



**RE-ACCREDITATION OF THE UNIVERSITY OF SPLIT  
FACULTY OF CIVIL ENGINEERING, ARCHITECTURE AND  
GEODESY**

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## **COMPOSITION OF THE EXPERT PANEL**

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# INTRODUCTION

## *Short description of the evaluated institution*

The Faculty of Civil Engineering, Architecture and Geodesy is a part of the University of Split. Whereas the University of Split was officially established on 15 June 1974, the Faculty of Civil Engineering had already been founded in 1971 as the Faculty of Civil Engineering by establishing a department of Civil Engineering. Today, after about 40 years of existence, the University of Split includes nine faculties, an Academy of Arts, two university colleges and two university departments as well as several institutes and scientific units.

Whereas the Civil Engineering was the basis for founding the Faculty, in recent years other disciplines have been added to the Faculty. The founding of the studies of Architecture was finally established in 2003, also in anticipation of the full development of the Dalmatian region and with help by the Zagreb University. The programme for Geodesy and Geoinformatics started in the academic year 2010/2011, with the support of the Faculty of Geodesy of the University of Zagreb. The Faculty has 22 departments.

According to the Statute, the University of Split is a public institution of higher education, which organizes and performs scientific, artistic and developmental research, especially the realization of the scientific programmes of strategic interests for the Republic of Croatia, artistic creativity and professional work, and undergraduate, graduate and postgraduate education based on such terms and also the professional studies in accordance with the law.

In 2005/2006 the Bologna process was started at the University of Split, and the European education model was adopted.

After the separation from the Civil Engineering Institute (IGH) some years ago, the Faculty was left without laboratory equipment. Over the past years, remarkable efforts have been made to purchase new laboratory equipment.

The Faculty has its own buildings, totalling 6800 m<sup>2</sup> of floor area, which houses classrooms, offices, laboratories, a library, a conference room and computer classrooms. A new building was added, having a total area of 1600 m<sup>2</sup>, with full equipment. In 2006 a new University library, designed by Jurica Jelavic, was completed on campus.

## ***The work of the Expert Panel***

For its work the panel drew upon the self-evaluation report, prepared by the Faculty of Civil Engineering, Architecture and Geodesy of the University of Split. The experts carried out a site visit to the campus of the Faculty at Split on 26 and 27 April. During the visit they saw the premises and physical resources. During the visit to Split they held meetings with the following groups:

- Faculty Management, including the Vice-deans for teaching and research
- The Self-Evaluation Group and the QA Committee
- Students
- Teachers
- Heads of research centres and research project leaders
- Teaching assistants and junior researchers

They also examined the facilities, visited classes and had a tour through the laboratories, the Faculty library and the cafeteria.

# DETAILED ANALYSIS BASED ON STANDARDS AND CRITERIA FOR RE-ACCREDITATION

## ***1. Institutional management and quality assurance***

- 1.1. The Faculty conducts systematic strategic planning. It is interesting that the Faculty has a strategic paper, well defined, whereas the University is just on the way to define its overall strategy.
- 1.2. The Faculty has developed quite effective organizational structures and processes. The Faculty explained that a reorganization of the Faculty structure is intended in a way of forming institutes that will represent a set of related departments. Still the current structural organization is in operation (22 chairs and 5 research centres), but at the moment it does not reflect the full scope of the intended effective and efficient processes and organizations. The current documents are showing a structure with an uneven distribution of personnel per unit.
- 1.3. The Faculty is well prepared to contribute to achieving University goals. Since those goals are not yet stated or put in operation, the Faculty has defined its own goals in the area of higher education, research, artistic work and professional work. There is no doubt that, if and when the time comes, the Faculty will take over the appropriate goals from the University.
- 1.4. Strictly speaking the mission is in line with each of the study programs. Still, there is a reason to work over the study programme in professional studies, since here too many students just enrol without serious effort to finish their studies at all.
- 1.5. All study programs are aligned with the Baseline of the Croatian Framework, which is still a provisional framework and not yet put in law.
- 1.6. The Faculty has implemented effective systems of quality assurance and continuous quality improvement, so that a culture of excellence will pervade all aspects of its internal operations. The Faculty should still aim higher and declare its visions about the excellence to be achieved, also to ensure interest of excellent national and international students to be enrolled. The consequences from the analysis of quality assurance are not all implemented at the end. Quality management procedures and results of applied measures could be more formalized and visible to all stakeholders.
- 1.7. The Faculty has implemented formal mechanisms for monitoring and improvement of the teaching quality, the evidence of which are gathered on a regular basis and filed with the dean's office.
- 1.8. The Faculty has implemented quite a number of mechanisms for monitoring and improvement of the research quality. They could be better put in line to each other and show also the consequences of good or less good quality of work. It is a way to create an effective quality management system with various possibilities to monitor and improve all aspects of research quality.

