annually). This does not ensure the appropriate distribution between teaching, research and other activities. The reduction of the teaching workload is needed for many teachers.

Recommendations for improvement

- It is recommended to evaluate, whether it is necessary to teach under-graduate professional studies by the Faculty and its teachers.
- It is recommended to finish unnecessary study programs in post-graduate studies (especially those with no demand in Croatian labour market and too low number of interested students as well).

Quality grade

Minimum level of quality.

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

Analysis

The teacher's appointment procedure has been in line with legislations and internal acts. The vacancies have been properly advertised.

Selection, appointment and evaluation of teachers have been done based on the state legal for the area of biotechnical sciences. Methods for selection has been prescribed by the national minimum conditions. The internal criteria have not been applicable yet. Promotion of the teacher in higher grade has been based on evaluations. Rewarding of excellence is based on important achievements prescribed on the national level for the area of biotechnical sciences. Internal competitive criteria and the criteria of excellence are not, however, prescribed.

Recommendations for improvement

- Use of additional criteria for the promotion of excellence by the teachers is recommended.
- The use of additional criteria of excellence for the selection of the new employees and promotions of faculty staff is recommended.
- The selection procedure needs to be more competitive and open to international applicants.

Quality grade

Satisfactory level of quality.

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

Analysis

The University of Zagreb provides opportunities for improvement of teaching competences by organising workshops and seminars. The analyses of results of student satisfaction surveys and teaching competences survey have been done. But there is no evidence on recommendations for teaching competencies. The students of Forestry and Wood Technology are satisfied for the teaching methods. The students of Urban Forestry feel the lack of field work.

Teachers participate in international conferences and workshops, but the use of mobility programs is minimum. During the last decade no one has used the opportunity for the sabbatical. Teachers are, however, involved in international and national networks. The participation (or leadership) in competitive national and international projects is evident on individual base. On the level of the Faculty, such participation is minimum.

Recommendations for improvement

- To use the opportunity of mobility programs especially by younger teachers, Post Doc researchers and PhD students is encouraged, which may increase also possibilities to participate in the future competitive international and national research projects.
- Rewarding programs for participation in international research competitions should be applied.
- To improve the innovation in the methodology of teaching.
- Organization of the workshops and presentations (support) to all Faculty members to increase the success in competitive project applications (with tips how to apply and how to write successful project proposals).

- The Faculty should formalize the procedure for actions based on the results on student satisfaction surveys.

Quality grade

Minimum 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 programs, ensuring the achievement of the intended learning outcomes and the implementation of scientific/artistic activity

Analysis

Space, equipment and entire infrastructure have been appropriate and satisfactory for the implementation of scientific and professional activities. Students have been working in small groups in the laboratory, which is very good for learning outcomes. Two laboratories are accredited according to ISO 17025 standard. They are also reference laboratories in Croatia. An E-learning classroom, developed by students, is very satisfactory.

The development of the infrastructure is in line with the strategic goals of the Faculty. The Faculty has five training and research forest centres primarily used to perform field classes. These centres are very well located, representing different climatic zones (and forest ecosystem types) throughout Croatia.

Recommendations for improvement

- To provide more space for students where they can spend time between lectures and training.

Quality grade

High 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 has sufficient literature available for learning. It is a subscript to national and international professional journals. Online access to publication resources is

provided mostly by National and University Library in Zagreb and Ministry of Science and Education.

Nevertheless, students are not completely satisfied for library and its equipments, based on analyses of Student surveys. The equipments of the library do not meet the standard, which is demanded for a high quality of study conditions for the students. During the site visit it was also evident that the reading room is very small and not satisfactorily equipped.

Recommendations for improvement

- To provide an adequate number of computers for students in the library.
- To provide more space and improve the infrastructure in the library for learning needs and preparing the exams.

Quality grade

Minimum level of quality.

4.6. The higher education institution rationally manages its financial resources

Analysis

Financial sustainability depends and efficiency is evident. The Faculty manages its financial resources transparently and appropriately. According to Self Evaluation Report up to 61 % of total expenditures is financed from the state budget. Additional sources of funding are provided by competitive research and professional projects, accredited labs, own forests, scholarship fees etc.

The Faculty regularly prepares an annual financial report. Several reports have been provided to the expert panel. Nevertheless, the information provided by the Faculty did not offer a clear picture on the distribution of finances. Therefore, the panel was not able to recommend improvements.

Recommendations for improvement

None.

