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FOREWORD

Faculty of Electrical Engineering and Computing (Croatian acronym: FER) of the University of Zagreb is a leading research and higher education institution in the Republic of Croatia in the area of electrical engineering, computing, and information and communication technology. During its 93 years long activity (1919 - 1956 as Electrical Engineering Department of the Technical Faculty, 1956 - 1995 as Faculty of Electrical Engineering and since 1995 under the current name), FER has valuably contributed to the development of the Croatian industry, mainly through education of high-quality and versatile graduated engineers and by completing research & development and professional projects for the Croatian economy.

This document represents a strategic framework for development of education, research and innovation at FER and for development of organisation and management activities, infrastructure and a quality assurance system at FER for the period 2013 to 2017. The document is partly based on the *Research Strategy of the University in Zagreb for the period 2013 to 2017*, *European Union Growth Strategy – Europe 2020*, *The EU Framework Programme for Research and Innovation - Horizon 2020* and on the *Strategic Directives for Education, Science and Technology of the Republic of Croatia*.

For the period from 2013 to 2017, the whole FER’s activity shall be directed towards high levels of educational, research and innovation achievements, towards establishment of necessary institutional framework for these achievements, having in mind the circumstances in which FER is acting. By insti-

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1. [http://www.unizg.hr/istrazivanje-i-tehnologija/istrazivanje/](http://www.unizg.hr/istrazivanje-i-tehnologija/istrazivanje/)
2. [http://ec.europa.eu/europe2020](http://ec.europa.eu/europe2020)
4. [http://public.mzos.hr/fgs.axd?id=18632](http://public.mzos.hr/fgs.axd?id=18632)
tutional framework, the care for development of human resources and efficient organisation of all the supporting services at FER are principally understood, but also our proactive participation in attempts to improve the legal and organisational frameworks. Only a co-ordinated, well-designed integral development of educational, research and innovation activities, of human resources and the organisational structure can provide FER with long lasting leading competitive position within the Republic of Croatia and at the same time a partner relationship with similar faculties from Europe and the rest of the world.

The FER’s Faculty Council adopted the Development strategy of the Faculty of Electrical Engineering and Computing of the University of Zagreb, 2013 – 2017, on its regular session held on December 19th, 2012.

Dean

Prof. Nedjeljko Perić, Ph.D.
1. STARTING BASE

1.1. General information about FER

The study of electrical engineering in Croatia started on December 10th, 1918 with establishment of the Technical High School in Zagreb and the Department of Electrical Engineering. On August 31st, 1926, the Technical High School transformed into the Technical Faculty, joining the University of Zagreb. The Department of Electrical Engineering merged with the Department of Mechanical Engineering into the Electromechanical Department in the academic year 1927/1928. Two years later, after merging of the Electromechanical Department with the Department of Naval Architecture, Mechanical Engineering Division was formed, containing the Department of Electrical Engineering. The Parliament of the People’s Republic of Croatia decided to transform the departments of the Technical Faculty into separate faculties on April 26th, 1956. In this way, the Faculty of Electrical Engineering was formed (Croatian acronym: ETF). Within its first curriculum, denoted as ETF-1, two directions of study were performed, called Strong Current and Weak Current.

In 1959 the ETF adopted a new Statute as the first faculty at the University. The Statute was innovative for that time because it had prescribed an original study system called “year after year” what meant that for enrolment in subsequent year, all the examinations from the previous year had to be passed. The calendar of all the examination terms was published before the beginning of each academic year. The time table of lectures and exercises assured not only that every student had a personal seat in any lecture room or laboratory, but it also granted room available for individual and group learning.

In 1961, the Faculty moved to the Building A on its current location at the address Unska 3. The premises B and C were completed and put to use in 1963.

In 1967, the new curriculum ETF-2 was introduced with specialisations Electrical power engineering, Electrical drives and automation and Electronics (with subspecialisations Electrical communications and Control).
Only a year later, in 1968, the first computer was acquired, marking the start of education in computing. In 1971, within the curriculum ETF-3, on the profile Electronics, in addition to already established profile Control, the following new profiles were introduced: Telecommunications and informatics, Computing engineering and informatics, and Radiocommunications. In 1978, the curriculum ETF-4 was formed, containing Power engineering, Electrical drives and automation, Industrial electronics, Telecommunications and informatics, Automation, Computer engineering, Radio communications and professional electronics and Nuclear power engineering.

In 1989, the Faculty expanded to include the Building D. Since then, the Faculty’s premises have not been further extended although the number of students and employees has doubled.

Having recognised the importance of the scientific field of Computing, the Faculty changed its name into the Faculty of Electrical Engineering and Computing (Croatian acronym: FER) in 1995. Also the new curriculum, FER-1, was designed, whereby for the first time two studies were performed: Electrical engineering (containing six profiles, mostly corresponding to those in the previous curriculum) and Computing. Gradually, the number of enrolled students increased, reaching the current quota of 650.

FER has understood the 2005 reform, known as the Bologna process, as a chance to renew and modernise the curriculum, but also to radically reform the educational process. In the curriculum FER-2, which is currently applied, on the undergraduate level, there are two studies - Electrical engineering and information technology, and Computing. On the graduate level, in addition to these two studies, the study Information and communication technologies was introduced in recognition of importance of this new scientific field.

By means of the Faculty Statute from 2005, to the already existing 11 departments, a new Department of Applied Computing was established. The educational process was described in details, classical examination terms were obliterated, and the examination proceeded only through continuous assessment of student achievements. Instead of the former concept of years of study, the prerequisite system was introduced - in next academic year, a student can enrol in all the courses satisfying the gained prerequisites, but the number of enrolled ECTS credits cannot exceed a prescribed amount.

The education is conducted in smaller groups with more interaction between the lecturer and students. In order to enrol in the graduate study, the candidates have to pass an entrance examination, except for the students who, according to defined criteria, are regarded as having been adequately prepared during their undergraduate study. The former discrete concept of grouping students exclusively into those fully financed by the Ministry or fully tuition paying was substituted with a financial participation scheme where the amount of student’s payment depended upon the
student’s success in study. Successful students are free of any payment. Every year approximately 550 students complete their graduate study, which corresponds to about 85% of those enrolled in the first year of the undergraduate study.

In 2006, FER acquired international accreditation from the German accreditation agency ASIIN (Akkreditierungsagentur für Studiengänge der Ingenieurwissenschaften, der Informatik, der Naturwissenschaften und der Mathematik) for its curricula and for awarding the degrees Bachelor of Science and Master of Science.

After introduction in 2009 of the state final examination in secondary schools, colloquially known in many continental countries as matura, FER was among the first higher education institution to accept the new criteria for enrolment of students, understanding that in this way the number of candidates could broaden and the chance for selection of even better entering students would grow.

In 2011, the new Statute was adopted where the excessively detailed prescriptions regarding the educational process were relocated into the new Regulations for undergraduate and graduate study. Examination terms have been partly resumed.

FER started with its doctoral study even before the Bologna reform, at the time when other higher education institutions predominantly practiced doctorates without a doctoral study. Until the academic year 2008/2009, the doctoral study contained the major part of education through lectures. Since the academic year 2009/2010, the new doctoral study curriculum is performed containing less lectures but more research, including research seminars and seminars for gaining generic skills. The change has proved successful because all the enrolled students already in their first year of study had passed the qualification doctoral exam, while the number and quality of published scientific papers has increased.

FER is recognisable also for its scientific achievements, for the largest number of international research projects among the institutions of the University in Zagreb, and especially for its co-operation with industry, institutions and SMEs. Thanks to a continuous co-operation with the industry, the Faculty partly covers its expenses from the revenue gained through such co-operation, enabling it to maintain good provision of equipment and high standards for study and work.

During 56 years of independent existence, FER has always persevered in reforms, building the current system of study, traditionally attracting the best among the secondary schools population, assuring a small dropout and fast completion rate and offering excellent employment opportunities, due to relevance and high quality of the knowledge gained at the Faculty.
1.2. Activities and organisation of FER

FER is a constituent unit of the University in Zagreb, where the University according to regulations in the Scientific activity and higher education act and the University Statute enjoys the founding rights over the Faculty.