- 1.9. The Faculty is soon to take over the formal rules, which are on the way to be established by the University, for the highest level of ethical behaviour in its teaching and research activities. The Faculty should consider various possibilities to put those rules in operation and track their effectiveness.
- 1.10. Students who were present at the meeting stated that they did not know about the standards of ethical behaviour and were not acquainted with them. The ethical code should be implemented within the different groups of the Faculty. There is a variety of possibilities to implement aspects of the ethical behaviour during normal coursework, without labelling every discussed subject purely as “ethical behaviour”.

## **2. Study programmes**

- 2.1. We understand that
  - a) the higher education production is a slow motion future process („3+2= 5 or 6 or 7 or 8 years“) and the market needs are present and might change quite fast, and
  - b) long term needs of society are based on many factors as individual interest of young people, long term collective needs and aims and international situation and
  - c) decision on admission quotas for students in particular fields, faculties and studies is basically made on national level, approved by Ministry and
  - d) considering all this the Faculty is dealing properly with such circumstances.Short time ago the University made a reduction in the number of admitted students in the Civil Engineering programme due to high drop-out rates in the last semesters. This is a reflection of the fact that the society needs graduated engineers instead of failing students. Concerning the long-term needs of society, long-term assessments for the Civil Engineering programmes are not really done. The regional needs for architects and geodesy are well defined and they are the reason to keep these smaller study programmes going. The analysis carried out by the institution of its future activity might bring more precisions to numbers. Hopefully they will not be decreasing.
- 2.2. The pass rate is moderate and should be improved. Smaller enrolment quotas, as decided by the Faculty for the Civil Engineering Bachelor Programme, could lead to higher quality of teaching. Still the Faculty should also discuss other measures, even unconventional ideas in order to reduce the drop-out rate. Lectures and workshops (studio, practice, laboratory) might be organized with more „checking points“, raise more active participation in lectures by the students with their questions, comments, discussions, notes on subjects. Of course, full and continuous attending of lectures should also be achieved.
- 2.3. The system to describe learning outcomes is very precisely described in the Self-Evaluation. It gives the impression that it is considered perfect and therefore allows for no further changes. But then it would neglect that learning outcomes are constantly in move and should be subject to reflection of the – long-term – needs of society.
- 2.4. Teachers at the study programme ensure that the assessment of student learning is aligned with stated learning outcomes. The external experts consider that good learning outcomes can also be achieved, when a considerable bigger ratio of part-time teachers is involved in the education than usually in the university system. Therefore, this item has been graded by the panel as fulfilled.

