



**Agencija za znanost i visoko obrazovanje**

Unapređenje sustava osiguravanja  
i unapređenje kvalitete visokog obrazovanja

**REPORT  
OF THE EXPERT PANEL  
ON THE  
  
RE-ACCREDITATION OF  
FACULTY OF CIVIL ENGINEERING, ARCHITECTURE AND  
GEODESY, UNIVERSITY OF SPLIT**

**Date of site visit:  
6 – 8 March 2018**

September 2018

**MAMFORCE**



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 an independent Expert Panel for the evaluation of the *Faculty of Civil Engineering, Architecture and Geodesy, University of Split*.

Members of the Expert Panel:

- Prof. Franklin van der Hoeven, Delft University of Technology, Kingdom of the Netherlands, Panel chair,
- Prof. Peter Bak Frigaard, Department of Civil Engineering, Aalborg University, Kingdom of Denmark,
- Prof. Damir Markulak, Faculty of Civil Engineering, Josip Juraj Strossmayer University of Osijek, Republic of Croatia,
- Prof. Christoforos Kotsakis, Faculty of Engineering, Aristotle University of Thessaloniki, Hellenic Republic,
- Prof. Barbara Karleuša, Faculty of Civil Engineering, University of Rijeka, Republic of Croatia,
- Matija Blašković, student, Faculty of Architecture, University of Zagreb, Republic of Croatia.

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

- Management,
- Self-evaluation Report committee,
- Students,
- Heads of study programmes,
- Full-time teaching staff,
- Assistants and junior researchers,

- Heads of doctoral programmes and leaders of research projects,
- Representatives of the business sector, potential employers,
- Representatives of the Ethics Committee.

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.

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

The Expert Panel drafted this Report on the re-accreditation of the *Faculty of Civil Engineering, Architecture and Geodesy, University of Split* (FGAG) on the basis of the FGAG's self-evaluation report, other relevant documents and site visit.

The Report contains the following elements:

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

In the analysis of the documentation, site visit to the *Faculty of Civil Engineering, Architecture and Geodesy, University of Split*, and writing of the Report, the Expert Panel was supported by:

- Davor Jurić, coordinator, ASHE,
- Viktorija Juriša, assistant coordinator, ASHE,
- Ivana Rončević, interpreter at the site visit, ASHE,
- Irena Škarica, translator of the Report, 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 Civil Engineering, Architecture and Geodesy, University of Split

**ADDRESS:** Matice hrvatske 15, 21000 Split

**DEAN:** Boris Trogrlić, PhD, Full Professor

## **ORGANISATIONAL STRUCTURE:**

Based on the Self-evaluation document, p. 7:

Faculty of Civil Engineering, Architecture and Geodesy			
	Faculty Council		
	Faculty Board		
Dean's Office	Departments		
Accounting	IT Service	Concrete Structures and Bridges	Foreign Languages and General Courses
General Service	Laboratory	Construction Management and Economics	Geometry
Student Office	Library	Engineering Mechanics	Mathematics and Physics
Technical services and Auxiliary staff		Geotechnical Engineering	
		Hydrology	Architectural Design
		Hydromechanics and Hydraulics	Architectural Heritage
		Hydrotechnical Engineering	Buildings
		Materials	Theory and History of Architecture and Art
		Metal and Timber Structures	Urban Planning
		Strength of Materials and Structural Testings	
		Theory of Structures	Geodesy and Geoinformatics
		Transportation Engineering	
		Water Management and Water Protection	

## **STUDY PROGRAMMES:**

### **Undergraduate university study programme**

- Civil Engineering,
- Architecture and Urban Planning,
- Geodesy and Geoinformatics

**Graduate university study programme**

- Civil Engineering,
- Architecture and Urban Planning

**Postgraduate (doctoral) university study programme**

- Civil Engineering

**Undergraduate professional study programme**

- Civil Engineering

**NUMBER OF STUDENTS:** 912

**NUMBER OF TEACHERS:** 57 professors appointed into scientific-teaching grades, 3 professors appointed into teaching grades, 14 assistants, and 11 postdoctoral researchers.

**SHORT DESCRIPTION OF THE EVALUATED HIGHER EDUCATION INSTITUTION**

The Faculty of Civil Engineering, Architecture and Geodesy in Split (hereinafter FCEAG) is a higher education institution established in the autumn of 1971 as the Split Department of the Faculty of Civil Engineering of the University of Zagreb. The Faculty attained its autonomy at the beginning of 1977, and July 1991 marked the commencement of its independent higher education and scientific research organisation after it had separated from the Institute of Civil Engineering. (..)

The development of higher education in the domain of civil engineering in the Republic of Croatia indicates that the Faculty of Civil Engineering, Architecture and Geodesy in Split has become a considerable force to be reckoned with, along with the faculties of the University of Zagreb (Faculty of Civil Engineering, Faculty of Architecture, and Faculty of Geodesy). The current trends show that Split, as a coastal Mediterranean city, tends to focus its building activities on the coastal and karstic areas. The achievement of sustainable development in the coastal areas requires substantial financial, organisational and intellectual endeavours, and that is precisely where civil engineering, architecture and related branches play a crucial role. (..)

Within its study programmes, FCEAG provides education and specialisation in different branches, such as: general programme (including transportation-geotechnical and construction management sub-branches), hydrotechnical engineering, structural engineering, architecture and urban planning, and geodesy and geoinformatics. In addition, the Faculty offers a postgraduate doctoral study in basic civil engineering and technical specialisations, i.e. branches. Based on the activity and the performance of its employees, FCEAG is one of the leading higher education institutions in the Republic of Croatia in the areas of numerical modelling, hydrotechnics, structural and system engineering and, in the past several years, architecture as well.

*(from the Self-evaluation report, pp. 4-5)*

## ***BRIEF ANALYSIS OF THE INSTITUTIONAL ADVANTAGES AND DISADVANTAGES***

### ***ADVANTAGES OF THE INSTITUTION***

1. A true academic atmosphere;
2. Great internal communication, both horizontal and vertical;
3. A clearly motivated and energetic staff, students, and management;
4. Openness to improvement;
5. Firmly rooted in the regional professional and social community.

### ***DISADVANTAGES OF THE INSTITUTION***

1. Limited internationalisation;
2. Traditional, not student-centric teaching;
3. Lack of high-quality research infrastructure;
4. Fragmentation, need for making choices;
5. Misbalance between scientific areas.

## ***LIST OF INSTITUTIONAL GOOD PRACTICES***

### ***EXAMPLES OF GOOD PRACTICE***

1. Monitoring of learning outcomes (internal, external);
2. Teaching bases;
3. Contribution to the regional development;
4. Summer school;
5. Lifelong learning programmes (energy certification, project management).



## ***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**

The internal quality assurance system of FGAG includes and evaluates all its activities. From the meetings that the Panel had with various staff members and students from all parts of the Faculty, the Panel sensed a strong drive and a high level of motivation to develop the higher education institution further.

FGAG has the policy documents in place to support academic integrity and freedom, to uphold the ethical standards and to preserve academic integrity and freedom.

Information on the study programmes and other activities of FGAG is publicly available in Croatian and in English. However, the website is not fully bilingual.

Meetings with stakeholders confirmed that FGAG has strong regional ties with engineering firms and the architectural services industry. It supplies them with advice and high-educated young, energetic staff.

#### **Recommendations for improvement**

Integrate the quality improvement strategy into the research strategy.

Make the vision and mission of the HEI more specific for FGAG, and less generic.

Make information on the monitoring of quality more accessible.

Monitor the effectiveness of diversity policies as soon as internationalisation sets in.

Use plagiarism software to (pre-)check the key outputs of FGAG, notably PhD theses.

Ensure that the Faculty's web-site is fully bilingual.

Improve the international visibility of FGAG.

#### **Quality grade:**

Satisfactory level of quality

## **II. *Study programmes***

### **Analysis**

All study programmes at FGAG are in line with its mission and the strategic goals.