FER is a legal person evidenced in the legal register of institutions and in the Register of higher education of the Ministry of science, education and sports.

FER consists of 12 departments. Departments are organisational units for co-ordination of research and educational activities. Each department is a kernel of educational, research and scientific work in a specific field or branch.

Organisational structure of FER is the following:

- Faculty Advisory Board
- Faculty Council
- Dean
- Vice dean for education
- Vice dean for research
- Vice dean for finance and administration
- Department of Applied Physics
- Department of Applied Mathematics
- Department of Applied Computing
- Department of Fundamentals of Electrical Engineering and Measurements
- Department of Electric Machines, Drives and Automation
- Department of Energy and Power Systems
- Department of Telecommunications
- Department of Electronic Systems and Information Processing
- Department of Control and Computer Engineering
- Department of Electroacoustics
- Department of Electronics, Microelectronics, Computer and Intelligent Systems
- Department of Wireless Communications
- Dean's Office
- Common Services
- Human Resources
- Student Administration
- Technical Support and Maintenance of Premises and Installations
- Work Safety and Fire Protection
The Faculty is managed by the Dean and the Faculty Council. Permanent members of the Faculty Council are all the full and associated professors, assistant professors and representatives of collaborators, research assistants, students and the chief librarian. The Faculty Council is in regular session once a month with the dean as a chairperson. When required, extraordinary (thematic) sessions are summoned.

The FER management assures participation of students and employees in decision-making process at the Faculty. Students are members of committees and commissions of the Faculty Council. The stakeholders (business managers and employers) form the majority of the Faculty Advisory Board.

Standing working bodies of the Faculty Council are:

1. Committee for undergraduate and graduate study
2. Committee for doctoral study
3. Committee for professional promotion
4. Committee for research and international cooperation
5. Committee for cooperation with industry and for innovations
6. Committee for infrastructure and management
7. Committee for life-long education and e-learning
8. Commission for quality management
9. Library commission
10. Commission for awarding of employees and students
11. Commission for enrolment of undergraduate and graduate students
12. Disciplinary commission for students
13. Ethical commission

At the dean’s proposal, the Faculty Council can establish temporary working bodies.
1.3. About this Development Strategy

Development strategy of FER defines:

- mission and vision;
- strategic development goals: (1) education, (2) research and innovation, (3) organisation and management, infrastructure development and quality assurance system;
- particular objectives for each area, with highlighted concrete activities;
- key performance indicators, monitoring, responsible persons, implementation deadline and prerequisites for implementation of each activity;
- documents to be created and applied.

In definition and forming of the Development Strategy, care has been taken of the FER’s particularity, its development plans and capabilities of each service and department, having in mind also a broader social context. Promotion of quality and establishment of quality management and assurance in every segment of FER’s activity is among the FER’s priorities. The goal is to satisfy all the stakeholders – students and their future employers, domestic and international partners in research, but also the investors in higher education. The foundation of FER’s success and the dominant factor of quality in completion of tasks at FER in the period 2013 - 2017 shall be the firm commitment of the dean and the FER’s employees in perseverance in fulfilment of FER’s mission, of the vision and the Development Strategy.
2. MISSION AND VISION OF FER

MISSION

The FER’s mission is:

- to educate students capable of carrying out the technological and social development of Croatia through education and research in the field of electrical engineering, computing and information and communication technology, using scientific background from applied mathematics and applied physics;

- to create new knowledge by internationally acknowledged research and by development of new interdisciplinary areas;

- to innovatively develop the economy and public services, hence contributing to the overall development of the society;

- to be an institution of high academic values and ethical principles, a site of critical thinking and questioning, and of equality for all its members;

- to be a driving force in the Croatian society

In fulfilling the mission of FER, we rely on our core values that we continue to develop: we are the leading national and regional higher education and research institution with outstanding staff and students, closely connected with the economy, remarkably organised and internationally recognised.
VISION

As Croatia’s leading academic and research institution in the field of electrical engineering, computing, and information and communication technology, FER wants to be integrated and competitive in European higher education and research area; it wants to create new forms of knowledge transfer to the economy and to prompt economic and social activities of Croatia.
3. STRATEGIC GOALS FOR DEVELOPMENT OF FER

3.1. Education

Strategic goal: Providing high quality education to students, founded on an interconnection of teaching, research and innovation, along with regional and European recognition of academic programmes in the field of electrical engineering, computing, and information and communication technology, increasing the mobility of students and staff, and development of life-long learning and training.

3.2. Research and innovation

Strategic goal: Increasing research and development capacity and quality of research and innovation in order to generate new scientific ideas and discoveries to be transferred to the Croatian economy through development of high technology products and establishment of related businesses. Encouraging of high quality and international recognition of research, development and innovation in all the branches and corresponding scientific fields traditionally fostered at FER.

3.3. Organization and management, infrastructure development and quality assurance system

Strategic goal: Increasing business efficiency, improving all forms of infrastructure that would technically support the development of FER, expanding the system of quality assurance to all the areas of FER’s activity and strengthening the alumni organisation.
4. REVIEW OF STRATEGIC ELEMENTS ACCORDING TO DEFINED AREAS OF ACTIVITY

4.1. Education

**Strategic goal:** Providing high quality education to students, founded on an interconnection of teaching, research and innovation, along with regional and European recognition of academic programmes in the field of electrical engineering, computing, and information and communication technology, increasing the mobility of students and staff, and development of life-long learning and training.

Implementation of higher education based on learning outcomes at undergraduate, graduate and postgraduate level is achieved through the following specific objectives:

1. assurance of high quality of undergraduate and graduate studies;
2. promotion of international recognition of studies at FER and increasing the mobility of students and teaching staff;
3. further improvement of the status for students in accordance with European standards of studying;
4. expansion of life-long learning and of knowledge transfer between FER and the economy.

Particular objectives and activities required to achieve these objectives are listed below. The indicators are defined to measure the success in fulfilment of specific tasks. As the reference year for comparison to evaluate the effects of individual indicators, the academic year 2011/2012 has been selected.
PARTICULAR OBJECTIVE 1:
Assurance of high quality undergraduate and graduate studies

Continuous quality control of content and of delivery of undergraduate and graduate programmes through partnerships with students, businesses, professional associations, former students (alumni) and with other stakeholders.

Activity 1.1: Encouragement of acquisition of long-term knowledge and development of study programmes, considering the future needs of the labour market.

Activity 1.2: Equipment provision and maintenance of instructional laboratories and classrooms, and availability of appropriate literature.

Activity 1.3: Continuity assurance for the process of graduation.

Activity 1.4: Assurance of dignity to teachers and students.

Activity 1.5: Inclusion of student internship in the curriculum and the possibility of work on graduation theses in partnership with the industry.

Activity 1.6: Introduction of «Technical English language» as an option to the social courses.

Activity 1.7: Application of new e-learning technologies.

Activity 1.8: Systematic approach to determine the admission quotas.

Activity 1.9: Balancing the workload of professors and teaching assistants.

Activity 1.10: A more intensive promotion of FER in order to attract the best secondary school students.
PARTICULAR OBJECTIVE 2:

Improvement of international recognition of the studies at FER and increasing of the mobility of students and teaching staff

Continuous development of international educational co-operation with similar institutions in Europe and the world, increasing of international recognition of studies at FER and increase of incoming and outgoing mobility of students and the teaching staff.

Activity 2.1: Increasing of the international exchange of students and teachers.

Activity 2.2: Establishment of joint doctoral and graduate studies.

Activity 2.3: Attracting foreign students to study at FER.

Activity 2.4: Commencement of curricula that are entirely conducted in English.

Activity 2.5: Attracting students of Croatian origin from abroad.
PARTICULAR OBJECTIVE 3:

Further improvement of the students’ status in accordance with the European standards of study

Preserving traditionally excellent relations with students through their active involvement in all areas of activity and development of FER, rewarding the best students, and demonstrating a special care for gifted students and for students with disabilities.