- 2.5. Layout and assignment of ECTS to the courses seem to be quite schematic. The Faculty has reflected on the desired assignment for each course. The students also state that, despite some unfavourable ratios, in general there are no reasons to complain. Still, the Faculty should remain in the constant process of checking on the real average workload and then clearly decide, whether the workload has to be adjusted or the number of assigned ECTS points should be changed.
- A general word of caution for anyone allocating ECTS points is that they should reflect realistic student work and obligations, and that estimation would be in relation with the ECTS judgement of their peers at other universities/faculties. This is important because of mobility in Croatia, in region and elsewhere. For the time being, it is a bit unclear how to deal with knowledge brought in from outside (ECTS transferred from abroad) in the case of mobility.
- Due to the fact that three study programmes are carried out by the same Faculty, the Faculty might inquire how to facilitate some ways of internal mobility between the study programmes of the same Faculty.
- 2.6. The Geodesy Programme, being only few years in operation, is still “under construction” concerning the involved teachers. The process of establishing own full professors for Geodesy should be pushed stronger.
- 2.7. Students are not well encouraged to self-learning. There is a large variety of teaching methods, which should be applied in practice. Still the type of exams (term paper, final exams, homework assignments, oral and written exams) show a good variety. When considering this full scale of possible evidence of learning, it is recommended that not every course makes use of several types of exams. So the maximum number of exams should be reduced, whereas the differentiation of the types of exams should remain equally broad.
- 2.8. There is not enough literature for Architecture in the Faculty library. The organization with a large warehouse and a small amount of books which are directly accessible by the students is not optimal. This is compensated by good course materials from the teachers via Internet.
- The University library located nearby offers quite strong informatics support, and it is expected to be a good information base for all three studies. Besides, all printed material from Croatian publishers concerning Civil Engineering, Architecture and Geodesy should be in the library- if not in original prints, then in copies (a campaign to invite some private persons to donate some wanted books might be suggested).
- 2.9. Students have no real focus on practical training and its importance during studies. In their discussions the Faculty tends to narrow down internship to purely construction sites. But there are many more working environments and opportunities for practical training, also by encouraging the students to look for contacts with the industry on their own.
- The Faculty should work on good ideas and visions for students for practical experience. This could be in offices for structural analysis, with the state building administration, with the road, port and railway authority and others. Even the perspective of architects can be a very important practical issue for future civil engineers.
- The idea of one semester of internship might also be considered and elaborated, in particular located at the time between undergraduate and graduate study. In that case, a big



benefit for the students would be the possibility to start with first graduate semester both in autumn and spring.

- 2.10. The Faculty has defined and adopted formal processes by which new study programmes are proposed, approved and implemented. These procedures monitor development, innovation and improvement of the existing study programmes and also include other stakeholders. The motivation and the spirit within the Architectur and the Geodesy study programme seem to be very high.

### **3. Students**

- 3.1. Information packages clearly inform potential students about the level of study programmes, qualifications and academic titles as well as possibilities for further education and employment. Some of the documents on the Internet as well as some printed versions are from former years. For example, the quality management board is just listed on the Internet with the names of the people involved without giving their function. Some sites were not accessible due to internal Faculty problems. Altogether there are still minor deficits.
- 3.2. Admissions criteria and procedures are publicly stated and consistently applied, and can be found both on the Faculty web page and in brochures printed by the Faculty that are distributed later to prospective students. They are regularly reviewed for their effectiveness in predicting student success in a programme.
- 3.3. The competencies of applicants evaluated upon admission are in general to a good extent aligned with the demands and expectations in the future career of the graduates. The Faculty has made investigations, to which extent the Matura degrees and especially the degree in Mathematics correlate with the success of the students in the first semester. There seems to be little or no correlation, but this matter should be analyzed in more detail. It is also stated that the Faculty has no great influence on defining the wanted Mathematics degree, since it is already defined by the State Matura.
- 3.4. The Management is aware of the different extracurricular activities of the students. They support students being involved in all sort of extracurricular activities by helping students coordinate activities and studying through informal agreements with each professor. The Management is not involved in arranging extracurricular activities. However, it facilitates the information about it on the campus, for example sports clubs and other activities in Split and the vicinity.
- 3.5. The Faculty offers counseling, mentorship and professional orientation to ensure personal development of the students, which is mostly based on informal conversations with professors on the student initiative. That system works well for now and there are no complaints neither by students nor professors and mentors. Concerning professional development, the facilitating of contacts through internships and individual projects combining research and industry could still be strengthened.

