

# DEVELOPMENT STRATEGY 2012-2017 FOR THE FACULTY OF CIVIL ENGINEERING OF THE UNIVERSITY OF ZAGREB

## 1. INTRODUCTION

The Faculty of Civil Engineering of the University of Zagreb is the oldest and the leading faculty in the field of civil engineering in the Republic of Croatia.

The Faculty developed from the Polytechnic, Technical Faculty of the University of Zagreb and from the Faculty of Architecture, Civil Engineering and Geodesy in Zagreb.

The independent Faculty of Civil Engineering was founded by the Croatian Parliament on April 26, 1962.

In order to maintain its superior position, the Faculty needs a well designed strategic development plan that will include its entire activities.

With this document the Faculty is additionally organising its mission to perform its activities more efficiently, by setting high standards in quality assurance and by formalising the procedures pursuant to ESG standards (Standards and Guidelines for Quality Assurance in the European Higher Education Area).

## 2. MISSION AND VISION

In its 151st session, on July 6, 2011, the Faculty Council brought the mission, vision and strategic goals of the Faculty.

### **Mission:**

The Faculty of Civil Engineering of the University of Zagreb is the oldest civil engineering faculty in Croatia which conducts university education at undergraduate, graduate and postgraduate levels in all fields of civil engineering, constantly develops and promotes higher education, scientific-research activities and life-long learning, and caters for the development of the profession and the application of new technologies.

### **Vision:**

- maintain and improve the leading position as Croatian university and scientific research centre in all fields of civil engineering;
- establish international recognition by developing a culture of high quality higher education and research through the application of high grade European and world practices, encourage mobility of student researchers, and become a regional centre of excellence in particular disciplines, simultaneously become „a bridge of cooperation“ between the European Union countries and the region;
- maintain and improve cooperation with the business sector in expert tasks and development projects, specialise in life long higher education and develop alumni network for the mutual support and promotion.

### 3. ORGANISATIONAL STRUCTURE

The current organisational structure, based on present regulations, has rendered effective and therefore it will not be changed.

The Dean is in charge of managing the Faculty. He/she is aided by Vice-deans and the Secretary of the Faculty. Departments are managed by heads. Chairs are managed by chiefs, and laboratories by leaders. Common Services Departments is coordinated by the Faculty Secretary, and their Divisions are managed by heads.

The Faculty has a Vice Dean for Science, Vice Dean for Education, a Vice Dean for International Cooperation and a Vice Dean for Finances.

Heads run professional, and coordinate scientific and educational activities of departments. Chiefs of chairs run educational and scientific activities of chairs. Leaders run laboratories.

**The Faculty Council** is the Faculty's professional body.

Permanent and temporary working bodies, set up by the Faculty Council, deal with the specific issues within their authority as laid down by the Faculty Statute.

**Permanent working bodies of the Faculty Council are as follows:**

1. Committee of Education
2. Committee of Science
3. Committee for Degree and Final Exams
4. Committee for Textbooks, Manuals and Publications
5. Committee for Professional Development in Civil Engineering
6. Committee for Quality Assurance
7. Students Disciplinary Court

The Faculty has nine departments.

A department is an organisational unit of the Faculty that predominantly operates in one branch, or field. The scope of department activities is as follows: organisation and implementation of educational, scientific and professional work; determining and proposing the department budget within the Faculty budget; proposing the department investment plan within the Faculty investment plan; educating staff, particularly junior researchers and associates; proposing scientific and professional training home and abroad; discussing and giving opinions on issues raised by Faculty bodies.

Chairs and laboratories are established within departments for better efficiency.

A chair is, as a rule, a departmental organisational unit that performs educational and scientific activities. Laboratories are, as a rule, departmental organisational units that perform activities related to the activities of the Faculty.

It should be stressed that the Faculty's organisational structure includes the students and the alumni. Elected student representatives are equal members of the Faculty Council and of some committees and as such can contribute to the changes and improvements in the organisation of teaching and improvement of study programmes. Students have a good communication with the teaching staff and the management, both in teaching and non-teaching activities, notwithstanding their representatives. They actively participate in the design of the exhibition stand for the University Fair where they are often awarded, they are active in sports competitions, in the organisation of civil engineers' fair and student rallies, take care of the Faculty's official student forum etc. At undergraduate level students can directly communicate with the teachers through Year Councils, and at graduate level through specialisation course leaders.