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

The scientific research at the Faculty of Forestry falls within the area of biotechnology sciences, the fields of Forestry and Wood Technology, according to the self-evaluation report. The Faculty of Forestry consists of two departments, The Department of Forestry (with six institutes) and the Department of Wood Technology (with five institutes). The Faculty has in total 21 different laboratories (two accredited ones) and five training and research forest centres in the most important climatic zones of the country, which together offer unique possibilities for experimental research activities.

In overall, staff members employed at the Faculty of Forestry with scientific-teaching grade (incl. full profs. with tenure, full proof., associate profs. and assistant profs, here on called together as teachers) have in the evaluation period (2014-2018) published scientific research articles in large number of different scientific journals and conference proceedings. Many of them have also been published in collaboration with researchers from other higher education institutions and scientific organizations, both from Croatia and abroad. Teachers have actively disseminated research findings in many national and international scientific seminars and conferences.

On the other hand, the total number of scientific research articles in international scientific journals and the number of scientific research articles in high quality international scientific journals (e.g. WoS, Q1-3), are in the evaluation period of 2014-2018, on average very low among the teachers at the Faculty. Same holds also for the citation impact and h-index (WoS) of teachers, which reflect their relatively low international scientific recognition. The post-graduate (PhD) students have also typically written their PhD thesis as monograph in domestic language, and have been required to additionally have only one paper published (or accepted) before doctoral defense, which hinders the international recognition of their work.

Overall, the relatively low scientific performance of teachers in terms of scientific publication records (i.e. total number of scientific research articles and their share in high quality journals, citation impacts and h-index, WoS) may be partially due to too high workload and imbalance for time allocated for teaching related work, scientific activities, professional and personal development and administrative obligations of teachers, respectively. This holds also on low number of international and national

competitive research projects, funded either by the Croatian Science Foundation or the European Union, respectively.

Development of research excellence may also have been hindered by an unwillingness of teachers and younger researchers (PhD students and Post Docs) to go abroad for longer periods of time (e.g. part of research work abroad). Additionally, the lack of enough systematic and awarding system for achievements of research excellence (e.g. number and quality of scientific research articles in internationally recognised scientific journals, acquisition of national and international competitive research projects, and success in training of PhD and Post Docs) may partially have affected this outcome.

Recommendations for improvement

- The Faculty is recommended to ensure the teaching load of at maximum 10-20% of total working hours for teachers, who have the role of principle investigator and/or coordinator in national and international competitive research projects.
- The Faculty is recommended to provide a sufficient funding for the international research mobility, collaboration and networking, especially for younger teachers, Post Docs and PhD students, to increase the total number and quality of scientific research articles and the international recognition of the Faculty teachers.
- The Faculty is recommended to consider the international research mobility, collaboration and networking activities as merits in the promotion of younger teachers, Post Docs and PhD students for higher staff positions.
- The PhD students are recommended to write their PhD thesis (monograph) in English and publish related scientific research article(s) in internationally highly recognised scientific journals, to increase the international recognition of their work.
- The Faculty is recommended to encourage and support teachers, Post Docs and PhD students to increase the number of scientific research articles published in top level international scientific journals (WoS, Q1) in collaboration with researchers from other higher education institutions and scientific organizations from abroad to increase the scientific excellence and international recognition of scientific achievements of the Faculty.
- The research priorities of the Faculty and themes are recommended to reflect strongly both internationally and nationally relevant and timely subjects (e.g., climate change and the related increase in abiotic and biotic damage risks to forests and forestry, the role of multifunctional management and utilization of forests in adaptation to climate change and its mitigation), and the topics characteristic and unique to the region, to increase the international and national recognition of the

Faculty, and to attract more competitive international and national research funding.

- A transparent and systematic rewarding system is recommended to be established to achieve research excellence, based on which the Faculty distributes additional research resources for the teachers (and their research groups), with the largest evidence, and potential, for the scientific research excellence.

Quality grade

Minimum 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

The research development strategy (with the research vision and priority areas, and implementation plan) has not been well developed in the evaluation period. Based on that, it is not evident that the Faculty has systematically monitored and considered the needs of the society and labour market in planning of research activities at the Faculty level. Same holds for the provisioning of an efficient support system and transfer of knowledge and technologies at the Faculty level.

Despite this, teachers employed at the Faculty of Forestry have had very active stakeholder interaction and research collaboration with a number of stakeholders in Forestry and Wood Technology both regionally and nationally. They have implemented several projects with different companies, who have financed the problem solving - oriented collaborative research. The company funding has been very crucial for the research and professional activities of the Faculty, as only few national competitive projects have been funded by the Croatian Science Foundation.

Teachers have also participated actively in the provisioning of laboratory examination services at the modern and well-equipped accredited laboratories, i.e. the Laboratory for Wood Construction, and the Furniture and Furniture Parts testing Laboratory. The patented testing device for moving furniture parts, an innovation of the Faculty of Forestry, won also a silver medal at the world's largest event dedicated solely to innovation.