- 3.6. The Faculty cares for and raises the level of student standard. The Faculty provides students' restaurant and allows for payment of tuition fees in installments. Still, there are complains about prices of ECTS points when a student needs to re-enroll to a certain subject. The striving for excellence could be manifested even stronger. In some regards the Faculty should "aim higher".
- 3.7. The Faculty supports the work of the Student Council. There could be even more "pressure" on the students to make use of their rights, of their competencies within the self-organizational body of the University and in the dialogue with the teaching staff. Students should be active participants of the organizational structures of the Faculty because they are the ones who are most affected by study programmes and studying organization itself. Constant communication between the Management, teachers and students must be strengthened.
- 3.8. The Faculty publishes its methods and procedures for student assessment and uses various methods for student monitoring. Students have all previous exams provided and are familiar with their obligations. Feedback information about students' questions and complaints is sometimes missing from professors. The activities and involvement of students in the internal discussions should be strengthened by a variation of additional means and maybe sometimes by softening the approach of some professors. Students' engagement seems to be somehow neutralized or disengaged in some respect.
- 3.9. The Faculty keeps no regular statistics on the employability of its graduates. The support of the University in this matter is surprisingly low. These data, managed in a more appropriate way, could be very useful for further support to the Faculty by local government, industry and other stakeholders employing graduates from the Faculty. This also can be of a great value for strengthening communication between alumni and the Faculty.
- 3.10. The Faculty maintains contact with alumni. This contact is currently properly done, but not yet aligned in structures. On the other hand, an active contact between professors and their graduates is very fruitful, even if not formalized within a unified scheme. Still, increased communication with alumni can be used in reorganizing fields of education that are later rated as insufficient or inappropriate by alumni or their employers.
- 3.11. The Faculty ensures that students have appropriate opportunities to participate in its decision-making processes and the resolution of matters affecting their experience. However, keeping these formal rules in mind, the Management should take the actual minor involvement of student representivess very seriously and try to support the students and the students' representatives even more - also in cases where single professors might, at first sight, seem to block any students' initiatives. Communication with the Student Council is essential for further study programme organization and solving coming problems on the Faculty level.
- 3.12. The Faculty regularly informs the public about its study programmes, learning outcomes, qualifications and employment opportunities. The information to the public is good and sufficient. Employment opportunities are publicly advertised as required by law.
- 3.13. The structure is such, that there are enough possibilities in the system for students to express their opinions and proposals for improvement. The concern should be to encourage

students to better make use of their rights and possibilities. The dean should also support the idea of better integrating the students in a number of activities.

- 3.14. The students are informed about the measures implemented on the basis of their suggestions and opinions. But it seems that this information has not always reached the students properly or in an effective way. Students should always be aware that they are an important part in the Faculty organization and that their suggestions and opinions will be considered by the Faculty Council.

## **4. Teachers**

- 4.1. For the time being, the teaching staff is sufficient, the number and qualifications of the teachers are in line with strategic goals of the Faculty and adequately cover core disciplines. Among the teachers there are some names with international credits, and those who belong to the top of Croatian professionals. These raise the self-confidence of the school and are inspiring for the students. In Geodesy the teaching staff is still lacking, the cooperation with the University of Zagreb is still needed to provide experienced teachers and researchers in this field.
- 4.2. The Faculty carries out the policy of growth and development of human resources, especially taking into account potential retirements and sustainability of the study programmes and scientific activity. The monitoring of the schedule for retiring teachers is not only well organized, but is used for strategic plans in order to facilitate smooth transfer from well-known teachers and researchers to younger colleagues. Our feeling is that young staff, in spite of (or due to) heavy obligations in teaching, research and professional work, will successfully continue and develop the Faculty achievements.
- 4.3. The Faculty demonstrates the employment of a high number of full-time teachers at the study programmes. In Geodesy the employment of full-time teachers seems insufficient at the moment. For the strategic goals – on the University as well as on the Faculty level – there should also be more employment of teaching assistants.
- 4.4. The Faculty takes into account the number of full-time teachers, maintaining the optimal ratio between students and full-time teachers. The ratios are good and even improving, except for the professional studies.
- 4.5. The Faculty has developed policies for teaching staff that ensure their development as needed to advance the Faculty's mission. Course offers in didactics, presentation techniques and other key competences should be more actively offered to interested teachers, also within the context of lifelong learning. There are seminars offered for continuous education (lifelong learning), which are attended by members of the Faculty.
- 4.6. The Faculty, in this instance the University as a whole, developed and accepted clear procedures for teachers' advancement. Such procedures are implemented in a fair manner, with the possibility of appealing advancement decisions. Teachers involved in the study of Architecture in some cases are promoted due to their notable professional artistic achievements. The institution should develop further their initial cooperation with the Zagreb Faculty of Architecture by offering a joint doctoral programme in art, in which way some of the teachers could advance in the future.