The external stakeholders expressed a high level of satisfaction with the overall quality of the study programmes in the meeting with the Panel.

The learning outcomes of the programmes are consistent with the Croatian Qualification Framework (CroQF).

The Faculty established a pilot project aiming to perform an internal evaluation of the Faculty grading system in order to ensure the quality assessment of learning outcomes.

The Faculty has demonstrated an open policy for involving all related parties in the design and monitoring of the study programmes including students, professional organisations, alumni and local industry.

The Faculty has an informal system checking that the ECTS allocation is adequate.

Student practice is facilitated through the teaching bases.

The Faculty systematically offers lifelong learning programmes in the field of Civil Engineering, Architecture and Urban Planning, Geodesy and Geoinformatics.

### **Recommendations for improvement**

Continue developing strong ties with the industrial sector.

Strengthen the international involvement of students at (post)graduate levels.

Provide professional English in the undergraduate study programmes.

Improve the overall quality of the Geodesy final theses.

Prolong the internship in teaching bases and assign sufficient amount of ECTS points.

Ensure student input in evaluating the balance between study load and ECTS.

Analyse and maintain the strong lifelong learning programmes.

### **Quality grade:**

Satisfactory level of quality

### **III. Teaching process and student support**

#### **Analysis**

The FGAG website provides all the information and criteria for admission or continuation of the studies.

The Faculty gathers and analyses the pass rate of the students, the number of achieved ECTS points, the number of enrolled and expelled students.

Student-centred learning is not strongly developed.

FGAG ensures adequate support to its students, including students from vulnerable and under-represented groups.

FGAG established an office for international collaboration. The two English master programmes had an insufficient number of interested students and a high number of non-EU interested students who faced visa-problems.

Objective and consistent evaluation and assessment of student achievements is not yet optimal. Students' experience differences in grading depending on the teacher who assesses them.

The diploma certificate provides the graduate student with all information needed such as programme, grades, options for continuation of the study and working abilities.

Employers are highly satisfied with the level of acquired knowledge of FGAG students.

#### **Recommendations for improvement**

Provide analysis of the effectiveness of the additional enrolment criteria in Architecture.

Monitor student progress at an individual basis.

Introduce contemporary methods of teaching (VR, AR, 3D printing, E-learning).

Establish an internal review of teaching methods used at FGAG.

Ensure adequate library staffing or rethink the information services FGAG can provide.

Provide areas for student common rooms.

Provide visa support for groups of students interested in new international programmes.

Target specific groups of international students as part of long-term vision of FGAG.

Improve and enrich the English study programme.

Emphasise the local (Split-specific) qualities.

Evaluate cross-faculty grading and provide students with feedback on the evaluation.

Extend the duration of the "teaching bases".

#### **Quality grade:**

Satisfactory level of quality

#### ***IV. Teaching and institutional capacities***

##### **Analysis**

FGAG has an adequate number of teachers for Civil Engineering and Architecture programmes but not for Geodesy and Geoinformatics undergraduate study programme.

The teachers' positions are organised according to the study programmes and workload, as regulated by FGAG Ordinance on internal organisation and organisation of working positions. The process of teachers' and associates' academic recruitment and promotion follow relevant legal acts and university's ordinances.

FGAG uses objective and transparent academic promotion procedures that take into account teachers' achievements.

FGAG does not have a completely developed system of continuing teachers' training in place.

The laboratories need improvement to meet (all) the needs for the delivery of study programmes, the achievement of learning outcomes, and for the realisation of scientific/artistic and professional activity.

With the current resources, the Faculty library isn't able to provide the services that a modern library should provide.

Financial sustainability and efficiency is evident in all aspects of the higher education institution's activity. FGAG manages its financial resources transparently, efficiently and appropriately.

##### **Recommendations for improvement**

Increase teaching staff in Geodesy and Geoinformatics.

Offer more choice to students in Architecture and Urban Planning.

Apply/develop FGAG-specific competitive, excellence-based recruitment criteria.

Provide young teaching staff with certified methodical and didactical training.

Motivate staff to participate in international activities.

Keep on improving FGAG's laboratories, IT services, work facilities.

Increase the efficiency of classroom use.

Reward high-quality research groups and invest in potential quality.

##### **Quality grade:**

Satisfactory level of quality

## ***V. Scientific/artistic activity***

### **Analysis**

FGAG has increased the number of high-quality scientific publication during the recent years. Still, the rate of scientific publications should be higher than the present number.

FGAG promotes scientific research in fields that are directly related to Civil Engineering, Architecture and Urban Planning, Geodesy and Geoinformatics with the aim to tackle all societal challenges. FGAG monitors and takes into account the needs of the regional society during its research activities. In general, the Faculty observes societal and labour market needs, and takes them into consideration while planning its research activities.

The Faculty has developed and implemented a research strategy in line with the University strategy and the national strategy. This strategy is formulated in general terms rather than giving specific directions.

Teaching at all levels reflects the research activities and the professional activities of the faculty.

### **Recommendations for improvement**

Increase the number of scientific publications to improve international visibility.

Focus on and provide support to staff members who do not publish regularly.

Strengthen the support for start-ups and open up this possibility for the students.

Strengthen the work to become more visible in an international context.

Develop a focused research strategy based on local strengths and values.

Introduce a formal procedure that links students to research projects.

### **Quality grade:**

Satisfactory 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 internal quality assurance system of FGAG includes and evaluates all its activities. FGAG did provide sufficient underlying documentation to the Expert Panel. The Panel found that the system was complete across the board and that the reports were frank, constructive, and aimed at improving the practice. The Panel also noted that FGAG has implemented many procedures since February 2017 and that it has put a lot of effort into the quality assurance system.

From the documentation that was provided and from the meetings that the Panel had with the management, with the working group (that compiled the self-evaluation), with alumni and external stakeholders, it seems that all stakeholders are indeed involved in the process.

FGAG adopted a quality improvement strategy in June 2017. As a consequence, it is not (fully) covered by the five-year research strategy that predates it: December 2015. The strategy does include a SWOT analysis, and the strategy is taken seriously as a tool for improvement. The stated mission and vision are there, but according to the members of the Panel, it is too long and too generic.

FGAG does use student satisfaction surveys, peer review, feedback from employers and alumni. The Panel observed some new original procedures and good practice: the pilot regarding monitoring of the learning outcomes, the Human Resources Management pilot and the teaching bases.

##### **Recommendations for improvement**

Integrate the quality improvement strategy into the research strategy.

Make the vision and mission more specific for FGAG, less generic.

Although the FGAG does indeed monitor the quality systematically, it could use in its reporting fewer words and more tabular data or graphs to make its point clear.

##### **Quality grade**

Satisfactory level of quality

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

### **Analysis**

FGAG has worked out several strategies and action plans to implement recommendations for quality improvement.

FGAG conducted satisfactory work in response to the comments of the previous re-accreditation panel. The panel of the 2018 re-accreditation notes that FGAG has addressed all the comments made by the previous panel.

Also, FGAG provided some internal strategic and action documents that demonstrate the will and dedication to improving the quality of the Faculty.

From the meetings with various staff members and students from all parts of the Faculty, the Panel sensed a strong drive and a high level of motivation to develop the higher education institution further.

### **Recommendations for improvement**

Continue the chosen direction.

### **Quality grade**

High level of quality

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

### **Analysis**

FGAG has the policy documents in place to support academic integrity and freedom, to uphold the ethical standards and to preserve academic integrity and freedom.

FGAG does use mechanisms for preventing unethical behaviour, intolerance and discrimination. However, the Panel notes that staff and students are still mainly Croatian nationals and that the real test of the effectiveness of such policies only comes after FGAG starts receiving significant numbers of international students and (guest) staff members.

FGAG has implemented an Ethics Committee and a Disciplinary Committee for students' accountability, and it put three staff members in charge of receiving notifications about irregularities or suspected dishonesties, dignity and personal data.

FGAG put in place the requirement for staff to publish once a year in internationally acclaimed journals as a means of plagiarism check. The Panel is not convinced that this provides sufficient guarantee.