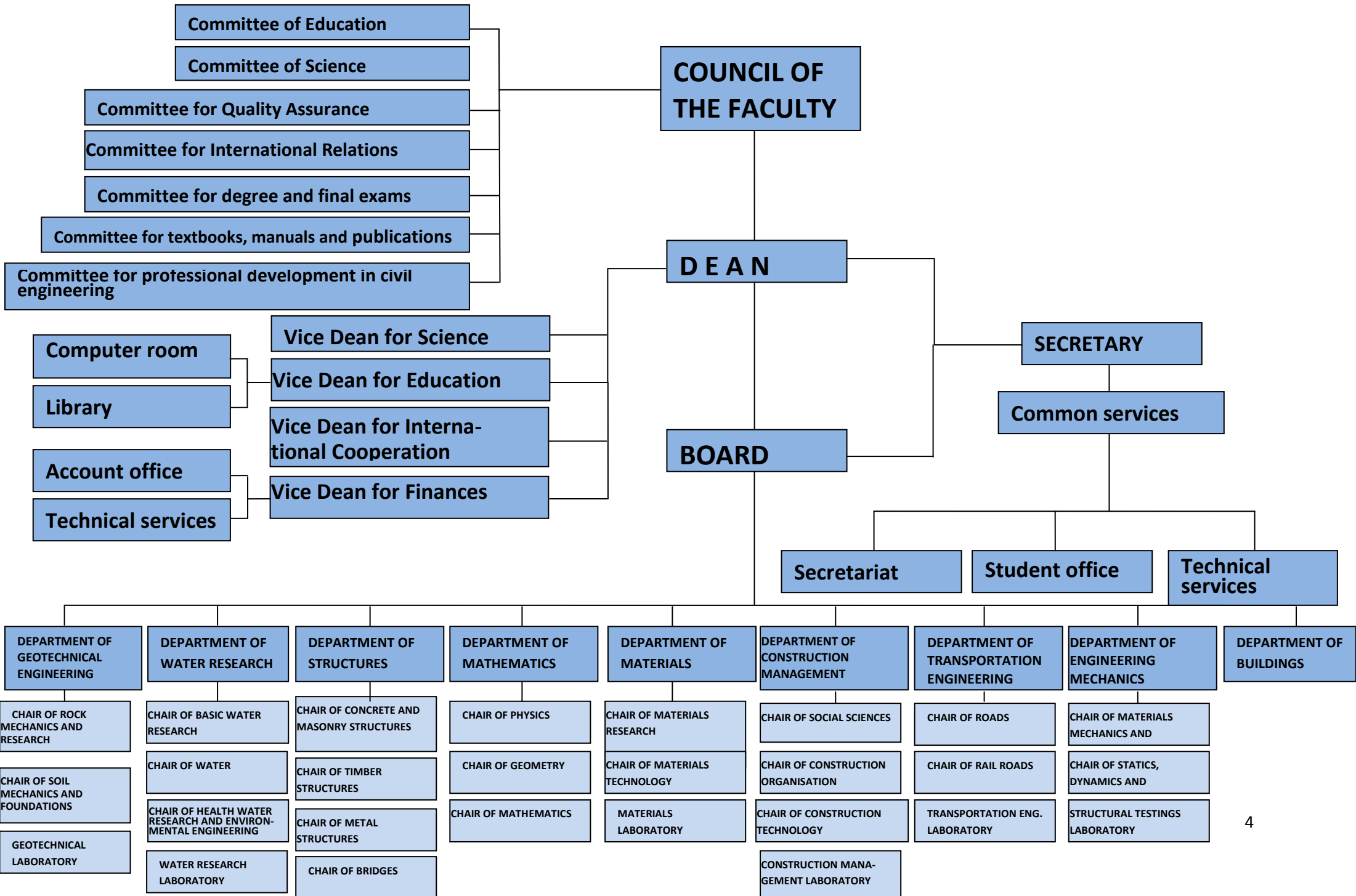
The Faculty maintains contacts with alumni. Croatian Association of Graduate Civil Engineers of the Faculty of Civil Engineers of the University of Zagreb (AMCA-FA) is one of the oldest and most active associations in Zagreb University and is a strong link between the alumni and the economy. It was set up in 1998 and has more than 750 members. The Association entirely fulfils its main role by spreading the alumni philosophy, by promoting the Faculty and the University and by raising the awareness among civil engineers about being a part of the Faculty and the University. It conducts the following activities: encourages young graduates to join the association, helps with employment, issues AMCA-FA Journal, maintains the web page and refreshes the membership address book. The Association has released a promotional CD and it fosters the cooperation with other AMAC/AMCA associations which helps to include other participants in improving the Faculty activities.