- 4.7. Policies governing the assignment of teachers' workload provide for a fair and equitable distribution of effort and include teaching, research, mentorship and student consultations. There are many elements of a more or less informal process, but the issue is well discussed within the departments. The Faculty is ready to implement any changes if necessary.
- 4.8. The Faculty ensures and takes care that its teachers hold a substantial commitment to their teaching and research responsibilities and that these obligations are not compromised by a teacher's commitments external to the Faculty.

## ***5. Scientific and professional activity***

- 5.1. The Faculty has established a strategic programme of scientific research the implementation of which is monitored, evaluated and reviewed via defined success indicators. Formal rules for measurement of research quality are implemented for Ph.D. students and young researchers. It is recommended to set more formalized rules for the teachers as well.
- 5.2. In planning and implementing its research agenda, the Faculty clearly envisions and provides for cooperation with other scientific organizations and industry both within and beyond Croatia. The Faculty is recommended to continue in its efforts to realise its plans for national and international cooperation.
- 5.3. At all levels of the Faculty, research is acknowledged as a contributing component of its overall activity as may be evidenced by intellectual contribution to the Faculty and its reputation. The Faculty should focus to achieve equal level of research activity and quality of all research centers in future.
- 5.4. The Faculty should work on a re-organization, so that the teaching obligations of their scientists are reduced or organized in such a way that there remains a considerable timeframe for research. The Panel gets the impression that part of the situation cannot be solved by the Faculty alone, but needs University and Ministry support. It is recommended that the national science funds also provide funds for employing staff working on the projects. The Panel thinks this is a necessary basis in order to be able to compete internationally.
- 5.5. The Faculty has developed and implemented a policy of promoting research excellence. The Faculty should make more effort for promoting the researches within the national and international context. All researchers should aim higher than the minimum national criteria.
- 5.6. The Faculty has developed and implemented a policy of encouraging academic publishing. There is good encouragement for Ph.D. students as well as for professors to publish in referred journals.
- 5.7. The Faculty keeps track of multiple evidences of scientific productivity, such as Croatian and international publications, citations, patents and other.
- 5.8. In line with its mission, the Faculty supports professional activities and services, ensures conditions for knowledge and technology transfer and monitors their evidence. There

should be good guidance, especially for the young teachers, to grow up in this environment and develop awareness of the need to contribute to the society.

## **6. *International cooperation and mobility***

- 6.1. The Faculty facilitates and promotes mobility of students from other higher education institutions. An offer of courses for a study programme given in English and international mobility of teachers and student are listed as the first priority.
- 6.2. In keeping with the international context of study programmes, students have opportunities to complete some portion of their programme abroad. The mobility window is not yet clear in the programmes. The *Lisbon Convention on the Recognition of Qualifications concerning Higher Education in the European Region* (Lisbon, April 1997) shows some clear objectives in this matter.
- 6.3. The Faculty encourages international cooperation and mobility of its teachers and analyses implementation of their experience in its activities. The number is quite low. However, professors have experience from former times, when they were abroad for Ph.D. or as assistant professors. This could be continued with engaging in international cooperation and mobility. Mobility and cooperation should be spread to a wider range of disciplines lacking in experiencing mobility.
- 6.4. The Faculty is involved in international associations of similar institutions and actively contributes to joint goals. There are explicitly two strong fields from the Faculty having good standing in international context.
- 6.5. The Faculty has ensured conditions for attracting students from abroad. Also, the Faculty and the location of Split University have strong points to attract students from abroad. Together with relevant courses and significant scientific work in the field of Karst Hydrology, Construction in Coastal Areas and Durability of Structures in Coastal Areas this could be a stronghold for attracting student from abroad.
- 6.6. There are some links to the EU programmes, but cooperation within the EU Lifelong Learning Programme could not clearly be seen by the panel.
- 6.7. The Faculty has developed other forms of inter-institutional cooperation through European projects, bilateral agreements, joint programmes, mentoring of dissertation, etc. There are three very renowned international research projects. This cooperation should be continued and the Faculty should work on development and further strengthening of its international links.