FGAG produced documentation on evidence and indicators for integrity, including the Code of Ethics of the University of Split.

**Recommendations for improvement**

As soon as FGAG starts receiving substantial numbers of foreign students and staff: start monitoring if the policies that are in place are doing what they are supposed to be doing.

Use plagiarism software to (pre-)check the key outputs of FGAG, notably PhD theses.

**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**

Information on the study programmes and other activities of FGAG is indeed publicly available in Croatian and in English. However, the website is not fully bilingual.

The Architecture Department publishes a yearbook on the outcomes of education. This is in line with practices elsewhere in Europe.

All staff have a public Google Scholar page, which is good and transparent.

FGAG is in direct contact with organisations like Zajednica Udruga Inženjera Split (ZUIS), the professional organisation of engineers. FGAG actively discusses the research and education at the Faculty with them and other stakeholders.

FGAG provided the Panel with documentation on public information policy, co-operation with high schools and prospective students. Such interactions were confirmed in the meetings the Panel had with alumni and stakeholders.

Project leaders commented on the limited international visibility of the Faculty and their research accomplishments.

**Recommendations for improvement**

Ensure that the Faculty's web-site is fully bilingual.

Improve the international visibility of the Faculty and its teaching, scientific/artistic and social accomplishments.

**Quality grade**

Satisfactory level of quality



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

#### **Analysis**

FGAG does contribute to the development of the economy, which is typical for a Faculty in the fields of engineering, Architecture and Geodesy.

Meetings with stakeholders confirmed that FGAG has strong regional ties with engineering firms and the architectural services industry. It supplies them with advice and high-educated young, energetic staff.

There seems to be a healthy one-to-one interaction between industry and FGAG professors.

FGAG is active in professional activities, humanitarian events, and it established two life-long learning programmes.

FGAG has drawn up the Development Strategy for the urban agglomeration of Split.

FGAG is actively reaching out to high schools in the wider region.

#### **Recommendations for improvement**

Continue as you do, you seem to have well developed local/regional network.

#### **Quality grade**

High level of quality

## ***II. Study programmes***

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

#### **Analysis**

As explicitly stated in the self-evaluation report, all study programmes are aligned with, and closely follow the mission and the strategic goals of the higher education institution.

The admission policy of all study programmes is aligned with the recommendations of the Croatian Employment Service.

The external stakeholders expressed a high level of satisfaction about the overall quality of the study programmes in the meeting with the Panel.

It has been recognized that the study programmes in Civil Engineering, and Architecture and Urban Planning are especially beneficial to the promotion and expansion of local values and the exploitation of the historical heritage potential of the Dalmatian region.

The Geodesy study programme is also expected to have an important and key role in this direction, in cooperation with the existing study programmes (in CE and Architecture).

#### **Recommendations for improvement**

Continue developing strong ties with the industrial sector, strengthen the international involvement of students at both graduate and postgraduate levels.

#### **Quality grade**

High level of quality

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

#### **Analysis**

The learning outcomes of the Civil Engineering programme are fully consistent with the Croatian Qualification Framework (CroQF) in the field of higher education of Civil Engineers. Additionally, they are aligned with the appropriate learning outcomes offered by other Civil Engineering Faculties in Croatia through the joint work in the

project “Development and implementation of the Croatian Qualifications Framework in the field of higher education of Civil Engineers”.

The same consistency applies to the learning outcomes of the undergraduate programmes in Architecture and Geodesy. The HEI makes sure that the learning outcomes are in alignment with the professional requirements in the labour market by establishing the working group for the monitoring of the learning outcomes.

The Expert Panel extensively discussed the quality and the relevance of the learning outcomes for all three programmes with the representatives from the local stakeholders as well as with the working group, and a strong sense of satisfaction was expressed.

The Panel recognised the important role of this working group as an example of good practice. In case of the Architecture study programme, the standard is satisfied but it was not explicitly stated in provided documents because one of the learning outcomes is achieved through elective courses.

### **Recommendations for improvement**

At the meeting with the students, a strong desire was expressed for increasing the practical aspects of the offered courses in Civil Engineering and Geodesy study programmes.

Furthermore, a problem seems to exist with the undergraduate course on professional English which is not available for the students, although it is mentioned in the official study programmes.

The overall quality of the Geodesy final theses needs to be improved.

### **Quality grade**

Satisfactory level of quality

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

### **Analysis**

The Faculty established a pilot project aiming to perform an internal evaluation of the Faculty grading system in order to ensure the quality assessment of learning outcomes. The plan of this project is to have an exam at the end of each semester overseen by the appointed committee which will check the consistency and fulfilment of the learning outcomes. The Panel found this mechanism especially innovative and useful. Combined with the role of the working group for monitoring the learning outcomes, this suggests that the Faculty is strongly dedicated to providing evidence of the achievement of intended learning outcomes.

The Faculty systematically meets with the student representatives to ensure proper monitoring and smooth operation of its study programmes and achieving the learning outcomes.

An additional example of good practice is the establishment of the teaching bases which provide the possibility for a students' internship of 14 days. The teaching bases give external stakeholders the opportunity to give useful feedback to the Faculty to ensure that the students gained some practical experience about their studies.

### **Recommendations for improvement**

The Panel suggests the prolongation of internship in teaching bases in conjunction with the assigning of an appropriate number of ECTS points.

### **Quality grade**

High level of quality

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

### **Analysis**

The Faculty has demonstrated an open policy for involving all related parties in the design and monitoring of the study programmes including students, professional organisations, alumni and local industry.

There is a clear and systematic procedure for the approval and periodic evaluation of the study programmes which is described in detail in the Guidance for quality assurance and improvement.

An annual evaluation of the study programmes is done by an expert group consisting of members of the local professional community as well as the representatives of the Faculty.

The Panel perceives that cooperation as an example of good practice. The Faculty publishes the detailed descriptions of their study programmes on the web pages in both Croatian and English language, and also in brochures.

### **Recommendations for improvement**

Continue in this direction.

### **Quality grade**

High level of quality

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

### **Analysis**

The Faculty has an informal system checking that the ECTS allocation is adequate. At the meetings with the students, it was strongly expressed that there is a misalignment in the allocation of ECTS in the case of Civil Engineering and Geodesy study programmes. That is especially the case in the undergraduate studies of Civil Engineering and Geodesy where courses related to mathematics bear 25 out of 60 ECTS. The Panel believes that so extended overload is one of the main causes of a lower pass rate at the undergraduate study of Civil Engineering.

### **Recommendations for improvement**

The Panel proposes that formal student input about the balance between study load and ECTS is ensured. Students' workload should be better harmonised within the available ECTS at the undergraduate studies of Civil Engineering and Geodesy.

### **Quality grade**

Satisfactory level of quality

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

### **Analysis**

The student practice is obligatory only at the professional study programme in Civil Engineering. There is no possibility for the students to be involved in the practice at the undergraduate university study of Civil Engineering.

In the case of the Geodesy undergraduate study programme, the students can select the professional practice course during their sixth semester.

Civil Engineering students participating in the graduate study programme have an opportunity to work in the teaching bases for 14 days but they didn't receive any ECTS nor are the teaching bases incorporated into the study programme. Students can use this opportunity over the summer break or during the preparation of their graduation thesis. By now the Faculty has signed ten agreements with the representatives of the industrial sector. This offers different options for obtaining professional experience.

### **Recommendations for improvement**

The Panel thinks that increasing the duration of the working period and the number of teaching bases is beneficial to all parties. Furthermore, assigning of an appropriate number of ECTS should be considered by FGAG.

### **Quality grade**

Satisfactory level of quality

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

### **Analysis**

The Faculty systematically offers lifelong learning programmes in the field of Civil Engineering, Architecture and Urban Planning, Geodesy and Geoinformatics.

We would like to highlight in particular the training of professional engineers regarding the provision of energy certificate and energy inspection of buildings, and the project management course.