Activity 3.1: The continuation of partnership with students based on mutual respect, democratic relationship, and two-way communication.

Activity 3.2: Provision of physical, material, information and other resources to all students of the Faculty.

Activity 3.3: Supporting students’ professional, cultural and sports activities.

Activity 3.4: Continuous improvement of quality of studies based on the quality assurance system.

Activity 3.5: Stimulation for rewarding the excellent students.

Activity 3.6: Enabling the completion of study within a research project.

Activity 3.7: Provision of additional knowledge and skills to particularly gifted students and guiding them towards the doctoral study at FER.

Activity 3.8: Provision of support to students in their future careers, especially for the best students in generation.
4. REVIEW OF STRATEGIC ELEMENTS ACCORDING TO DEFINED AREAS OF ACTIVITY

PARTICULAR OBJECTIVE 4:

Expansion of life-long education and knowledge transfer between FER and the economy

Maintenance of the existing and organising of new postgraduate specialist studies, seminars and short courses within the program of life-long education and training of professionals from the industry, in order to contribute to the economic development of Croatia, but also a systematic investment in life-long learning of the FER's staff.

Activity 4.1: Extension, strengthening and a more intensive promotion of postgraduate specialist studies.

Activity 4.2: Qualitative and quantitative improvement of seminars and training courses aimed for professionals from industry.
### PARTICULAR OBJECTIVE 1: Assurance of high quality undergraduate and graduate studies

<table>
<thead>
<tr>
<th>Activity</th>
<th>Key performance indicators</th>
<th>Monitoring mechanisms</th>
<th>Responsible persons</th>
<th>Deadline</th>
<th>Prerequisites for implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Defining the needs for all the study programmes and their implementation in the execution plan through modifications of learning units</td>
<td>Feedback from external stakeholders and former students in co-operation with the alumni association</td>
<td>Chairperson of the Committee for undergraduate and graduate studies Lecturers in charge of courses to be modified</td>
<td>28th of February, every year</td>
<td>Good communication with the alumni association and with external stakeholders</td>
</tr>
<tr>
<td>1.2</td>
<td>Funds invested in equipment and maintenance of instructional laboratories, classrooms and literature in printed or electronic format</td>
<td>Comparison with the previous academic year</td>
<td>Vice dean for finance and administration</td>
<td>31st of January, every year to complete the report</td>
<td>Teachers’ suggestions Ranking list of investment priorities formed The funding provided</td>
</tr>
<tr>
<td>1.3</td>
<td>Modification of the curricula and changes in the Regulations of undergraduate and graduate study at FER</td>
<td>A quarterly distribution of masters engineer graduations through the calendar year</td>
<td>Vice dean for education</td>
<td>31st of December 2013</td>
<td>Teachers’ awareness of the need to ensure continuity in the graduation process</td>
</tr>
<tr>
<td>1.4</td>
<td>Definition of procedures to obtain students’ feedback, presentation of survey results, follow-up and other forms of communication with teachers and students</td>
<td>Satisfaction of teachers and students observed in survey results Number of accepted proposals which were submitted by teachers and students</td>
<td>Vice dean for education Chairperson of the Commission for quality management (for organisation of surveys)</td>
<td>15th of July every year</td>
<td>Implementation of surveys in the information system of FER</td>
</tr>
<tr>
<td>1.5</td>
<td>Modification of the curriculum including internships Preparation of graduation theses in partnership with industry</td>
<td>The number of companies that are offering opportunities for the internship and the number of students who took advantage of them, and the number of theses elaborated in partnership with industry</td>
<td>Chairperson of the Committee for undergraduate and graduate studies Main co-ordinator for the internships and co-ordinators of internship at profiles of study Dean (for co-ordination with Faculty Advisory Board members)</td>
<td>30th of November every year</td>
<td>Motivation of companies and students</td>
</tr>
<tr>
<td>1.6</td>
<td>Learning of technical terms in English as part of the curriculum</td>
<td>Number of students enrolled and the results of student surveys</td>
<td>Chairperson of the Committee for undergraduate and graduate studies Chairperson of the Commission for quality management (for organisation of surveys)</td>
<td>31st of January 2013 to complete the report</td>
<td>Motivation of students to enrol the courses Implementation of surveys in the information system of FER</td>
</tr>
<tr>
<td>1.7</td>
<td>Analysis of the need to introduce other languages in the curriculum</td>
<td>Analysis of necessity to introduce other languages in the curriculum, based on the expressed students’ needs and on economic and social trends in the world</td>
<td>Chairperson of the Committee for undergraduate and graduate studies</td>
<td>30th of November every year for analysis delivery</td>
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</tbody>
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*University of Zagreb Faculty of Electrical Engineering and Computing*
<table>
<thead>
<tr>
<th>Activity</th>
<th>Key performance indicators</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1.7</td>
<td>Number of courses using e-learning tools</td>
<td>Comparison with the previous academic year</td>
<td>Chairperson of the Committee for life-long education and e-learning</td>
<td>30th of November every year for report delivery</td>
<td>Motivation for teachers to attend workshops on application of e-tools</td>
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<tr>
<td>1.8</td>
<td>Analysis of success in studies compared to the success on the state final examination in secondary schools</td>
<td>Reports and analyses of persons responsible</td>
<td>Dean and vice dean for education Chairman of the alumni association</td>
<td>15th of October every year</td>
<td></td>
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<tr>
<td>1.9</td>
<td>Number of workload hours for teachers and other staff Analysis of the workload of teachers and teaching assistants</td>
<td>Regular fulfilment of the basic workload for teachers and teaching assistants</td>
<td>Vice dean for education</td>
<td>30th of November every year for report delivery</td>
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<tr>
<td>1.10</td>
<td>Analysis of the number of newly enrolled students and their success in study compared to success on the state final examination in secondary schools Number of visiting popular science lectures in high schools held by teachers and assistants of FER Number of participants from FER at the Festival of Science Attractiveness of FER representation at the University Fair The organisations of Open Doors Day Promotion in the media</td>
<td>Action plan for the next academic year Qualitative and quantitative comparison with the previous academic year</td>
<td>Vice dean for education to co-ordinate the activities and provide annual reporting Employees responsible for implementation of certain activities Head of the Dean’s office to report promotion in media and provide annual reporting Employees appointed for implementation of certain activities</td>
<td>30th of November every year for report delivery 15th of October every year for data processing related to activities committed in the previous academic year</td>
<td>Motivation of employees to engage in related activities</td>
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## 4. REVIEW OF STRATEGIC ELEMENTS ACCORDING TO DEFINED AREAS OF ACTIVITY

### PARTICULAR OBJECTIVE 2: Improvement of international recognition of the studies at FER and increasing of the mobility of students and teaching staff