## **7. *Resources: administration, space, equipment and finances***

- 7.1. Some deficits in library use, working spaces and laboratories can be seen. The Faculty is aware of these deficits and tries to come up with improvements.
- 7.2. There are good rules and standards to develop non-teaching staff and training opportunities.
- 7.3. The laboratories should also be developed more to national and international accreditation as certified laboratories in order to be eligible for international grants.
- 7.4. The Faculty has a very good basis in new premises. This should be accompanied by good facility management in order to maintain the valuable facilities and laboratories.
- 7.5. A good and sound controlling is established in order to collect, analyze and use all information relevant to improvement of the Faculty activities.
- 7.6. University library is good, whereas the Faculty library is only acceptable. There should be a better synergy between the two libraries. The search in electronic catalogues is not sufficient.
- 7.7. The ratio between teaching and non-teaching staff seems realistic, but it takes into account also cleaning staff and technical maintenance. The staff for laboratories is lacking in respect to other non-teaching staff. One specialist for assisting in applications for research grants might be helpful.
- 7.8. Research students face a very difficult situation due to cost-cutting on a national level. Professional work of the institution makes up for some financial needs.
- 7.9. Faculty's own funds are used to improve the quality of teaching and scientific activity in line with the mission and other formal documents.

# **FINAL REPORT AND RECOMMENDATIONS BY THE EXPERT PANEL**

## ***ADVANTAGES (STRONG POINTS)***

### **Support by Management**

The panel noticed a well-conceived team spirit among the young and very engaged Faculty Management. A young, diligent and hard working management is in operation, which shows effectiveness and flexibility, especially for the upcoming generational change.

### **Resources for Education**

The Faculty is well experienced in teaching and research. The evaluation of teaching has been documented with impressively good grades from the students. In Civil Engineering, the international reputation due to the CV's of teachers, of whom many have experience from their Ph.D.-phase abroad, is good. The representatives from the Architecture discipline in the Faculty are well present and they clearly express their opinion, acting as opinion leaders.

### **Support for Students**

The organizational environment for the study programmes is well organized. Much information is published via intranet and downloadable, for administrative issues as well as for course material and information.

Laboratories show good usage and activities also for students' education. Cooperation with the (local) industry and local government is strong and stable.

Possibilities to employ students within research and contract projects are used well.

### **Support for Young Researchers**

A system for quality monitoring of teaching is in place, keeping track of young researchers. Some very strong research projects, led by renowned academic researchers, have been in operation during the past years. They open a strong basis for shifting these topics within the next years to younger generation.

The award of money and other assistance for quality research and publication is well placed.

The ideas for research in Architecture are most welcome and show awareness, which fits well in the international context about research in Architecture.

## ***DISADVANTAGES (WEAK POINTS)***

### **Student-Teacher Relations**

The activities and involvement of students in the internal discussions should be strengthened by a variation of additional means and maybe sometimes by softening the quite absolutist approach of some colleagues (teachers/professors).

The ECTS-workload seems to be very evenly distributed, but it should be thoroughly checked whether it really always reflects the workload and the strategic importance of each course.

### **Internationalisation**

International cooperation and mobility is also seen to be on a good way, but there is still a long way to go, which also incorporates the identification really attractive “unique selling points” to be identified for the Dalmatian region on aspects beyond the Faculty and beyond the University as well.

### **Employability**

Special attention should be drawn to the improvement of students’ expectations and opportunities to get practical experience. This is expressively not limited or focused on merely visiting construction sites. There are many more and different ways to get valuable insight in the practical work of the future Engineer and Architect or anything showing the actual problems of building and construction.

Keeping in touch with alumni is on a fair way. The panel recognized the good ideas from the Faculty. The Faculty should strengthen the involvement of alumni in order to gain “additional power” and make use of their expertise and commitment.

### **Support for Researchers**

The circumstances for young researchers to really focus on their research topic are not always favorable due to heavy teaching overload and budget restrictions.

In order to keep up study and research quality, ethical code (rules) should be made better visible within the Faculty. Some items can well be addressed within normal coursework (plagiarism, exam cheating, literature citation etc.). It might also be used as a topic for improving communication between students and teachers.