Teachers have also participated in the organization of a number of professional workshops, round tables, and public professional and scientific meetings. They have also

participated in a large number of national and international scientific and professional workshops and public forums, organised for many stakeholders from the economy, private and public sectors. They have also had an active role in many scientific and professional organisations. Teachers have also been active in the popularization of science (e.g. national television and radio).

Overall, the high social relevance of scientific and professional research and transfer of knowledge by the Faculty is evident both regionally and nationally. Strong collaboration with industry is one of the obvious strengths of the Faculty. However, the lack of acquisition for competitive national and international research projects from the Croatian Science Foundation or the European Union, has hindered the scientific impact and social relevance of scientific and professional research, and transfer of knowledge, internationally.

Recommendations for improvement

- The Faculty is recommended to ensure sufficient working time for scientific and professional research activities, and professional and personal development of teachers, to increase the acquisition of competitive national and international research funding, and to improve the scientific impact and social relevance of research, and transfer of knowledge both nationally and internationally.
- Teachers (and Post docs and PhD students) are also recommended to balance their workload for scientific and professional research, and transfer of knowledge activities, to ensure the development of research excellence.
- The Faculty is recommended to enhance its support and provide mentoring also especially for younger teachers and Post docs (also PhD students) to enhance their success for achieving national and international competitive research funding.

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

Scientific and professional achievements of teachers of the Faculty have been recognized in the evaluation period especially at the regional and national level. Some teachers have received national (and university) awards for their scientific and professional achievements. Teachers have hold invited lectures in international and national scientific and professional meetings. Teachers have also acted as members of organising

and scientific boards of international and national scientific meetings. They have acted as members of journal editorial boards. The Faculty is also a publisher for two international scientific journals, Croatian Journal of Forest Engineering (WoS, Q1) and Dryna Industrija (Wood industry, WoS, Q3), and for one domestic journal.

The Faculty teachers have implemented numerous small scientific and professional projects, based on funding of the local and national companies (and the Faculty). This has improved the recognition of the Faculty competencies at the regional and national level. On the other hand, the lack of acquisition for competitive national and international research projects, from the Croatian Science Foundation or the European Union, has hindered the international recognition of scientific and professional achievements.

Recommendations for improvement

- The Faculty is recommended to ensure enough working time for scientific and professional research activities (including acquisition of competitive national and international research funding), and professional and personal development of teachers, to increase the acquisition of competitive national and international research funding.
- The Faculty is recommended to provide sufficient funding for the international research mobility, collaboration and networking for teachers, Post Docs and PhD students, to increase the scientific excellence and international recognition of scientific and professional achievements of the Faculty.
- The Faculty is recommended to encourage and support teachers, Post Docs and PhD students to increase the publishing of number of scientific research articles in top level international scientific journals (WoS, Q1) in collaboration with researchers from other higher education institutions and scientific organizations from abroad to increase the international recognition of scientific achievements of the Faculty.

Quality grade

Minimum level of quality.

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

Analysis

The research development strategy with the vision and research priority areas, and its implementation plan, have not been well developed at the Faculty in the evaluation period. The Faculty has, on the other hand, invested and improved in space, research

infrastructure and other research facilities, and they are very well developed. The Faculty has not, however, had enough resources (and/or attractiveness) for hiring new internationally recognised teaching and research staff. The low number of competitive international and national research projects has also limited the scientific performance and recognition of the Faculty, especially internationally. Faculty has not have in use the instrument to systematically and transparent way recognize and reward scientific achievements of its employees.

Recommendations for improvement

- The research development strategy with the vision and research priority areas as well as its implementation plan should be further developed.
- The Faculty is recommended to ensure enough working time and support for acquisition of competitive national and international research funding especially for teachers with highest potential for success, to increase the acquisition of competitive national and international research funding.
- A transparent and systematic awarding system for achievements of research excellence is recommended to be established, based on which the Faculty distributes additional research resources for the teachers (and their research groups), with the largest evidence, and potential, for the scientific research excellence.

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

Space and research equipment have been used equally in teaching (and research) activities at different levels in the evaluation period. Both graduate and PhD students have been actively involved in scientific and professional projects and related scientific and professional publications as co-authors. Some teachers have been able to use their own scientific research findings in teaching. PhD students have performed most of their research in Faculty laboratories, but also partly at the Educational and Experimental Forest Facilities.