<table>
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<tr>
<th>Activity</th>
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<th>Monitoring mechanisms</th>
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<th>Deadline</th>
<th>Prerequisites for implementation</th>
</tr>
</thead>
</table>
| 2.1      | Number of the incoming and outgoing mobility cases of students and teachers  
Number of workshops organised at FER for foreign students and teachers                                                                                      | Comparison with the previous academic year                                            | Vice dean for education  
The main ECTS co-ordinator                                                                       | 30th of November every year for report delivery | The interest of students and teachers                                                             |
| 2.2      | Number of new joint studies                                                                                                                                                                                                  | Comparison with the previous academic year                                            | Chairperson of the Committee for undergraduate and graduate studies  
Chairperson of the Committee for doctoral studies                                                 | 30th of November every year for report delivery | Teachers’ motivation for proposing of new studies                                               |
| 2.3      | Number of incoming students and doctoral students  
Number of courses that are performed in English                                                                                                               | Comparison with the previous academic year                                            | Vice dean for education  
and vice dean for science, for reporting                                                             | 30th of November every year for report delivery | The interest of students and doctoral candidates  
Achieved support of the University and the Ministry                                                  |
|          | Number of new academic and professional literature titles written in English by the FER faculty                                                                                                                                  | Comparison with the previous academic year                                            | Chairperson of the Library commission                                                              | 30th of November every year for report delivery | Motivation of teachers to produce new literature in English                                        |
|          | Booklets in English on all the studies at FER                                                                                                                                                                                  | Production of booklets in English on all the studies at FER                           | Chairperson of the Committee for undergraduate and graduate studies  
Chairperson of the Committee for doctoral studies                                                  | 31st of May 2013 for preparing of booklets | Provided the funding for proofreading                                                              |
|          | English version of the FER’ web-site                                                                                                                                                                                          | Reorganisation and improvement of English version of the FER’ web-site                | Director of the Centre for information support for activities related to the web-site            | 31st of May 2013 | Provided the funding for proofreading                                                              |
| 2.4      | Development of new curricula or performing of all the existing programmes of study in English                                                                                                                              | The executive programme of study adopted, or increasing in levels of performance of existing courses in English | Chairperson of the Committee for undergraduate and graduate studies  
Chairperson of the Committee for doctoral studies                                                  | 31st of December 2013 | Motivation of teachers for teaching in English                                                     |
|          | Development of course content and teaching of existing courses in English                                                                                                                                                     | Defining the motivating measures and providing help for teachers to develop instructional content and perform the teaching of existing courses in English | Chairperson of the Committee for undergraduate and graduate studies | 30th June 2013 | Motivation of teachers to develop instructional content in English  
Students’ motivation to enrol in courses taught in English                                           |
<table>
<thead>
<tr>
<th>Activity</th>
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<td>2.5</td>
<td>The number of new foreign students of Croatian descent</td>
<td>Comparison with the previous academic year</td>
<td>Head of the Student Administration</td>
<td>30th of November every year for report delivery</td>
<td>Provided support of diplomatic missions and consular offices of Croatia in the world and support of the respective ministry</td>
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</table>
## 4. REVIEW OF STRATEGIC ELEMENTS ACCORDING TO DEFINED AREAS OF ACTIVITY

### PARTICULAR OBJECTIVE 3: Further improvement of the students’ status in accordance with the European standards of study

<table>
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<th>Activity</th>
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<th>Deadline</th>
<th>Prerequisites for implementation</th>
</tr>
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<tr>
<td>3.1</td>
<td>Number of students included in the Faculty assembly, in FER’s boards and commissions and the amount of their activities</td>
<td>Comparison with the previous academic year</td>
<td>Head of Secretary’s office</td>
<td>30th of November every year for report delivery</td>
<td>Students’ motivation for involvement and active participation in FER’s activities</td>
</tr>
<tr>
<td>3.2</td>
<td>Number of permits to use the classrooms for studying Funds invested in resources for students Records of the student use of FER’s information resources The count of resolved outstanding issues after meetings of students with members of Student counselling service</td>
<td>Comparison with the previous academic year</td>
<td>Vice dean for education, Vice dean for finance and administration and Head of the Information support centre, for preparation of reports The Consulting service for the first two years of undergraduate study</td>
<td>31st of January every year for report delivery</td>
<td>Students’ proposals The funding provided</td>
</tr>
<tr>
<td></td>
<td>The number of students with disabilities who are involved in the systematic support programme of FER, aimed to facilitate the knowledge acquisition as foreseen in the curriculum</td>
<td>Comparison with the previous academic year</td>
<td>Co-ordinator for students with special needs</td>
<td>31st of January every year for report delivery</td>
<td></td>
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<tr>
<td>3.3</td>
<td>The count of supported professional, cultural and sports activities of students Invested funds to support the work of student associations, student sporting activities and to maintain the sports facilities Martinovka</td>
<td>Comparison with the previous academic year</td>
<td>Vice dean for finance and administration, for preparation of reports</td>
<td>31st of January every year for report delivery</td>
<td>Students’ proposals The funding provided</td>
</tr>
<tr>
<td>3.4</td>
<td>Procedures for interviewing, for providing feedback on the results of surveys, follow-up and for other forms of communication with students defined</td>
<td>Students’ satisfaction reflecting in the results of surveys Number of students’ accepted proposals</td>
<td>Vice dean for education Chairperson of the Commission for quality management (to organise surveys)</td>
<td>31st of January every year for report delivery</td>
<td>Implementation of surveys in the information system of FER</td>
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<td>3.5</td>
<td>Number of rewarded students</td>
<td>Comparison with the previous academic year</td>
<td>Chairperson of the Commission for awarding of staff and students</td>
<td>31st of January every year for report delivery</td>
<td></td>
</tr>
<tr>
<td>3.6</td>
<td>The decision to enable the completion of study in form of research project and implementation of this decision The number of students who applied for the competition</td>
<td>The decision accepted to enable the completion of study within the framework of a research project Call for proposals announced for the completion of studies within the framework of research project</td>
<td>Vice dean for education Chairperson of the Committee for undergraduate and graduate studies</td>
<td>30th of June 2013</td>
<td>Teachers’ awareness of the need to introduce such a model for completion of studies</td>
</tr>
<tr>
<td>Activity</td>
<td>Key performance indicators</td>
<td>Monitoring mechanisms</td>
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<td>Deadline</td>
<td>Prerequisites for implementation</td>
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<tr>
<td>3.7</td>
<td>Analysis of enrolment in courses for gifted students and an analysis of success in passing these courses Feedback from students through student surveys</td>
<td>Students’ satisfaction reflecting in the results of surveys Number of students’ accepted proposals</td>
<td>Vice dean for education Chairperson of the Commission for quality management (to organise surveys)</td>
<td>31st of January every year for report delivery</td>
<td>Implementation of surveys in the information system of FER</td>
</tr>
<tr>
<td>3.8</td>
<td>Number of organised discussions, workshops and joint meetings between members of the Faculty Advisory Board, external stakeholders and students, best in their generation, with the possibility to include all other interested students</td>
<td>Minutes of the held discussions, workshops and joint meetings and recorded number of participants</td>
<td>Dean Vice dean for education Members of the Faculty Advisory Board Chairperson of the alumni association</td>
<td>31st of January every year for report delivery</td>
<td>Awareness of external stakeholders of the need to support these types of activities</td>
</tr>
</tbody>
</table>
### PARTICULAR OBJECTIVE 4: Expansion of life-long education and knowledge transfer between FER and the economy

<table>
<thead>
<tr>
<th>Activity</th>
<th>Key performance indicators</th>
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<th>Responsible persons</th>
<th>Deadline</th>
<th>Prerequisites for implementation</th>
</tr>
</thead>
</table>
| 4.1      | Number of enrolled candidates in the existing studies  
Number of newly established studies | Comparison with the previous academic year | Chairman of the Committee for life-long education and e-learning | 30th of November every year for report delivery | Motivation of the leaders of the existing studies to promote their study  
Teachers’ motivation for proposing of new studies |
| 4.2      | Number of seminars and courses held for professionals from the industry | Comparison with the previous academic year | Chairman of the Committee for life-long education and e-learning | 30th of November every year for report delivery | Motivation of teachers to organise seminars and courses |
Fakultet elektrotehnike i računarstva
4. REVIEW OF STRATEGIC ELEMENTS ACCORDING TO DEFINED AREAS OF ACTIVITY

4.2. Research and innovation activities

**Strategic goal:** Increasing research and development capacity and quality of research and innovation in order to generate new scientific ideas and discoveries to be transferred to the Croatian economy through development of high technology products and establishment of related businesses. Encouraging of high quality and international recognition of research, development and innovation in all the branches and corresponding scientific fields traditionally fostered at FER.

As a scientific and educational institution that operates in the field of engineering, the Faculty must pay attention to scientific projects in the field of frontier research. It is important to benefit from all the comparative advantages of FER in order to enhance the co-operation between research groups within individual departments, among departments and with other research groups in Croatia and abroad.

The Faculty will promote research aimed to broaden the scientific boundaries and in the co-operation with the Croatian and European institutions in line with the European Framework Programme of Research and Innovation for the period from 2014 by 2020 year - Horizon 2020. For this purpose, FER will promote, on the one hand, the mobility of researchers in order to prepare them for addressing current and future societal challenges, on the other hand, it will support the establishment of Croatian and European research infrastructure.