#### **4. SWOT ANALYSIS**

SWOT is the analysis of the Faculty's strengths and weaknesses as well as opportunities and threats from Faculty's environment. The Faculty is in the intensive process of eliminating the weaknesses as specified by SWOT analysis, which this strategy is a part of.

##### **4.1. Strengths**

- largest and most influential higher education institution in scientific research and professional fields of civil engineering in Croatia;
- tradition and status in Croatia and the region (the majority of teachers at other faculties in the region graduated from postgraduate courses at the Faculty of Civil Engineering in Zagreb);
- teachers are included in the activities of professional societies, associations and institutions and thus influence the development of civil engineering;
- transparent organisational and management structure of the Faculty;
- seven specialisations in all fields of civil engineering offered at graduate level;
- permanent quality assurance assessment;
- laboratories with state of the art equipment, modern lecture and study rooms;
- accessible teaching materials: e-courses, web pages, a large collection of textbooks in the library;
- active participation of students in decision making – representatives in Faculty bodies;



- well organised doctoral programme and developed procedure of earning doctorship in civil engineering,
- traditional international cooperation of our teachers with foreign colleagues;

#### **4.2. Weaknesses**

- insecure funding for Faculty development programmes from the state budget;
- teachers' and teaching associates' work overload and uneven distribution of teachers and teaching workload in departments;
- unfinished procedure of learning outcomes implementation;
- insufficient material means for practical work;
- inability to employ junior researchers and assistants on successful projects;
- limited number of young scientists specialising at international institutions;
- negligible number of teachers, administrative staff and students attending international study visits.

#### **4.3 Opportunities**

- possibility of stronger regional influence in developing higher education and scientific activities in civil engineering;
- accessible European funds for development of education and research;
- increased student and teacher mobility;
- full use of ERASMUS programme;
- cooperation with the economy;
- blending the potential of Faculty employees in interdisciplinary projects;
- bilateral regional and international cooperation in education and scientific research;
- integrated doctoral programmes;
- undergraduate university study programme in civil engineering in English;
- training for financial department – administration of international projects.

#### **4.3. Threats**

- unclear development strategy for scientific and higher education in the Republic of Croatia;
- university restructuring in near future, without clear guidelines and indications on the character and scope of reforms;
- trends of constant reforms and assessments – imposing reforms at short notice;
- extended duration of recession and reduced investment in science and higher education;
- prolonged period of inability to employ junior researchers, assistants and assistant professors (development jobs);
- insecure funding for scientific projects;
- increased administration of quality assurance procedure.

## **5. STRATEGIC PLAN**

General and specific goals for the Faculty in the period from 2012 to 2017 are set out in this paragraph.

Specific goals have been further developed through tasks and activities necessary for their implementation.

### **5.1. General goal as basis for further development of all activities**

The increase of space and staff in teaching, scientific-research and professional fields, with emphasis on scientific-teaching and teaching juniors (junior researchers and assistants).

### **5.2. Teaching activities**

#### **5.2.1. General goals**

Permanent development of study programmes according to the latest knowledge and achievements in European and world science and profession, further harmonisation of learning outcomes with the demands of the profession and the market, harmonisation of course content, manner of teaching and student workload with the learning outcomes. Permanent modernisation of teaching methods and the use of all the possible methods to transfer the latest knowledge with the aim of improving teaching quality.