During the meetings with the external stakeholders (ZUIS) the high importance of these programmes was confirmed together with the willingness to maintain them in the future.

### **Recommendations for improvement**

FGAG should analyse and maintain the strong lifelong learning programmes by taking into account both the needs of the local professional community and the current and future technological development.

### **Quality grade**

High level of quality

### ***III. Teaching process and student support***

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

#### **Analysis**

The FGAG website provides all the information and criteria for admission or continuation of the studies. It is available in the native (Croatian) and foreign (English) languages.

The admission criteria are clearly defined (evaluation of high school GPA, State Matura, elective exams and additional assessments of knowledge and skills), and they ensure the selection of candidates with the appropriate prior knowledge, which is aligned with the requirements of the study programme.

The website provides examples of additional testing of knowledge and skills suitable for the studies.

The analytical supplements of the self-evaluation report (pages 29-31) show the proper tracking and analysis of student performance on the study programme, depending on the admission criteria or criteria for the continuation of studies.

The supplements also show examples of how the admission criteria/criteria for the continuation of studies were improved based on the obtained results. An average grade of the previous education is 4. Students that achieve between 30 and 54 ECTS points make up the largest group.

#### **Recommendations for improvement**

Provide analysis of the effectiveness of the additional enrolment criteria in Architecture.

#### **Quality grade**

High level of quality

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

#### **Analysis**

The Faculty gathers and analyses the pass rate of the students, the number of achieved ECTS points, the number of enrolled and expelled students as showed in analytical supplement of the self-evaluation report (pages 31-34).

Data on ECTS points are gathered on an annual level, and drop-out rate is displayed on the average duration of study programme (one generation for 3-4 years).

During the meeting with students, the students explained that they have meetings on a monthly basis with the management of the Faculty and that they can share problems or issues that may arise.

The students mentioned improvements made on the first year of Civil Engineering: Introducing a 15-hour informative course of mathematics before the start of the programme.

The students mentioned that FGAG focusses its attention on so-called critical courses.

### **Recommendations for improvement**

It is the opinion of the Panel, considering the meetings with the employees and the management of the Faculty, that the monitoring on an individual level can be improved to ensure student success.

### **Quality grade**

Satisfactory level of quality

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

### **Analysis**

Students expressed their dissatisfaction with the lack of choice in the case of Architecture courses. At the same time the Panel members observed the freedom that is available in choosing design sites and topics in their final projects. Choice encourages autonomy and responsibility in students.

Student surveys are available but they need improvement in content: they lack information about ECTS. Geodesy students complained about scheduling which was too scattered.

As part of the site visit protocol, the Panel members attended actual classes. Based on these visits the Panel observes that most of the theoretical teaching is done in a traditional form. The Panel members didn't observe e-learning systems or state-of-the-art technology used in teaching. There is no internal analysis of teaching methods which are not evaluated and adapted continuously.

The Faculty provides drawing rooms (for Architecture and Urban Planning students) which are available for use in the afternoon; three IT classrooms with computers and 14 classrooms for lectures and practical work.

In case of international students, the Faculty provides smaller groups for teaching in English. Moodle e-learning is used in Civil Engineering and Geodesy programmes.



From the meeting with employees from the administration office, the Panel members gathered the impression that students with special needs were approached correctly and they showed satisfactory results in case of study completion.

### **Recommendations for improvement**

New and contemporary methods of teaching should be more present on the courses. Also, there should be more state-of-the-art technologies involvement in teaching practice (VR, AR, 3D printing, E-learning platform, et cetera).

Establishment of internal analysis of teaching methods is necessary (implementing teaching methods other than traditional).

### **Quality grade**

Minimum level of quality

## **3.4. The higher education institution ensures adequate student support.**

### **Analysis**

During the meetings with the employees and students of the Faculty, the Panel discussed the functioning of some crucial committees: Ethics committee, Disciplinary committee.

During the site visit and meetings with the employees, informal support and communication were observed between students and management. In meetings with assistants, professors and students the Panel members conclude that professors and assistants are available to the students for help and consultation.

The University provides some guidance services: psychological counselling, legal counselling, counselling for students with disabilities, career management counselling, kinesiology counselling and inter-religious counselling (self-evaluation report pages 61-62).

Students with disabilities are properly approached and provided adequate assistance and support.

The Panel members also visited the library which is poorly furnished and equipped with books.

The Panel members also visited the administration office which showed a satisfactory number and qualifications of the staff.

During the meeting with students they complained about the lack of common rooms, which is necessary for developing social connections and skills.

### **Recommendations for improvement**

Ensure a formal procedure of ensuring that students with failing problem are consulted and approached individually.

Ensure adequate library staffing or rethink the information services FGAG can provide to its staff and students, given the available resources.

Provide areas for student common rooms that is a crucial social place and triggers academic topics.

### **Quality grade**

Satisfactory level of quality

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

### **Analysis**

The Faculty ensured access to the building for students with disabilities. During the meetings a specific case of a student with hearing problems was discussed. The student was supported properly and finished the study at a satisfactory level. Panel members were informed in meetings with employees that international students are provided with courses that are taught in English.

FGAG provides counselling for students with disabilities and different religious backgrounds. The self-evaluation report states: "The students with unfavourable socioeconomic conditions can file a request substantiated with evidence to the Faculty, which then allows them to pay the tuition in instalments (2-4). This is in line with the decision on paying participation in the study costs for a certain academic year which prescribes that all students pay their studying costs per semester (in two instalments)." (page 64).

African students applied for the newly proposed Master in English but as Panel members were informed they were not able to enrol because of visa problems.

### **Recommendations for improvement**

Facilitate the process of obtaining visa for groups of students who are interested in new international programmes.

Develop a plan to target and approach specific groups of international students whose interests fit best in the long-term vision of FGAG.

### **Quality grade**

Satisfactory level of quality

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

#### **Analysis**

FGAG did establish an office for international collaboration and provides the necessary information on the Faculty's website in English. Furthermore, FGAG instated an ERASMUS coordinator and a Vice-dean for international cooperation.

Students are properly informed about possibilities for international mobility programmes and provided with help and consultations by the administration office. Mobility takes place mainly in the final semesters of study programmes with full recognition of ECTS: the final thesis and final studio projects for Architecture programme.

Undergraduate students of Architecture and Urban Planning, however, will not get their ECTS points recognised while being enrolled in their 1<sup>st</sup> and 2<sup>nd</sup> year of study.

In the Civil Engineering and Geodesy programmes, the ECTS points gained at other higher institutions are fully recognised. Here there has been a greater number of students who are taking international exchange for more than three months.

As shown in Table 3.6. of the analytical supplement of the self-evaluation report (page 35) in the last five years 51 students took more than three months of outgoing mobility, and only 18 took up three months mobility.

The FGAG diploma supplement is recognized as a valid document in the EU.

PhD students show interest in developing their thesis in foreign higher education institutions. For example, some assistants have a double degree obtained at a foreign and domestic faculty.

#### **Recommendations for improvement**

Improve and enrich the English study programme.

Create a plan for attracting more ERASMUS participants.

#### **Quality grade**

Satisfactory level of quality

### **3.7. The higher education institution ensures adequate study conditions for international students.**

#### **Analysis**

In the conversation with the management of FGAG the Panel learned the Faculty's involvement in a range of programmes that facilitates international mobility in their case: ERASMUS, ERASMUS+, ERASMUS MUNDUS, SunBeam, GreenTech. The

management also addressed examples of incoming foreign students from Poland, Spain, and the Czech Republic.

Table 3.6. of the analytical supplement of the self-evaluation report (page 35) shows that in the last five years 53 incoming students took the international exchange programme for more than three months. Another example is the summer school that is presented as a good practice with great response from international students and high interest of the academic community.

Summer school courses are entirely taught in English, and upon completion the participant is asked to participate in a survey which tracks the room for improvement. As mentioned in the self-evaluation report (page 68.): "In collaboration with the International Relations Office of the University of Split, the foreign students are provided with accommodation, food and learning of Croatian."