Priority in research and innovation at FER is directed to implement new and frontier technologies in the economy and society in order to achieve and maintain FER’s leading role in technology and economic development of the Republic of Croatia, in its basic areas of research activities:

- ELECTRICAL ENGINEERING
- COMPUTING
- INFORMATION COMMUNICATIONS TECHNOLOGY

with underlying provided by applied mathematics and applied physics.

Successful applications of new technologies are crucial for the Croatian economy and its integration into the European and world market. Leading results from these research areas are background to interdisciplinary application of these results in the Croatian and regional manufacturing and service-
based economy, an impetus for the creation of new businesses and economic incentives to invest funds in research and innovation, thereby directly contributing to the development of Croatia and new jobs creation.

For the period from 2013 to 2017, the research and innovation activity of FER in electrical engineering, computing and information and communications technology, along with a strong support to projects in mathematics and physics, will be directed to the following social challenges, identified in the European strategic documents, that are also in the interests of economic and service sectors of Croatia:

(1) **SAFE, CLEAN AND EFFICIENT ENERGY** with emphasis on: renewable energy, advanced energy networks, energy efficiency and ecology; information and communication technology to manage energy systems and their efficiency;

(2) **SMART INTEGRATED TRANSPORTATION, ADAPTED TO ENVIRONMENT** with emphasis on: electric and hybrid vehicles, intelligent systems for managing vehicles and traffic, communications infrastructure and services in the transportation systems;

(3) **INCLUSIVE, INNOVATIVE AND SAFE SOCIETY** with emphasis on: information society services, social networking, ubiquitous computing, reduction of the digital divide, e-inclusion, assisted communications and services for people with special needs; digital content and creative information management, trust and security in information systems;

(4) **NETWORKS AND SERVICES OF THE NEXT GENERATION** with focus on: mobile communications and services; future Internet; network infrastructure, virtualisation and cloud services; big data, data mining and decision support systems; co-operative communications, communication among machines and Internet of Things, advanced interfaces and smart spaces; quality of service, and quality of experience;

(5) **INDUSTRIAL AND SERVICE ECONOMY** with emphasis on: cognitive robotic systems and mobile robotics, information and communications systems to support production processes; new-generation of components and systems;
4. REVIEW OF STRATEGIC ELEMENTS ACCORDING TO DEFINED AREAS OF ACTIVITY

(6) HEALTH with emphasis on: biomedical engineering; bioinformatics; the application of information and communication systems in health care;

(7) ADVANCED MATERIALS, with emphasis on the application of nanotechnology in: energy conversion; new energy sources; communication systems.

In order to resolve these strategic social challenges, research and innovation, activities will be based on modelling, design, development and synergy in complex socio-technical, cybernetic and physical and biomedical systems and on their integration, co-operation and unification of diverse elements into unified complex systems, in order to achieve guided behaviour. Synergistic effect of these technologies on the social, economic, biological and medical fields will enable the research of complex interdisciplinary problems. The expected scientific achievements would be applied to solve complex problems such as the sustainability of socio-technical systems (energy, finance, transportation, education, health, social networking and other systems), reliability and intelligence of cybernetic-physical systems (from the level of embedded systems, distributed robotic systems, sensor networks, until autonomous systems) and sustainability of biomedical system (from cellular level, up to the level of the entire organism).

Furthermore, FER will encourage the development and establishment of businesses. The fact is that only the pace of innovation cycle provides advantage. In fact, most of the research results are published today and are made available to all the competitors simultaneously. Therefore, the FER should act in order to connect organisationally the research and development of products or services and encourage the development of small dynamic companies to include a research component in their development, and to establish relationships with research groups at FER. In addition, FER will continue to try to intensify equally envisaged collaboration with the entire Croatian economy and the region.

Taking into account the assumptions and guidelines for research and development of FER, we determine the following specific objectives of the research and innovation activities of FER:

1. extension of the research and innovation activities;
2. systematic support to the improvement of R & D and innovation resources;
3. ensuring of a high quality of doctoral study.
PARTICULAR OBJECTIVE 1:

Expanding the research and innovation activities

Promotion of high-quality scientific projects and innovations that produce applicable results for benefit of development of the Croatian economy through creation of development clusters and still better involvement of teachers and associates at FER in the research programmes of the EU and of other international organisations.

Activity 1.1: Introduction of interdisciplinary research programmes that would connect several Faculty departments and, if necessary, also partners outside the Faculty.

Activity 1.2: Increasing the number of researchers funded by the economy.

Activity 1.3: International co-operation in the field of research and innovation activities.

Activity 1.4: Managing the research capacities.

Activity 1.5: Systematisation of innovation activities.
4. REVIEW OF STRATEGIC ELEMENTS ACCORDING TO DEFINED AREAS OF ACTIVITY

### PARTICULAR OBJECTIVE 2:

**Systematic support for improving R&D and innovation resources**

Encouragement of long-term collaboration on research, development and innovation programmes and projects with the Croatian economy to create new technologies, products and services, whereby a systematic support to improvement of related resources is offered, and fostering excellence of researchers, especially among young assistant professors, to keep FER among the top research institutions.

**Activity 2.1:** Employing the best young researchers as assistant professors because the future and the quality of research at FER depend on them.

**Activity 2.2**
Establishing research laboratories and centres of excellence for structuring the research activities of the Faculty with systematic measures for the promotion of their work.

**Activity 2.3:** Systematic care about the staff by motivating conditions for their research work.

**Activity 2.4:** Creating conditions for a more efficient work of science novices, regardless of their funding sources, and for development of their careers after obtaining the doctoral degree.

**Activity 2.5:** Increasing the mobility of young associates through scientific specialisations and preparation of doctoral dissertations in prestigious international centres.

**Activity 2.6:** Planned care about each postdoc and help them continue their scientific and professional activities.

**Activity 2.7:** Encouraging establishment of spin-off and start-up companies.
Activity 2.8: Establishing an innovation centre at FER, which would consist of a network of research and development units with complementary activities.

Activity 2.9: Promoting co-operation with renowned scientists of Croatian origin living and working abroad.
4. REVIEW OF STRATEGIC ELEMENTS ACCORDING TO DEFINED AREAS OF ACTIVITY

PARTICULAR OBJECTIVE 3:
Ensuring a high quality of doctoral studies at FER

The doctoral study at FER is a possibility of direct application of scientific research in the third cycle of education because it allows students to participate actively in research process, but also it provides better research projects and publication of research results.

Activity 3.1: Integrating research, innovation and teaching activities.

Activity 3.2: Development and implementation of new doctoral programmes targeting the needs of Croatian and European markets in higher education.

Activity 3.3: Basing of doctoral theses on a systematic research with potential for application of research results in industry.

Activity 3.4: Encouraging publishing of scientific papers in prestigious international publications and encouraging innovations and their commercialisation.