A fair share between teaching and research for the young researchers deserves more attention. This also includes checking the teaching overload. The intrinsic motivation for young researchers to earn their Ph.D. is a very strong argument, which should nevertheless not be made overtly difficult by teaching and other administrative tasks.

Also more research potential could be activated by involving young students earlier in research topics.

### **Facilities**

There is a lack of spacious classrooms, especially ateliers.

The laboratories should be more spacious and better equipped in order to be useful for class exercises in the major Civil Engineering fields.

## **RECOMMENDATIONS FOR IMPROVEMENT OF QUALITY**

In the following the panel expresses hints and remarks concerning all accreditation topics, in which the Faculty was not rated up to the maximum number of points.

### **1) Management of the Higher Education Institution and Quality Assurance**

- In the near future the Faculty should seek to better document the actually intended and practiced internal organization and its processes. (Criterion 1.2)
- The Faculty should even more clearly aim at the vision for excellence in science and education. This, if clearly stated, will help to easier attract international scientists and exchange students. The systems for quality assurance and continuous quality improvement for research outputs could be strengthened by making results even more transparent and by formalizing the applied measures and mechanisms. (Criterion 1.6)
- The system of feedback of quality monitoring should be further operated on a large variety of measures in order to demonstrate the effect of quality control to staff and students. (Criterion 1.8)
- The Faculty should seek an active involvement in the official establishment of the University rules for ethical behaviour in order to also and subsequently establish these on the Faculty level. (Criterion 1.9)
- The Faculty should develop different methods in teaching and scientific discussions for promoting the University rules for ethical behaviour. (Criterion 1.10)

### **2) Study Programmes**

- The Faculty should seek for an independent vision on the numbers of students in Civil Engineering, Architectural and Geodesy Programmes, based on the self-understanding of their scientific disciplines and matched with the reflection on the challenges from our future society and the benefit these disciplines can contribute to it. (Criterion 2.1)
- The Faculty should seek for more active participation of students in lectures and other forms of education in order to raise motivation and intrinsic learning and at least limit the drop-out quota to an acceptable level. (Criterion 2.2)
- The Faculty should still keep an eye on shifts in learning outcomes as society develops further to the “knowledge society”, and that the current remarkable achievements are not taken as fixed for ever. (Criterion 2.3)
- It is recommended that the results of monitoring credit weighting and associated workloads are subject to regular discussion and with participation of the students. At least the sum of the total workload during a semester should remain on the expected overall level, which implies the need to issue recommendations, whether to reduce the workload of a course or to raise the number of ECTS granted for that course.(Criterion 2.5)
- The Faculty should strengthen and develop the approaches to different types of learning and exams. Especially team-oriented assignments are recommended, although teachers still might be uncomfortable to accept achievements of group work without being able to clearly assign the individual contribution of each participating student. However, this is typical work situation of modern consulting Engineers. (Criterion 2.7)
- It is strongly recommended that the Faculty develops and expands its links with domestic and international industry to provide better opportunities for students to gain insight into their future work life. Different approaches may include more guest lectures by practitioners, mandatory or compulsory internship programmes, acknowledgement of special problems conducted in cooperation with industry, motivation for students to seek contact with industry on their own or as a homework assignment, and other. (Criterion 2.9)

### **3) Students**

- In the long run, the Faculty should analyse the correlation between admission criteria and the success rate of students. (Criterion 3.3)
- The Faculty should keep an open eye to the wide spectrum of challenging activities and course offers within other disciplines of the University as well as on the extracurricular activities for students in order to promote a broad academic and personal education for each student. (Criterion 3.4)
- The Faculty should not decrease its involvement in improving the support system for students in order to make them aware of the beautiful challenges of future professional work. (Criterion 3.5)