The Faculty is developing two master programmes in English: *Master in Architecture and Urban Planning in Mediterranean Environment* and *Master in Water Resources and Environmental Engineering*. These programmes had an insufficient number of interested students and a high number of non-EU interested students that had problem gathering all of the required paperwork.

### **Recommendations for improvement**

Improve and enrich the study programme in English.

Create a plan for attracting more ERASMUS participants.

Emphasise the local (Split-specific) qualities.

### **Quality grade**

Satisfactory level of quality

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

### **Analysis**

The Panel concluded from the meeting and debate with students the following:

The Architecture students are satisfied with the design presentations and the delivery dates. However, some professors are not present during the semester and therefore not objective in the grading of the final design.

Civil Engineering students complained that there is no core summary of some courses and as a result, they are not properly introduced to thorough knowledge.

Apart from the issues related to the assignment and the core knowledge, there is also an overall issue with grading. Students raised the issue of the differences in grading from teacher to teacher. The Panel raised this subject with teaching staff and

coordinators but didn't hear or read evidence of internal analysis and exploration of the grading system. There is no formal communication between professors in a way that will ensure that work is equally graded. Students can complain about a grade, but they have to retake the exam. There is no committee that reassesses the work.

#### **Recommendations for improvement**

Develop a system of internal evaluation of grading and provide students with feedback of the evaluation.

#### **Quality grade**

Satisfactory level of quality

### **3.9. The higher education institution guarantees the issuance of Diploma Supplements and adequate qualification information.**

#### **Analysis**

The Panel members took a detailed look at the diploma certificate for Civil Engineering, Architecture and Urban Planning, and Geodesy in both the master and bachelor programmes. The presented certificates were drawn up in English and Croatian (native language). The diploma certificate provides the graduate student with all information needed such as programme, grades, options for continuation of the study and working abilities.

The master certificate of Architecture and Urban Planning achieved recognition on the EU labour market thanks to achieving the seventh-level of the CroQF qualification. This procedure was explained during the visit and in the self-evaluation report on page 71. The diplomas and diploma supplements are issued in accordance with relevant regulations.

FGAG also presented the good practice of the PhD double diploma certificate which is obtained through one of the mobility programmes.

#### **Recommendations for improvement**

None.

#### **Quality grade**

High level of quality

### **3.10. The higher education institution is responsible for the employability of graduates.**

#### **Analysis**

The Panel had several meetings with the management and representatives of the professional industry. They showed a remarkable level of communication and exchange of experience among professionals and teachers. Firstly, they developed a praiseworthy pilot project “working group” that communicates the needed learning outcomes required in the profession and implementation of those outcomes in present courses. Secondly, the Faculty initiated another pilot involving students and professionals: “Teaching bases.” This pilot crosslinks students with professionals in a working relationship for two weeks during the master studies.

During the discussion with local professionals, the Panel recognised that most or all of their staff members and employees are former students of the Faculty. Also, employers are highly satisfied with the level of acquired knowledge of the students. Most of the members of local engineering associations are former students who are actively contributing to the society.

#### **Recommendations for improvement**

Extend the duration of the “teaching bases”.

#### **Quality grade**

High level of quality

## ***IV. Teaching and institutional capacities***

### **4.1. The higher education institution ensures adequate teaching capacities.**

#### **Analysis**

According to data from MOZVAG and the self-evaluation report, the overall ratio of student per full-time teacher is about 15:1 and according to the analytical supplement, table 4.4, the qualifications of teachers are appropriate for the delivery of study programmes and achievement of the intended learning outcomes.

For study programmes in Architecture and Urban Planning (according to the self-evaluation report) the average ratio in the period 2012-2017 is 13:1. According to the interview with students, the Panel was told that students of Architecture and Urban Planning lack choices in topics/elective subjects.

From the self-evaluation report and student information from the visit, the Panel observed that there is a problem with the number of teachers at the Geodesy and Geoinformatics undergraduate study programme where approximately 20% of the teaching process is covered by external associates (that arrive from Zagreb once in two weeks to deliver lectures in a short time frame). The number of full-time teachers has doubled, and the number of teaching assistants tripled since 2012. The workload of the course teachers is within the prescribed limits, and they have produced more scientific papers and participated in scientific and professional projects. The teaching assistants' workload is within permissible limits or somewhere above the prescribed limit. The increased number of external associates and the teaching assistants' workload show that additional hiring of teachers is required, and this is one of the strategic goals of FGAG.

FGAG has an adequate number of teachers for Civil Engineering studies programmes with the best ratio of students and full-time teachers of 1:1 at the doctoral study where supervisors usually have up to three candidates at the same time.

According to the self-evaluation report (analytical supplement table 4.3) and supported by the discussion with teachers and teaching assistants during the site-visit, it can be concluded that the workload is in general in line with relevant legislation and policies, regulations of competent bodies, collective agreements, etc.

During a visit/meeting with teachers and teaching assistants they did not complain about the teaching overload but explained that the teaching activity takes a large part of their working time but that this is generally equal for all of them and that they manage to distribute the teaching load within their departments, so all have the same opportunity for the development of their scientific/artistic performance, their professional and personal development.

**Recommendations for improvement**

Increase the number of employed full-time teachers and teaching assistants in Geodesy and Geoinformatics area by opening new working places, and offer additional elective courses.

In case of a larger number of students enrolled in Architecture and Urban Planning offer more choice to students.

**Quality grade**

Satisfactory level of quality

**4.2. The higher education institution has an objective, transparent and excellence-based procedure of teacher recruitment.****Analysis**

According to the self-evaluation report, the teachers' positions are organised according to the study programmes and workload, as regulated by FGAG Ordinance on internal organisation and organisation of working positions. The process of teachers' and associates' academic recruitment and promotion follows relevant legal acts and university's ordinances. The public calls for academic recruitments and promotions are conducted in conformity with the law. The evaluation of the teaching process is performed in the process of academic promotion into teaching grades.

According to what is stated in the self-evaluation report, the documents and procedures for teacher recruitment as provided by FGAG during the visit, it can be concluded that procedures for teacher recruitment are aligned with FGAG's development goals, relevant legislation and internal regulations. In the interviews with the teaching staff, the Panel members observed that the system works as it should.

According to the self-evaluation report the FGAG selects the candidates for each position according to the criteria defined by national legislation. On the University level, there is a Guidelines document for the selection of candidates applied for the position of Assistant Professor within the developmental coefficients at the University of Split that they apply. There are no other competitive, excellence-based recruitment criteria in addition to the minimum requirements prescribed by national legislation.

**Recommendations for improvement**

Analyse the possibility to apply/develop at the Faculty level competitive, excellence-based recruitment criteria in addition to the minimum requirements prescribed by national legislation.



## **Quality grade**

Satisfactory level of quality

### **4.3. Teacher advancement and re-appointment is based on objective and transparent procedures.**

#### **Analysis**

According to the self-evaluation report, FGAG uses objective and transparent academic promotion procedures that take into account teachers achievements (such as international contribution to the scientific discipline, high-impact publications, scientific projects, supervision of final, graduation and doctoral theses, authorship of textbooks / study materials, presentations on conferences, etc.). Procedures and criteria are defined by: Act on scientific activities and higher education, Ordinance on scientific advancement criteria (OG 28/2017) and the Decision on requirements for the assessment of teaching and professional activities in the process of appointment into scientific-teaching grades (OG 106/2006, OG 122/2017), Ordinance on requirements for the appointment into artistic-teaching grades (OG 88/2010) and the Decision on requirements for the assessment of teaching and professional activities in the process of appointment into artistic-teaching and teaching grades in the field of arts (OG 61/2017), and the Ordinance on internal organisation and organisation of working positions at FGAG.

The annual recruitment and advancement plan is prepared by the Dean and the employee of the human resources department, in agreement with the Vice-Deans and the Heads of study programmes and accepted by the Faculty Council. The Faculty monitors the teachers' advancements and new recruitments through the re-accreditation recommendation, University's and Faculty's strategies, and teaching and research needs.