Activity 3.5: Concluding agreements with PhD students’ home institutions in order to define the conditions for their research work.
## 4. REVIEW OF STRATEGIC ELEMENTS ACCORDING TO DEFINED AREAS OF ACTIVITY

### PARTICULAR OBJECTIVE 1: Expanding the research and innovation activities

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<tr>
<th>Activity</th>
<th>Key performance indicators</th>
<th>Monitoring mechanisms</th>
<th>Responsible persons</th>
<th>Deadline</th>
<th>Prerequisites for implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>The number of domestic and international interdisciplinary programmes and projects &lt;br&gt;The amounts of funding for programmes and projects</td>
<td>Comparison with the previous period</td>
<td>Vice dean for research and Chairperson of the Committee for research and international co-operation, to prepare reports Head of the Office for projects and international co-operation, for data collection</td>
<td>30th of November of every year for reports delivery</td>
<td>Awareness of the faculty regarding the necessity to apply for projects &lt;br&gt;Appropriate national and international competitions are announced</td>
</tr>
<tr>
<td>1.2</td>
<td>Number of scientific novices financed by the economy</td>
<td>Comparison with the previous period</td>
<td>Vice dean for research</td>
<td>30th of November of every year</td>
<td>Awareness in the Croatian economy of the importance of pursuing such a model &lt;br&gt;Assured funding from the industry</td>
</tr>
<tr>
<td>1.3</td>
<td>Number of concluded agreements with foreign institutions &lt;br&gt;Number of activities organised in co-operation with foreign partner institutions</td>
<td>Comparison with the previous period</td>
<td>Vice dean for research and president of the Committee for research and international co-operation, to prepare reports Head of the Projects and international co-operation office, for data collection</td>
<td>30th of November of every year for reports delivery</td>
<td>Awareness of the staff regarding the necessity of formal signing of agreements with current partners from abroad</td>
</tr>
<tr>
<td>1.4</td>
<td>Number and type of activities carried out jointly by several research groups at FER</td>
<td>Comparison with the previous period</td>
<td>Vice dean for research, to prepare reports</td>
<td>30th of November of every year for reports delivery</td>
<td>Awareness of the staff regarding the necessity for co-operation with other research groups</td>
</tr>
<tr>
<td>1.5</td>
<td>Regulations on intellectual property</td>
<td>Regulations on the management of Faculty premises adopted</td>
<td>Vice dean for finance and administration and the Chairperson of the Committee for infrastructure and management, to prepare Regulations on the management of Faculty premises</td>
<td>30th of April 2013 to prepare the Regulations on the management of Faculty premises</td>
<td>Awareness of the staff regarding the necessity for rational management of the Faculty premises</td>
</tr>
<tr>
<td>1.6</td>
<td>Centre for support of research and technology transfer</td>
<td>Personnel staffing of the Centre for support of research and technology transfer and development of services to be offered by the Centre to the FER staff</td>
<td>Vice dean for finance and administration</td>
<td>31st of December 2014</td>
<td>The funding provided Creating jobs through the University and the ministry in charge</td>
</tr>
</tbody>
</table>

**Note:**
- **Activity 1.1** includes both domestic and international programmes and projects, with specific monitoring mechanisms and responsible persons. The deadline for reports delivery is set at 30th of November of every year, focusing on awareness and implementation prerequisites.
- **Activity 1.2** centers on scientific novices financed by the economy, emphasizing the need for a model and assured funding from the industry.
- **Activity 1.3** deals with agreements and activities in co-operation with foreign institutions, ensuring formal signing with partners from abroad.
- **Activity 1.4** focuses on joint activities among several research groups, aiming to enhance cooperation and awareness.
- **Activity 1.5** pertains to intellectual property, with specific regulations and deadlines for submission.
- **Activity 1.6** relates to the Centre for support of research and technology transfer, highlighting personnel staffing and funding implications.
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<thead>
<tr>
<th>Activity</th>
<th>Key performance indicators</th>
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<th>Responsible persons</th>
<th>Deadline</th>
<th>Prerequisites for implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>The number of new assistant professors and their teaching and research excellence</td>
<td>Comparison with the previous period, for the number of new assistant professors The results of student surveys and the number of new teaching materials for teaching excellence Scientific productivity and the number of projects submitted for scientific excellence</td>
<td>Dean Vice dean for education Vice dean for research</td>
<td>30th of November of every year for reports delivery</td>
<td>Gradual but permanent raising of criteria for promotion</td>
</tr>
<tr>
<td>2.2</td>
<td>The number of new laboratories and research centres of excellence</td>
<td>Comparison with the previous period</td>
<td>Vice dean for research</td>
<td>30th of November of every year</td>
<td>Motivation of the staff to establish research laboratories and centres of excellence</td>
</tr>
<tr>
<td></td>
<td>Funds invested in equipping and maintaining of research laboratories</td>
<td>Comparison with the previous period</td>
<td>Vice dean for finance and administration</td>
<td>30th of November of every year</td>
<td>Funding provided</td>
</tr>
<tr>
<td></td>
<td>Web-pages of research laboratories</td>
<td>Web-pages of research laboratories are integrated into the web-space of FER</td>
<td>Head of the Centre for information support, activities related to preparation and integration of web-pages</td>
<td>Continuous</td>
<td></td>
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<tr>
<td></td>
<td>Regulations of the centres of excellence</td>
<td>Regulations of the centres of excellence adopted</td>
<td>Chairperson of the Committee for research and international co-operation, Chairperson of the Committee for infrastructure and management and Chairperson of the Committee for co-operation with industry and for innovations</td>
<td>30th of April 2013</td>
<td></td>
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<tr>
<td>2.3</td>
<td>Number of requests for allocation of financial resources in accordance with the Regulations on programmes to encourage research and innovation</td>
<td>Comparison with the previous period</td>
<td>Vice dean for research and the Chairperson of the Committee for research and international co-operation</td>
<td>30th of November of every year</td>
<td>Funding provided</td>
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<tr>
<td>2.4</td>
<td>Defined procedures and activities for conducting of surveys, providing of feedback on the results of surveys, follow-up and other forms of communication with science novices</td>
<td>Satisfaction of science novices according to survey results Number of accepted proposals submitted by science novices</td>
<td>Vice dean for research for report delivery Chairperson of the Commission for quality management (for organisation of surveys)</td>
<td>31st of January of every year for reports delivery</td>
<td>Implementation of reviews in the FER’s information system</td>
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<th>Activity</th>
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<th>Prerequisites for implementation</th>
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<tbody>
<tr>
<td>2.4</td>
<td>Number of science novices who</td>
<td>Comparison with the previous period</td>
<td>Dean</td>
<td>30th of November every year</td>
<td>Awareness among mentors of the necessity for quality of guiding the science novices, directing the research towards the needs of the Croatian economy. The funding provided to establish the Innovation centre.</td>
</tr>
<tr>
<td>2.5</td>
<td>Number of specialisations of science novices</td>
<td>Comparison with the previous period</td>
<td>Vice dean for research</td>
<td>31st of January of every year</td>
<td>Funding provided or opened appropriate domestic or international competitions.</td>
</tr>
<tr>
<td>2.6</td>
<td>Annual workshop for postdocs</td>
<td>Organised annual workshops for postdocs to educate them about the formulation of project proposals and the establishment of start-up and spin-off companies</td>
<td>Chairperson of the Committee for research and international co-operation</td>
<td>30th of September of every year</td>
<td>Awareness of postdocs of the necessity to attend workshops, and motivation of the FER staff to deliver lectures within workshop.</td>
</tr>
<tr>
<td>2.7</td>
<td>Number of established spin-off and start-up companies</td>
<td>Comparison with the previous period</td>
<td>Vice dean for finance and administration, for report delivery</td>
<td>30th of November of every year</td>
<td>Motivation of the FER staff to establish spin-off and start-up companies. Corresponding regulations adopted by the University of Zagreb.</td>
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<tr>
<td>2.8</td>
<td>Innovation centre</td>
<td>Starting initiative for the Innovation centre</td>
<td>Dean</td>
<td>31st of December 2012</td>
<td>Provided funds from structural fund.</td>
</tr>
<tr>
<td>2.9</td>
<td>Number of the activities realised together with scientists of Croatian descent living abroad</td>
<td>Comparison with the previous period</td>
<td>Vice dean for research</td>
<td>30th of November of every year</td>
<td>Motivation of faculty for joint activities.</td>
</tr>
<tr>
<td>2.10</td>
<td>Number of employed scientists of Croatian descent returning from abroad</td>
<td>Comparison with the previous period</td>
<td>Dean</td>
<td>30th of November of every year</td>
<td>Opening of working places through University and ministry in charge.</td>
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</table>
### PARTICULAR OBJECTIVE 3: Ensuring a high quality of doctoral studies at FER