#### **5.2.2. Specific goals and tasks**

Improvement and modernisation of study programmes:

- further development of study programme learning outcomes and courses in cooperation with employers and alumni (AMCA-FA), according to the development of civil engineering profession;
- further connection of the educational process with scientific and research activities and incorporation of applicable results of scientific research into the teaching content;
- modifications and amendments to the study programmes based on learning outcomes that reflect the development of science and civil engineering profession and the recommendations by the accreditation agency ASIIN.

Assurance and improvement of the quality of teaching process:

- monitoring and analysis of study success,
- introduce measures to increase the rate of enrolment into higher years of study, average grades and decrease the duration of studying (adapt the course content, type of teaching – with the emphasis on continuous work during semester – and student workload to the course learning outcomes),
- developing guidelines for exam grading criteria,
- developing guidelines for the standardisation of content and form of final and graduation papers and their grading criteria,
- incentives for publishing university textbooks,
- incentives for development of e-courses,
- expansion of library collection,
- maintaining the level of computer class-room equipment by purchasing computers, other equipment and specialised computer software,
- motivating and awarding students,
- increasing student standard (canteen),

- writing the Manual on Quality Assurance, based on the Manual of the University of Zagreb,
- raising the interest of students for the participation in student survey (proposal and development of feedback).

### **5.3. Scientific-research activities**

#### **5.3.1. General Goals**

Keeping the position of a science-driven faculty along with setting up excellence centres ( in propulsive disciplines) and increasing the international recognition and further development of international cooperation with universities and institutions worldwide.

#### **5.3.2. Specific Goals and Tasks**

Raising doctoral programmes to the international level and harmonization with European criteria:

- connecting and extending cooperation with related universities and scientific institutions, primarily in EU, and developing international mobility of students and researchers,
- extending integrated doctoral programmes to more disciplines, in cooperation with European partners,
- developing access to world electronic data bases.

Connecting research capacities in Croatia and abroad by setting up a network of researchers (virtual centres):

- participation in mutual research projects with partners from EU, Croatia and the region.

Promotion and participation in establishing research centres in cooperation with the business sector:

- development, modernisation and certification of laboratories,
- further connection with the business sector and deciding on the relevant organisational forms.

Starting university courses in English language.

Increase the mobility of students, teachers and administrative staff.

### **5.4. International Cooperation**

#### **5.4.1. General Goals**

The strategy of international cooperation of the Faculty of Civil Engineering is in line with the strategy of the University of Zagreb and consists of the internationalisation of the Faculty of Civil Engineering through the development of international cooperation with other universities and institutions in the world, by applying for international projects and development of student, teacher and administrative staff within the existing programmes and projects.

#### **5.4.2. Specific goals and tasks**

- increased number of bilateral inter-university and inter-faculty agreements,
- increased student and teacher mobility,
- increased number of applications for international projects,
- setting up university study programmes in English language,
- cooperation with AMCA-FA association,
- information and promotional materials about the Faculty of Civil Engineering in English.

#### **5.5. Economic Activities**

The Faculty's cooperation with the business plays an important role in the development of civil engineering profession, new technologies and their application. Participation in highly demanding engineering tasks in civil engineering is a good basis for acquiring new knowledge and experience which are further transferred to students. Individual knowledge and competences are a strong basis for participation of the Faculty in the implementation of civil engineering projects.

##### **5.5.1. General Goals**

Developing and improving further the cooperation with the economy.

##### **5.5.2. Specific Goals and Tasks**

Improving staff, technical and formal requirements for the participation in highly professional projects:

- developing professional competences of Faculty employees,
- developing laboratories and fitting them further with field and laboratory equipment,
- acquiring institutional accreditations for professional tasks,
- laboratory accreditation.

Active participation in the realisation of developmental civil engineering projects with a wider social impact:

- connecting with public companies,
- offering highly professional services in study and project process.

Active participation in the development of civil engineering industry:

- cooperation with the research and development departments in the business sector with the aim of research results application,
- informing the professionals about research results by their publishing in scientific and professional journals, and by organising and sponsoring scientific and professional gatherings.



Public action and a more prominent role of the Faculty in professional associations and executive authorities:

- including the Faculty staff in professional associations,
- cooperation with the responsible ministry.

## **6. FINAL PROVISIONS**

Obviously, the implementation of the strategy will depend on the enforcement of new regulations in the Republic of Croatia and on the harmonisation with the EU regulations.