In the interviews with the teaching staff, the Panel observed a consensus that the system works according to these regulations and procedures.

In the case that several candidates applied to the competition, they are ranked by the excellence criteria prescribed by the Croatian Rectors' Conference, and the additional criteria defined by the committee appointed by the Faculty Council. If additional criteria are established, they include the indicators of excellence in scientific/artistic and teaching performance and the relationship with the wider community. Additional criteria reflect the strategic goals of the Faculty and the profile necessary for the particular position. Each academic year the Faculty prepares a list of priorities of academic advancement with the aim of meeting several criteria: a) strategic goals, b) human resources management, c) promotion of scientific and professional excellence.

**Recommendations for improvement**

None.

**Quality grade**

High level of quality.

**4.4. The higher education institution provides support to teachers in their professional development.****Analysis**

Based on the self-evaluation report and meetings with the teaching staff it can be concluded that FGAG hasn't established a completely developed system of continuing teachers' training. It does, however, offer to teachers and teaching assistants the opportunity to improve their teaching competence.

The standard practice at FGAG is to have senior and more experienced teachers introduce their younger colleagues into the teaching process by assisting them with the preparation of learning materials and providing consultations.

Recently workshops to improve teaching competences were held at the Faculty within two projects: "Development of higher education occupational standards and qualification standards for the field of sustainable and green building with the development of a new graduate university programme of sustainable and green building focussed on the Mediterranean environment" and "Development and implementation of the Croatian Qualification Framework in the field of higher education of civil engineers". These workshops were about learning outcomes, development of teaching competencies, innovative methods of teaching.

Teaching staff participates in workshops that are organised by the University to improve teaching competences. Although there is no formal procedure for peer-review during the meetings with teachers and teaching assistants it was established that some teachers have the practice to be present at initial classes of young teaching assistants.

An internal pilot project about the quality assurance of the assessment of learning outcomes was implemented in the winter semester 2017/18. Examinations are conducted in front of committees whose members analyse if the exam's questions are in line with the profile and level of the learning outcomes.

According to the self-evaluation report and the information gathered during the meetings at FGAG, the quality of teaching is evaluated through student's evaluation of courses/teachers (questionnaires). Important feedback is also collected through institutional communication with the student representatives through the work of the

Committee for student issues, and through direct communication of students with the management.

10% of teachers that have poor students' evaluations have to attend a meeting with the vice dean and/or dean in order to improve their teaching quality.

According to the self-evaluation report and submitted evidence during the meetings it can be concluded that teachers participate in international mobility programmes and scientific and professional international projects (within TEMPUS, FP7, HORIZON 2020, ERASMUS, ERASMUS+, ERASMUS MUNDUS, IAESTE, LLP, SunBeam), professional international organisations and other associations, are members of the boards of international conferences and the editorial boards of international journals. This participation, however, could be more intensive/numerous.

### **Recommendations for improvement**

All young teaching staff appointed to assistant professor should go through certified methodical and didactical training.

Participation of staff members in international mobility programmes, scientific and professional international projects, professional international organisations and other associations, membership in the boards of international conferences, memberships in the editorial boards of international journals should be further intensified.

### **Quality grade**

Satisfactory level of quality

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

### **Analysis**

According to data from the self-evaluation report, FGAG has a total of 2240 m<sup>2</sup> of classrooms and laboratories, i.e. 2.1 m<sup>2</sup> per student, which is above the prescribed norm of 1.25 m<sup>2</sup> per student. In other words: the minimal criteria are met.

The teaching is performed in 16 classrooms equipped with audio-visual equipment. There are five computer rooms. Students have free Wi-Fi internet connection (Eduroam).

The Faculty has a total of 940 m<sup>2</sup> laboratory/computer space. There are eleven laboratories/logical units, nine in the Faculty building and two on another location (Žrnovnica).

FGAG has been very active in improving the laboratories with new equipment since the last reaccreditation in 2012 through science projects and other sources of funding. The

laboratories, nevertheless, still need improvement to meet (all) the needs for the delivery of study programmes, the achievement of learning outcomes, and for the realisation of scientific/artistic and professional activity. The surveying equipment (photogrammetry-related instrumentation and Geodesy instruments) in the laboratories in the FGAG building do not satisfy the needs for teaching practically related geodetically courses of the study of Geodesy and Geoinformatics.

The FGAG is very active in finding ways to finance the purchase of new equipment and improve the laboratory infrastructure (approved project "From the implementation of scientific research infrastructure at FCEAG to smart specialisation in green and energy efficient construction - INFRA", 11 million euros). It is therefore expected that this aspect will improve soon so that through the students' participation in scientific research and projects (primarily at the doctoral study, but also for the preparation of final work and graduation theses). This equipment will reflect on the quality of teaching and learning, and the achievement of learning outcomes but also assure the appropriate condition for implementation of scientific/artistic and professional activities.

In the self-evaluation report the 'Report on the implemented student assessment of the overall quality of the education for the academic year 2013/2014' is presented, and it indicates that students perceive that the classrooms/laboratories are not appropriately equipped (grade 2,7 on the scale 1-5, 5 being the best). The level of computer and communication equipment should be improved (2.4). This is also true for the space for rest and leisure (2,5) while they assessed with higher grades that the rooms are functional and organised (3,4), sanitary rooms are accessible and well furnished (3,9) and the rooms are clean (4.3).

Based on the Report on implemented second internal evaluation of quality assurance (2017), the Report on the implemented student assessment of the overall quality of the education for the academic year 2013/2014, and teachers' and researchers' feedback, the Faculty plans and improves infrastructural development in line with the strategic goals.

During the Panel meeting with students, it was pointed out that students from Architecture and Urban Planning lack a model room while students from Civil Engineering lack space for group work and ask for the possibility to use classrooms that are vacant during the day.

The schedule for some study programmes in Civil Engineering, and Geodesy and Geoinformatics are not adequate (students have lectures spread during the whole day with long pauses in-between). FGAG plans to arrange with other faculties on the Campus to use their classrooms when available (mentioned on the meeting with teachers).

According to what was told by teachers/teaching assistants during the Faculty tour, the offices for the Faculty staff are adequate.

### **Recommendations for improvement**

Keep on improving FGAG's laboratories, IT services, work facilities.

Based on evidence during the tour of the Faculty and analyses presented in the text above, the Panel considered the infrastructure at FGAG of a minimum level of quality for this standard. However, it recognises the efforts of the management and the Faculty staff in improving the situation without the input of state funding and with the INFRA project. For this reason, a satisfactory level of quality was given.

Give students the opportunity to use the empty classrooms for their individual or group work.

The Faculty should arrange with other faculties on the Campus to use their classrooms if and when available.

### **Quality grade**

Satisfactory level of quality

#### **4.6. 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**

According to the self-evaluation report and the Panel members visit to the FGAG's library, it can be concluded that it assures basic literature for undergraduate and graduate study of Civil Engineering, while the literature for Architecture and Urban Planning is limited in scope (this can be explained by the high cost of colour illustrated books).

The Geodetic Engineering literature which is currently available in the FGAG's library is limited to a number of Croatian and Russian textbooks covering (a part of) the basic fundamental aspects of geodetic science. A few old English textbooks are also available which are largely outdated (despite their strong historical scientific value). There is a lack of standard English academic textbooks on physical, mathematical and space geodesy, which are nowadays quite affordable at a reasonable cost by most publishers. Modern application-oriented geodetic textbooks, standard titles of international geodetic journals, and conference series proceedings of regular geodetic conferences (IAG, EUREF, IGS) are also completely lacking from the FGAG's library.

The students of undergraduate and master studies of Civil Engineering which met with the Panel did not complain about literature and the library in general, and they were quite satisfied. The Architecture and Urban Planning students mentioned the lack of up-to-date literature.

PhD students do not use the library. Teaching assistants/post-doctorates stressed the problem that the Faculty does not have free access to online scientific journals and

indexes. This is actually a problem on the national level because the state/ministry for science and education does not pay for it.