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<thead>
<tr>
<th>Activity</th>
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<th>Responsible persons</th>
<th>Deadline</th>
<th>Prerequisites for implementation</th>
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</thead>
<tbody>
<tr>
<td>3.1 Scientific productivity of mentors and PhD students and the number</td>
<td>Comparison with the previous period</td>
<td>Chairperson of the Committee for research and international co-operation and Chairperson of the Committee for co-operation with the industry and for innovations</td>
<td>30th of November of every year</td>
<td>Awareness of mentors and doctoral students about the importance of nurturing high scientific productivity</td>
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<td>of innovations and patents</td>
<td></td>
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<tr>
<td>3.2 Number of new doctoral studies</td>
<td>Comparison with the previous academic year</td>
<td>Chairperson of the Committee for doctoral studies</td>
<td>30th of November of every year for report delivery</td>
<td>Educators’ motivation for proposing new doctoral programmes</td>
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<td>Establishment of the Office for international exchange of students within the Student Administration</td>
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<tr>
<td>3.3 Thorough co-operation between PhD students and mentor and continuous</td>
<td>Report and proposals for corresponding measures</td>
<td>Chairperson of the Committee for doctoral studies</td>
<td>30th of November of every year</td>
<td>Contract with the company of the PhD’s affiliation, or an appropriate educational workload of PhDs employed at FER</td>
<td></td>
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<tr>
<td>research of PhD students</td>
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<tr>
<td></td>
<td>Feedback from external stakeholders in co-operation with the alumni association</td>
<td>Chairperson of the Committee for doctoral studies and Chairperson of the alumni association</td>
<td>28th of February of every year</td>
<td>Good communication with external stakeholders and the alumni association</td>
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<tr>
<td>3.4 Numbers of publications, innovations and commercialised products</td>
<td>Comparison with the previous period</td>
<td>Vice dean for research</td>
<td>30th of November of every year</td>
<td>Awareness of the FER staff of importance to support mentioned activities</td>
<td></td>
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<tr>
<td>or services</td>
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<tr>
<td>3.5 Tripartite co-operation contracts between the PhD student, PhD</td>
<td>The definition and implementation of tripartite co-operation agreements in order that a PhD</td>
<td>Vice dean for research and Chairperson of the Committee for doctoral studies</td>
<td>31st of January 2013</td>
<td>Willingness of companies’ managers to sign contracts</td>
<td></td>
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<tr>
<td>students’ company of affiliation and the FER</td>
<td>student at FER could conduct systematic research work within the defined fraction of the</td>
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<td>weekly working time</td>
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</table>
4. REVIEW OF STRATEGIC ELEMENTS ACCORDING TO DEFINED AREAS OF ACTIVITY

4.3. Organization and management, infrastructure development and quality assurance system

**Strategic goal:** Increasing business efficiency, improving all forms of infrastructure that would technically support the development of FER, expanding the system of quality assurance to all the areas of FER’s activity and strengthening the alumni organisation.

Currently, at the time when budgets of organisations and institutions at all levels are limited due to the economic situation, it is important to introduce an efficient organization and management, while still providing services at the highest possible level.

Approach to the quality management at FER is based on self-assessment, student surveys, and internal and external evaluations. FER considers the quality assurance as a permanent process that is integrated into the teaching, research and innovation work. The aim of quality assurance is to build a mechanism for promoting quality and for achieving its highest levels in education, research and innovation activities and in professional and administrative activities of the Faculty.

To achieve an effective organization and management, infrastructure development and quality assurance system, we determine the following specific objectives:

1. creation of an efficient organisation of the Faculty;
2. improvement of the Faculty operations;
3. improvement of the Faculty infrastructure;
4. establishment of a system of quality assurance in all segments of the Faculty.
PARTICULAR OBJECTIVE 1:

Creation of an efficient Faculty organisation

Development of human resources and efficient organization of all departments of the Faculty.

Activity 1.1: Introduction of new organizational forms in accordance with the Regulations on the organisation and the Regulations on the management of Faculty premises.

Activity 1.2: Supporting the needs of the environment in which the Faculty operates, in conjunction with the Faculty Advisory Board.

Activity 1.3: Increase of the overall quality of work and co-ordination of all the Faculty activities through Faculty committees and commissions.

Activity 1.4: Strengthening the Central library in educational and scientific activities of the Faculty.

Activity 1.5: Establishment of a prototype workshop for laboratory requirements of the Faculty and its departments.
4. REVIEW OF STRATEGIC ELEMENTS ACCORDING TO DEFINED AREAS OF ACTIVITY

PARTICULAR OBJECTIVE 2:
Improvement of the Faculty business operations

Continuous investment in business information systems and improvement of operations in order that the common Faculty services take the majority of the care of administrative, financial and legal aspects of contracted domestic and international projects.

Activity 2.1: Increasing the efficiency of the Faculty operations in the administrative, financial and legal field.

Activity 2.2: Strengthening the efficiency of the Faculty administration and professional services and departments.

Activity 2.3: Training the staff of the Faculty’s common services to perform activities associated with international operations.

Activity 2.4: Strengthening of the role of the Faculty Secretariat in preparing contracts, particularly the international ones.
**PARTICULAR OBJECTIVE 3:**

**Improvement of the Faculty infrastructure**

Improvement of the Faculty infrastructure to increase the efficiency of all services and improvement of working conditions for students and the Faculty staff.

**Activity 3.1:**
Construction of additional premises in order to achieve long-term development plans of the Faculty.

**Activity 3.2:**
Computerisation of the entire Faculty operations, with the aim of improving the efficiency of business, educational, research and innovation processes.

**Activity 3.3:**
Continuous investment in development of the information infrastructure of the Faculty.

**Activity 3.4:**
Improving the English version of the FER web-site.

**Activity 3.5:**
Improving the energy efficiency of FER and popularisation of energy efficiency by establishing an appropriate centre at FER.
4. REVIEW OF STRATEGIC ELEMENTS ACCORDING TO DEFINED AREAS OF ACTIVITY

PARTICULAR OBJECTIVE 4:
Establishing the system of quality assurance in all segments of the Faculty

Improving the functionality and efficiency of the quality assurance system by applying mechanisms of monitoring and analysing the feedback from of all the stakeholders within the system of quality assurance.

**Activity 4.1:** Assuring the quality as a permanent process integrated in the education, research, innovation and the administrative work of the Faculty.

**Activity 4.2:** The approach to quality management is based on self-assessments and student surveys, as well as on periodic internal and international evaluation.

**Activity 4.3:** Collaboration with the University bodies, responsible for quality, with the Agency for science and higher education, and with internal and external stakeholders of the Faculty quality assurance system.

**Activity 4.4:** Systematic investment in pedagogical training of the FER staff and in professional development of non-teaching staff at FER.
## PARTICULAR OBJECTIVE 1: Creation of an efficient Faculty organisation

<table>
<thead>
<tr>
<th>Activity</th>
<th>Key performance indicators</th>
<th>Monitoring mechanisms</th>
<th>Responsible persons</th>
<th>Deadline</th>
<th>Prerequisites for implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Regulations on the management of Faculty premises</td>
<td>Regulations on the management of Faculty premises adopted</td>
<td>Vice dean for finance and administration and Chairperson of the Committee for infrastructure and management, for preparation of the Regulations</td>
<td>30th of April 2013 for preparation of the Regulations on the management of Faculty premises</td>
<td>Awareness of the FER staff regarding the necessity for rational management of the Faculty premises</td>
<td></td>
</tr>
<tr>
<td>Regulations on the organization</td>
<td>Adopted amendments of Regulations on the organization</td>
<td>Dean</td>
<td>30th of April 2013</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office for international exchange of students within the Student Administration</td>
<td>Establishment of the Office for international exchange of students within the Student Administration</td>
<td>Vice dean for finance and administration and Vice dean for education</td>
<td>31st of December 2014</td>
<td>Opening of working places through University and the ministry in charge</td>
<td></td>
</tr>
<tr>
<td>1.2 Held sessions of the Faculty Advisory Board</td>
<td>Minutes of the sessions of the Faculty Advisory Board</td>
<td>Dean and president of the Faculty Advisory Board</td>
<td>30th of November of every year</td>
<td>Active participation of all members of the Faculty Advisory Board</td>
<td></td>
</tr>
<tr>
<td>1.3 Held sessions of the Faculty committees and commissions</td>
<td>Minutes of the sessions of the Faculty committees and commissions</td>
<td>Chairpersons of committees and commissions</td>
<td>30th of November of every year</td>
<td>Active participation of all members of the Faculty committees and commissions</td>
<td></td>
</tr>
<tr>
<td>1.4 Professional qualifications and number of employees of the Central library</td>
<td>Comparison with the previous period</td>
<td>Chairperson of the Library commission</td>
<td>30th of November of every year</td>
<td>Opening of working places through University and the ministry in charge</td>
<td></td>
</tr>
<tr>
<td>Number of university textbooks and handbooks</td>
<td>Comparison with the previous period</td>
<td>Chairperson of the Library commission</td>
<td>30th of November of every year</td>
<td>Motivation of the FER staff to propose new contents</td>
<td></td>
</tr>
<tr>
<td>Funds invested in equipment and maintenance of the Central library</td>
<td>Comparison with the previous period</td>
<td>Vice dean for finance and administration</td>
<td>30th of November of every year</td>
<td>Suggestions of the Library commission and the Chief librarian</td>
<td></td>
</tr>
<tr>
<td>Subscription to a database of scientific and professional journals of interest to FER</td>
<td>Subscription prolonged</td>
<td>Vice dean for finance and administration</td>
<td>30th of June of every year</td>
<td>Funding provided</td>
<td></td>
</tr>
<tr>
<td>1.5 Prototype workshop</td>
<td>Prototype workshop established</td>
<td>Vice dean for finance and administration</td>
<td>31st of December 2014</td>
<td>Proposals of departments submitted Funding provided</td>
<td></td>
</tr>
</tbody>
</table>
## OBJECTIVE 2: Improvement of the Faculty business operations