Recommendations for improvement

- Interdisciplinarity in research and teaching activities is recommended to be increased at the Faculty, in order to tackle in research and teaching internationally and nationally relevant and timely topics.
- Teachers should increase their research activities in order to utilize their own scientific research findings more in own teaching, as the university level teaching should be based on science.
- Recruiting processes for teachers and younger researchers (Post Doc, PhD students) are recommended to be developed to increase competition and to attract and hire internationally recognised (or at least outside university) candidates for the Faculty.
- Faculty is recommended to hire also part-time internationally recognised professors or alike from outside Croatia to improve the teaching and supervision processes at the graduate and post-graduate (PhD and Post Doc) levels.

Quality grade

Satisfactory level of quality.

APPENDICES

1. Quality assessment summary - tables

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

Quality grade by standard

<i>I. Internal quality assurance and the social role of the higher education institution</i>	<i>Unsatisfactory level of quality</i>	<i>Minimum level of quality</i>	<i>Satisfactory level of quality</i>	<i>High level of quality</i>
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 programs delivered by the higher education institution are aligned with the strategic goals and the mission of the higher education institution, and social needs.				

Quality grade by standard

<i>II. Study programs</i>	<i>Unsatisfactory level of quality</i>	<i>Minimum level of quality</i>	<i>Satisfactory level of quality</i>	<i>High level of quality</i>
2.1. The general objectives of all study programs 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 programs 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 programs 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 programs, and revising or closing the existing programs.			X	
2.5. The higher education institution ensures that ECTS allocation is adequate.		X		
2.6. Student practice is an integral part of study programs (where applicable).		X		

Quality grade by standard

<i>III. Teaching process and student support</i>	<i>Unsatisfactory level of quality</i>	<i>Minimum level of quality</i>	<i>Satisfactory level of quality</i>	<i>High level of quality</i>
3.1. Admission criteria or criteria for the continuation of studies are in line with the requirements of the study program, 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		

<i>Quality grade by standard</i>				
<i>IV. Teaching and institutional capacities</i>	<i>Unsatisfactory level of quality</i>	<i>Minimum level of quality</i>	<i>Satisfactory level of quality</i>	<i>High level of quality</i>
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 excellence.			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 programs, 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

<i>V. Scientific/artistic activity</i>	<i>Unsatisfactory level of quality</i>	<i>Minimum level of quality</i>	<i>Satisfactory level of quality</i>	<i>High level of quality</i>
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

PROTOKOL POSJETA

Utorak, 3. prosinca 2019

Mjesto događanja:

VISIT PROTOCOL

Tuesday, December 3rd 2019

Venue:

Svetošimunska cesta 25, 10000 Zagreb

	Utorak, 3. prosinca 2019.	Tuesday, 3 rd December 2019
09:00 – 10:00	Sastanak s Upravom fakulteta (dekan i prodekani)	Meeting with the Management of the Faculty (Dean and Vice-Deans)
10:00 – 11:00	Sastanak članova Stručnog povjerenstva (<i>dokumenata</i>)	Internal meeting of the panel members (<i>Document analysis</i>)
11:00 – 11:45	Sastanak s: <ul style="list-style-type: none"> voditeljima radnih skupina koji su priredili Samoanalizu, voditeljem Ureda za upravljanje kvalitetom, voditeljem Ureda za međunarodnu suradnju i ECTS koordinatorom 	Meeting with: <ul style="list-style-type: none"> the working group that compiled the Self-evaluation Head of the Quality Management Office Head of the Office for International and Inter-Institutional Cooperation ECTS coordinator
11:50 – 12:50	Sastanak sa studentima (otvoreni sastanak za sve studente)	Meeting with Students (open meeting)
12:55 – 13:40	Sastanak s alumnijima (bivši studenti koji nisu zaposlenici visokog učilišta)	Meeting with the alumni (former students who are not employed by the HEI)
13:40 – 14:40	<i>Radni ručak Stručnog povjerenstva</i>	<i>Working lunch of the panel members</i>
14:40 – 15:40	Sastanak s vanjskim dionicima - predstavnicima strukovnih i profesionalnih udruženja, poslovna zajednica, poslodavci, stručnjaci iz prakse i organizacijama civilnog društva	Meeting with external Stakeholders -representatives of professional organisations, business sector/industry sector, professional experts, non-governmental organisations
15:40 – 16:30	<i>Interni sastanak članova Stručnog povjerenstva</i>	<i>Internal meeting of the panel members</i>
16:30 – 17:00	Organizacija dodatnog sastanka o otvorenim pitanjima, prema potrebi	Organisation of additional meeting on open questions, if needed