There is a shortage of space and staff in the library. Only two staff members work with occasional help from a student who works for four hours. The current number of staff cannot provide services like education of PhD students about topics related to journal indexing, IF, citations and similar. Near the Faculty building, there is the new building of the University library that students can use.

### **Recommendations for improvement**

The concept of the library should be rethought. With the current resources, the Faculty library isn't able to provide the services that a modern library should provide.

More up-to-date literature for Architecture and Urban Planning should be provided to students. Additionally, there is a strong need for enrichment with up-to-date literature in relation to modern space-geodetic techniques and their wide-range applications in several fields of geosciences and engineering.

### **Quality grade**

Minimum level of quality

## **4.7. The higher education institution rationally manages its financial resources.**

### **Analysis**

Financial sustainability and efficiency is evident in all aspects of the higher education institution's activity. FGAG manages its financial resources transparently, efficiently and appropriately. The financial reports are submitted to the Faculty Council on an annual basis (according to the self-evaluation report, Analytic supplement table 4.11) and have been available on the Faculty web site for the last four years. This is also obvious from the favourable results of supervision and control of purpose-specific use of funds. The audit of financial reports and transactions has been performed by the State Audit Office and the Internal Audit Office of the University of Split. The audit has examined the authenticity and credibility of financial reports and purpose-specific generation and spending of revenue, income, expenditure and liabilities according to the financial plan. FGAG uses additional sources of funding (national and international scientific projects, cooperation with the industry/professional work, donations, etc.) for institutional development and improvement. This can be concluded from the self-evaluation report (Analytic supplement table 4.11), the financial reports for the last four years (available on the Faculty website), and from the information gained from staff during the site visit. The staff is aware of the constraints regarding the state funding and is very active in gathering funds from other sources: by applying for EU or Croatian research projects,

professional work, etc. They find that the management gives them the maximal financial support within the limited financial resources they have.

During the visit and meeting with management, they told us that they would prefer performance-based incentives at the state level.

### **Recommendations for improvement**

The Faculty should define a model to reward high-quality research groups but also invest in potential quality, that is, re-allocate some of the financial resources in research and teaching areas that are underdeveloped and that need incentives to develop.

### **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**

FGAG has adopted a Strategic Research Programme defining strategic objectives, activities and target values. It has implemented incentives to encourage more publications. Most staff members seem to be satisfied with these incentives.

FGAG has increased the number of high-quality scientific publications during the recent years. It has been noticed that the amount of publications has increased since the last accreditation.

FGAG is doing all the right things, but still, the rate of scientific publications should be higher than the present number: 0.77 per staff member per year.

The Faculty has increased its international collaboration and mobility. Especially the number of signed contracts for mobility with another international university has been increased. Still, this international collaboration is mainly related to student exchange, but ultimately it will lead to more international scientific research collaboration. The Faculty supports the researchers in their inclusion in the European research area, and the Faculty staff participates in Horizon 2020 projects.

The Faculty has arranged that all staff members have a Google Scholar profile. The staff from the Faculty participates in national as well as international conferences. The scientific activity is also visible through PhD theses.

#### **Recommendations for improvement**

Increase the number of scientific publications to improve the international visibility.

Focus on and provide support to staff members who do not publish regularly.

#### **Quality grade**

Satisfactory level of quality

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

#### **Analysis**

FGAG promotes scientific research in fields that are directly related to Civil Engineering, Architecture, Urban Planning, Geodesy and Geoinformatics with the aim



to tackle all societal challenges. FGAG monitors and takes into account the needs of the regional society during its research activities.

In general, the Faculty observes societal and labour market needs, and takes them into consideration while planning research activities. Especially within the area of Urban Planning it seems that the relations between the Faculty and the society work well. For example, the Urban Plan of Split was produced by staff from the Faculty. Another example is the first prize for the Žnjan Project won by certain Faculty members.

The alumni and other types of collaboration with professional organisations further support the impression of a strong collaboration with the society. The life-long learning programme is also evidence of the collaboration.

The Faculty has improved the collaboration with the business sector through the post-academic employment, establishment of teaching bases, development of the model for internship and preparation of graduation theses in collaboration with the sector.

In general, the Faculty staff have received several awards.

### **Recommendations for improvement**

Strengthen the support for start-ups and open up this possibility to the students.

### **Quality grade**

High 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**

In general, the Faculty is recognised in a regional, national and international context.

FGAG staff has received national and international awards for their scientific work.

The Faculty is the holder of regional/national as well as international projects. Staff members are invited to give lectures at national as well as international conferences.

The Panel was provided with a list of awards and recognitions, list of projects, list of invited lectures, list of membership in scientific/artistic/professional boards of conferences and list of membership of editorial boards of scientific journals which all prove regional, national and international recognition. In general, the Faculty does all the right things but there is a need to gain more and better international reputation. Mobility on all levels could help.

### **Recommendations for improvement**

Strengthen the work to become more visible in an international context.

### **Quality grade**

Satisfactory level of quality

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

##### **Analysis**

The Faculty has developed and implemented a research strategy in line with the University strategy and the national strategy. This strategy is formulated in general terms rather than giving specific directions. Therefore, the strategic work is sometimes difficult, but due to a lot of energy put into the strategic work, some common achievements like the application for research infrastructure are seen.

The research strategy is trying to focus research and use team synergies. This tendency must be continuously strengthened in the future.

The Faculty administrates available resources for research in a satisfactory way. Therefore, scientific and artistic activities are supported by appropriate financing and human resource management, given the available resources.

The Faculty staff claims that they have the necessary and appropriate resources for their scientific/artistic activities. Nevertheless, the minimum access to laboratories and journal papers must be a problem.

##### **Recommendations for improvement**

The Faculty should develop a further focused research strategy. Develop a focused research strategy based on local strengths and values.

### **Quality grade**

Satisfactory level of quality

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

##### **Analysis**

Graduate students are partially and postgraduate students more often involved in scientific/artistic/professional projects of the Faculty. The students are very satisfied with this involvement. Especially the involvement in the professional projects is appreciated. Laboratory practice for the undergraduate/graduate study programmes of Civil Engineering is performed in the laboratories of the Faculty. The undergraduate students are normally not included in scientific projects.

Equipment for research is used in teaching at the postgraduate level. The equipment used for the courses at the undergraduate study of Geodesy and Geoinformatics is used for research as well.

Teaching at all levels reflects the research activities and the professional activities of the Faculty.

In general, the students of Architecture seem to be more involved in projects than Civil Engineering students.

### **Recommendations for improvement**

The more the students can be involved in projects the better. Introduce a formal procedure that links students to research projects.

### **Quality grade**

Satisfactory level of quality

## APPENDICES

### 1. Quality grade by assessment area

<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 programmes</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	

## 2. Quality grade by standard

<i>Quality grade by standard</i>				
<i>1. 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

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

<i>Quality grade by standard</i>				
<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 programme, clearly defined, published and consistently applied.				X
3.2. The higher education institution gathers and analyses information on student progress and uses it to ensure the continuity and completion of study.			X	
3.3. The higher education institution ensures student-centred learning.		X		
3.4. The higher education institution ensures adequate student support.			X	
3.5. The higher education institution ensures support to students from vulnerable and under-represented groups.			X	
3.6. The higher education institution allows students to gain international experience.			X	
3.7. The higher education institution ensures adequate study conditions for foreign students.			X	
3.8. The higher education institution ensures an objective and consistent evaluation and assessment of student achievements.			X	
3.9. The higher education institution guarantees the issuance of Diploma Supplements and adequate qualification information.				X
3.10. The higher education institution is responsible for 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. The higher education institution has an objective, transparent and excellence-based procedure of teacher recruitment.			X	
4.3. Teacher advancement and re-appointment is based on objective and transparent procedures.				X
4.4. The higher education institution provides support to teachers in their professional development.			X	
4.5. The space, equipment and the entire infrastructure (laboratories, IT services, work facilities etc.) are appropriate for the delivery of study programmes, ensuring the achievement of the intended learning outcomes and the implementation of scientific/artistic activity.			X	
4.6. 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		
4.7. The higher education institution rationally manages its financial resources.			X	