<table>
<thead>
<tr>
<th>Activity</th>
<th>Key performance indicators</th>
<th>Monitoring mechanisms</th>
<th>Responsible persons</th>
<th>Deadline</th>
<th>Prerequisites for implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1</td>
<td>Clearly defined procedures and proceeding in the business processes</td>
<td>Satisfaction of employees through the results of a short survey Number of accepted staff proposals</td>
<td>Vice dean for finance and administration, Faculty secretary, Head of Financial services and Chairperson of the Committee for infrastructure and management Chairman of the Commission for quality management (for organisation of surveys)</td>
<td>30th of November of every year</td>
<td>Implementation of surveys in the FER’s information system</td>
</tr>
<tr>
<td>2.2</td>
<td>Speed of documents processing (filing and signing of general documents, the process of contracting the project-oriented co-operation with industry, processing of travel orders and travel accounts, issuing of purchase orders, public procurement, etc.)</td>
<td>Satisfaction of employees through the results of a short survey Number of accepted staff proposals</td>
<td>Vice dean for finance and administration, Faculty secretary, Head of Financial services and Chairperson of the Committee for infrastructure and management Chairman of the Commission for quality management (for organisation of surveys)</td>
<td>30th of November of every year</td>
<td>Implementation of surveys in the FER’s information system</td>
</tr>
<tr>
<td>2.3</td>
<td>Number of professional development cases for employees of common services</td>
<td>Comparison with the previous period</td>
<td>Vice dean for finance and administration</td>
<td>30th of November of every year</td>
<td>Funding provided</td>
</tr>
<tr>
<td>2.4</td>
<td>Speed of processing the contracts and legal support</td>
<td>Satisfaction of employees through the results of a short survey Number of accepted staff proposals</td>
<td>Vice dean for finance and administration, Faculty secretary, Head of Financial services and Chairperson of the Committee for infrastructure and management Chairman of the Commission for quality management (for organisation of surveys)</td>
<td>30th of November of every year</td>
<td>Implementation of surveys in the FER’s information system</td>
</tr>
</tbody>
</table>
### PARTICULAR OBJECTIVE 3: Improvement of the Faculty infrastructure

<table>
<thead>
<tr>
<th>Activity</th>
<th>Key performance indicators</th>
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<th>Responsible persons</th>
<th>Deadline</th>
<th>Prerequisites for implementation</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Additional premises</td>
<td>Additional premises built</td>
<td>Dean</td>
<td>31st of December 2017</td>
<td>Funding provided from structural funds</td>
</tr>
<tr>
<td>3.2</td>
<td>Computerisation of the Faculty operations</td>
<td>Computerisation of the Faculty operations completed</td>
<td>Vice dean for finance and administration and the Chairperson of the Committee for infrastructure and management, for coordination of the computerisation Head of the Centre for information support</td>
<td>31st of December 2014</td>
<td>Funding provided</td>
</tr>
<tr>
<td>3.3</td>
<td>Funds invested in IT infrastructure of FER</td>
<td>Comparison with the previous academic year</td>
<td>Vice dean for finance and administration</td>
<td>31st of January of every year for report delivery</td>
<td>Suggestions of the Head of the Centre for information support Funding provided</td>
</tr>
<tr>
<td>3.4</td>
<td>English version of the FER web-site</td>
<td>Reorganization and improvement of the English versions of FER web-pages</td>
<td>Head of the Centre for information support</td>
<td>31st of May 2013</td>
<td></td>
</tr>
<tr>
<td>3.5</td>
<td>Analysis of energy consumption at FER</td>
<td>Preparing of the Analysis of energy consumption at FER</td>
<td>Vice dean for finance and administration</td>
<td>31st of January of every year for report delivery</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Funds invested in new technologies in order to achieve energy efficiency at FER</td>
<td>Comparison with the previous academic year</td>
<td>Vice dean for finance and administration</td>
<td>31st of January of every year for report delivery</td>
<td>Funding provided</td>
</tr>
<tr>
<td></td>
<td>Centre for energy efficiency at FER</td>
<td>Centre for energy efficiency established at FER</td>
<td>Vice dean for finance and administration, and appointed employees of FER</td>
<td>31st of December 2013</td>
<td>Funding provided</td>
</tr>
<tr>
<td>Activity</td>
<td>Key performance indicators</td>
<td>Monitoring mechanisms</td>
<td>Responsible persons</td>
<td>Deadline</td>
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</tr>
<tr>
<td>4.1</td>
<td>Thematic session of the Faculty Council on quality assurance and on implementation of the Development strategy for the FER</td>
<td>Thematic session of the Faculty Council on quality assurance and on implementation of the Development strategy for the FER held</td>
<td>Chairperson of the Commission for quality management</td>
<td>31st of January of every year</td>
<td></td>
</tr>
<tr>
<td>4.2</td>
<td>Defined procedures and activities for conducting of surveys, providing of feedback on the results of surveys, follow-up and other forms of communication</td>
<td>Number of accepted proposals based on the results of the surveys</td>
<td>Chairperson of the Commission for quality management</td>
<td>31st of January of every year, for report delivery</td>
<td>Funding provided for international evaluation</td>
</tr>
<tr>
<td></td>
<td>Periodical internal and international evaluation (every 5 to 7 years)</td>
<td>Report to the Faculty assembly</td>
<td>Dean</td>
<td>30th of November of every year</td>
<td></td>
</tr>
<tr>
<td>4.3</td>
<td>Number of solved open issues in the sessions and meetings</td>
<td>Minutes of the held sessions and meetings</td>
<td>Dean, vice deans and other appointed FER's employees</td>
<td>Continuously</td>
<td>Available working time</td>
</tr>
<tr>
<td>4.4</td>
<td>Number of workshops and lectures on pedagogical methods of teaching and learning</td>
<td>Comparison with the previous academic year</td>
<td>Vice dean for education</td>
<td>30th of November of every year, for report delivery</td>
<td>Motivation of educators to participate in these activities Funding provided</td>
</tr>
<tr>
<td></td>
<td>Number of professional development cases by the non-teaching staff</td>
<td>Comparison with the previous academic year</td>
<td>Vice dean for finance and administration</td>
<td>30th of November of every year, for report delivery</td>
<td>Motivation of non-teaching staff to participate in related activities The funding provided</td>
</tr>
</tbody>
</table>
Development Strategy
of the Faculty of Electrical Engineering and Computing of the University of Zagreb

2013 – 2017


Zagreb, December 2012