	Srijeda, 4. prosinca 2019.	Wednesday, 4th December 2019
09:00 – 10:00	<i>Sastanak članova Stručnog povjerenstva (Analiza dokumenata)</i>	<i>Internal meeting of the panel members (Document analysis)</i>
10:00 – 11:00	Sastanak s nastavnicima (u stalnom radnom odnosu, osim onih na rukovodećim mjestima)	Meeting with full-time employed teachers who do not have managerial positions (open meeting)
11:00 – 13:30	Obilazak Fakulteta (predavaonice, nastavni laboratoriji/praktikumi, informatičke učionice, znanstveni laboratoriji, prostorije za studente i nastavnički kabineti). Prisustvovanje nastavi i obilazak objekta Dotrščina.	Tour of the Faculty (classrooms, Teaching laboratories/practicums, computer classrooms, scientific laboratories, rooms for student activities, teaching offices). Participation in teaching classes and site visit to the HEI facilities Dotrščina.
13:30 – 14:30	<i>Radni ručak Stručnog povjerenstva</i>	<i>Working lunch of the panel members</i>
14:30 – 15:00	Sastanak s prodekanom Šumarskog odsjeka i prodekanom Drvotehnološkog odsjeka	Meeting with the Vice-Dean of the Department of Forestry and Vice-Dean of the Department of Wood Technology
15:00 – 15:35	Sastanak s asistentima	Meeting with Teaching Assistants
15:40 – 16:25	Sastanak s poslijedoktorandima	Meeting with Postdoctoral researchers
16:30 – 17:15	<i>Interni sastanak članova Stručnog povjerenstva</i>	<i>Internal meeting of the panel members</i>
17:15 – 18:00	Organizacija dodatnog sastanka o otvorenim pitanjima, prema potrebi	Organisation of additional meeting on open questions, if needed

	Četvrtak, 5. prosinca 2019.	Thursday, 5th December 2019
09:00 – 10:00	Sastanak članova Stručnog povjerenstva (Analiza dokumenata)	<i>Internal meeting of the panel members (Document analysis)</i>
10:00 – 10:45	Sastanak s predstojnicima zavoda	Meeting with the Heads of institutes
10:50 – 11:30	Sastanak s prodekanom za znanstveno istraživački rad	Meeting with the Vice-Dean for Science and Research Activities
11:35 – 12:20	Sastanak s voditeljima znanstvenih projekata	Meeting with the Heads of research projects
12:20 – 14:20	<i>Interni sastanak članova Stručnog povjerenstva</i> - 13:00 – 13:30, kratka pauza za ručak	<i>Internal meeting of the panel members</i> - 13:00 – 13:30, short break for lunch
14:20 - 14:45	Organizacija dodatnog sastanka o otvorenim pitanjima, prema potrebi	Organisation of additional meeting on open questions, if needed
14:45 – 15:15	Završni sastanak s dekanom i prodekanima	Exit Meeting with the Management of the Faculty (Dean and Vice-Deans)

SUMMARY

The Faculty of Forestry in Zagreb is the only educational institution and important research organization for forestry and wood industry in Croatia and is very involved regionally and nationally. It has successfully introduced a quality assurance system.

Here it keeps active contact with stakeholders from business, administration and politics.

The faculty's equipment is of a modern standard and on a high level. The laboratories and five training and research forest centres offer excellent conditions. With its well-equipped library all requirements for first-class teaching and research are fulfilled.

The study programs for Forestry are aimed at use in government administration, which only requests alumni of the graduate and post-graduate level. It is recommended to open up specific career opportunities for the under-graduate level. The range of post-graduate specialized university studies demands for concentration.

The university study programs for Wood Technology open up very good opportunities for students in business.. In view of the fact that the teaching staff is very busy with the university programs, it is recommended not to continue the under-graduate professional program and to hand it over to an institution whose employees are familiar with the everyday practice in this field.

The study programs for Urban Forestry, Nature Conservation and Environmental Protection are operated at a high, but a bit theoretical level and is unique in European context. However, graduates have only limited chances on the national job market. It is recommended make the training programs less theory-based and offer them exclusively in English.

Teaching in the faculty meets high international standards. Monitoring of teaching quality is carried out continuously. While there are very few student participations in international exchange programs, the activities of the International Office should be made more visible. To increase the attractiveness for foreign students, more courses should be offered in English.

The workload of most teachers is far above the norm values. This may be a reason for the low efforts to participate in high-quality, competitive research programs and to publish in internationally recognized journals. The faculty is encouraged to develop incentive systems to intensify exchanges with foreign research institutions and to provide opportunities for research semesters. As compensation it is recommended to critically examine the range of optional courses and to reduce it to courses that meet the international standards of a university level and that are in sufficient demand from the students.