<i>Quality grade by standard</i>				
<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	

### 3. Site visit protocol

**Ponedjeljak, 5. ožujka 2018./  
Monday, 5<sup>th</sup> March 2018**

Hotel u Splitu / Hotel in Split

**12:00 – 13:30** Meeting with the panel members

**14:00 – 16:00** Radni ručak Stručnog povjerenstva / Working lunch

**16:30 – 17:00** Edukacija članova stručnog povjerenstva – kratko predstavljanje Agencije, upoznavanje sa sustavom visokog obrazovanja u Republici Hrvatskoj/ Training for the expert panel members – short presentation of ASHE, introduction to the higher education system in Croatia

**17:00 – 17:30** Edukacija članova stručnog povjerenstva – upoznavanje s Postupkom reakreditacije, Standardima za vrednovanje kvalitete, pisanjem završnog izvješća/ Training for the expert panel members – introduction to the re-accreditation procedure, standards for the evaluation of quality and writing the final report

**17:30 – 17:45** Pauza/Break

**17:45 – 20:30** Priprema povjerenstva za posjet Fakultetu građevinarstva, arhitekture i geodezije Sveučilišta u Splitu (rad na Samoanalizi)/Preparation of the expert panel members for the site visit (working on the Self-evaluation)

**Utorak, 6. ožujka 2018./  
Tuesday, 6<sup>th</sup> March 2018**

**9:00 – 10:00** Sastanak s Upravom (*bez prezentacija*) / Meeting with the Management (*no presentations*)

**10:00 – 10:15** Interni sastanak članova Stručnog povjerenstva / Internal meeting of the panel members

**10:15 – 11:00** Sastanak s radnom grupom koja je priredila Samoanalizu /Meeting with the working group that compiled the Self-Evaluation

**11:00 – 12:00** Sastanak članova Stručnog povjerenstva (**Analiza dokumenata**)/Internal meeting of the panel members (**Document analysis**)

**12:00 – 13:00** Sastanak sa studentima (otvoren sastanak za sve studente) / Meeting with the students (open meeting)

**13:00 – 14:30** Radni ručak Stručnog povjerenstva / Working lunch

**14:30 – 15:15** Sastanak s Alumnima / Meeting with the Alumni

**15:15 – 16:00** Sastanak s vanjskim dionicima - predstavnicima strukovnih i profesionalnih udruženja, poslovna zajednica/poslodavci, stručnjaci iz prakse, organizacijama civilnog društva, vanjski predavači/Meeting with external stakeholders -representatives of professional organisations, business sector/industry sector, professional experts, non-governmental organisations, external lecturers

**16:00 - 17:00** Organizacija dodatnog sastanka o mogućim otvorenim pitanjima prema potrebi / Organisation of additional meeting on potential open questions if needed

Hotel u Splitu / Hotel in Split

**17:00 – 20:00** *Sastanak Stručnog povjerenstva – refleksija o viđenom i priprema za idući dan posjeta / Joint meeting of the expert panel members – reflection on the day and preparation for the second day of the site visit*

**Srijeda, 7. ožujka 2018./**  
**Wednesday, 7<sup>th</sup> March 2018**

**9:00 – 10:00** Sastanak s prodekanima za studije / Meeting with Vice-Deans for studies (Civil Engineering, Architecture and Urban Planning, Geodesy)

**10:00 – 11:00** *Sastanak članova Stručnog povjerenstva (Analiza dokumenata) / Internal meeting of the panel members (Document analysis)*

**11:00 – 12:00** Sastanak s nastavnicima (u stalnom radnom odnosu, nisu na rukovodećim mjestima) / Meeting with full-time employed teachers (open meeting) **12:00 – 13:00** Sastanak s asistentima / Meeting with teaching assistants

**13:00 – 14:30** *Radni ručak članova Stručnog povjerenstva / Working lunch*

**14:30–16:00** Obilazak Fakulteta (knjižnica, uredi studentskih službi, ured međunarodne suradnje, informatička služba, predavaonice) i prisustvovanje nastavi / Tour of the Faculty (library, student services, international office, IT services, classrooms) and participation in teaching classes

**16:00 – 16:45** Organizacija dodatnog sastanka o mogućim otvorenim pitanjima prema potrebi / Organisation of additional meeting on potential open questions if needed

Hotel u Splitu / Hotel in Split

**17:00 – 20:00** *Sastanak Stručnog povjerenstva – refleksija o viđenom i priprema za idući dan posjeta / Joint meeting of the expert panel members – reflection on the day and preparation for the third day of the site visit*

**Četvrtak, 8. ožujka 2018./**  
**Thursday, 8<sup>th</sup> March 2018**

**9:00 – 10:00** Sastanak s prodekanima za znanstveni rad i međunarodnu suradnju / Meeting with vice deans for research and international cooperation

**10:00 – 10:45** *Sastanak članova Stručnog povjerenstva (Analiza dokumenata) / Internal meeting of the panel members (Document analysis)*

**10:45 – 11:30** Sastanak s voditeljima znanstvenih projekata / Meeting with the heads of research projects

**11:30 – 12:00** *Interni sastanak članova Stručnog povjerenstva / Internal meeting of the panel members*

**12:00 – 13:30** *Radni ručak članova Stručnog povjerenstva / Working lunch*

**13:30 – 14:15** Organizacija dodatnog sastanka o mogućim otvorenim pitanjima prema potrebi / Organisation of additional meeting on potential open questions if needed

**14:15 – 15:00** *Sastanak članova Stručnog povjerenstva / Internal meeting of the panel members*

**15:00 – 15:15** Završni sastanak s Upravom / Exit meeting with the Management

Hotel u Splitu / Hotel in Split

**16:00 – ...** *Sastanak Stručnog povjerenstva - Izrada nacrtu završnog izvješća i rad na dokumentu Standardi za vrednovanje kvalitete / Joint meeting of the expert panel members - Drafting the final report and working on the document Standards for the evaluation of quality*

## **SUMMARY**

An Expert Panel evaluated the *Faculty of Civil Engineering, Architecture and Geodesy of the University of Split* (FGAG) in March 2018 in the context of the re-accreditation of the institution. The Panel based its findings on the self-evaluation report compiled by FGAG, supporting documents and the site-visit held on March 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> 2018 in Split.

The Expert Panel found a faculty that is characterised by a true academic atmosphere, with great internal communication (both horizontal and vertical) among a clearly motivated and energetic community of staff, students and management, that is open to improvements, firmly rooted in the regional professional and social community of Split.

The Expert Panel is convinced that the elements are in place for a sustained development of the Faculty to live up to its true potential. At the same time the Panel observed areas where there is sufficient room for improvement.

The internationalisation of FGAG still seems to be at an early stage. This is evidenced by a relatively low number of foreign students and a limited international visibility of the research accomplishments of its staff. The Expert Panel observed traditional class-based teaching methods that do not sit well with the needs for student-centred teaching. The development of the Faculty has been slowed down by the lack of a high-quality research infrastructure. The Faculty's scope (including Civil Engineering, Architecture and Geodesy) is broad while the size of the institution and its staff is limited. Trying to cover the full width of Civil Engineering, Architecture and Urban Planning, and Geodesy carries the risk that the Faculty is stretched too thin and becomes vulnerable and that its output is perceived as superficial.

FGAG should make choices for niches where it can be unique and develop the critical mass that is required to make an impact.

The Expert Panel is aware that the disciplines Architecture and Urban Planning, and Geodesy are relatively young in Split. Nevertheless, the Panel advises FGAG to improve the balance between the three core scientific areas it covers.

Finally, the Expert Panel highlights some examples of good practice it observed at FGAG:

1. Monitoring of learning outcomes (internal, external);
2. Teaching bases;
3. Contribution to the regional development;
4. Summer school;
5. Lifelong learning programmes (energy certification, project management).