- The Faculty should have a closer look on the price system of re-enrolment in order not to prevent generally successful students from achieving their ECTS. (Criterion 3.6)
- The Faculty should enhance and even look for some “reward system” in order to strengthen students’ participation in councils and other self-organisational bodies. (Criterion 3.7)
- The Faculty should work on a “several-parallel-ways-approach” in order to listen to and accept criticism by students where appropriate. (Criterion 3.8)
- The Faculty should strengthen the awareness of where their graduates start working and how they succeed in their professional life. (Criterion 3.9)
- The Faculty should keep track of alumni activities by individual chairs and institutes. It should be made part of the general programme for keeping in contact with alumni and this programme should be aligned with an overall alumni strategy of the University. (Criterion 3.10)
- It is recommended that each Faculty member pays attention to ensuring that reports and remarks given by the students are taken up in a constructive and fruitful manner, trying to understand the underlying motivation of the students’ reflections. Open discussion among teachers and staff members as well as with students’ representatives should be held about the different attitudes towards students’ criticism. (Criterion 3.11)
- The Faculty should pay more attention to the ways in which the students’ participation can be enhanced in the long term. (Criterion 3.13)
- The Faculty should encourage also young students to participate in the Student Council in order to be an active part of the developing University. (Criterion 3.14)

#### **4) Teachers**

- It is recommended that more academic staff is recruited with qualifications to support teaching in Geodesy. If this is not possible due to budget or availability reasons, innovative methods of teaching as video courses, distant learning or guest lectures in the format of short or intensive courses might give some ideas on how to fight this difficult problem. (Criterion 4.1)
- The plans to achieve enough teaching capacity, especially in Geodesy, should also be pursued with an open mind for unconventional solutions, since the diagnosed shortage of teaching personnel does not seem as it will be easily solved in the near future. (Criterion 4.3)
- Greater attention should be given to ensure that teaching and non-teaching staff have opportunities to keep up-to-date with key developments in their field of work and that this life-long learning attitude applies not only for students but also for all personnel in a Faculty facing the challenges of tomorrow. (Criterion 4.5)

- The Faculty should carefully monitor the balance between the time for teaching and research and also keep track of the changes made during the time. (Criterion 4.7)

## **5) Scientific and Professional Activity**

- The Faculty should establish more formal rules for monitoring and evaluating the teachers' achievements in research. (Criterion 5.3)
- The Faculty should further strengthen the mechanisms to ensure that research activities and co-operations within Croatia and beyond are improved. (Criterion 5.2)
- The Faculty should clearly strive both internally and on the political level for better funding for research personnel, so that funding for research projects also includes allocation for employment. (Criterion 5.4)
- The Faculty should clearly state a more strategic approach to excellence in research, thus to set the aim high enough for everybody to line up with these goals. (Criterion 5.5)

## **6) International Cooperation and Mobility**

- The Faculty should clearly work on mobility windows within their study programs, also accepting learning achievements from abroad in an appropriate and constructive way. (Criterion 6.2)
- The Faculty should continue developing the opportunities for more teachers and students to benefit from international experience, also working on individual exchange projects and different models of time frames. (Criterion 6.3)
- The Faculty should work out the main lines of attraction within the discipline and moreover concerning the city and the surrounding region and its specific challenges. This might help in presenting the special attractiveness of the Faculty for foreign students as well as teachers. (Criterion 6.5)
- The Faculty should continue to explore opportunities for cooperation in the EU LLL programme. (Criterion 6.6)
- The Faculty should continue developing and extending its international links. (Criterion 6.7)

## **7) Resources, Administration, Space, Equipment and Finance**

- The Faculty should improve the use of library and the quality and the amount of literature, especially also taking into account the vast dimensions of the University library. (7.1)

- The laboratories should be developed step by step for certification of equipment and personnel in order to be eligible for international grants and industry contracts. (Criterion 7.3)
- The Faculty should work on a concept for cooperation with University facilities and others in order to maintain the achieved high standards in buildings and equipment. (Criterion 7.4)
- The Faculty should keep clear track of improvements still to be achieved and improvements already accomplished. (Criterion 7.5)
- The Faculty should seek for synergy between the Faculty and University library, also enhancing availability of international journals in Engineering as well as tools for sound literature research. (Criterion 7.6)
- The Faculty should especially address its financing difficulties concerning research students toward industry and University Management to raise awareness of the difficult situation for profound research as well as raising funding by non-standard sources. (Criterion 7.8)