

UNIVERSITY OF RIJEKA
FACULTY OF MEDICINE

Self-Evaluation Report

Name of the evaluated higher education institution: **Faculty of Medicine**

Name of the university of which the HEI is a constituent: **University of Rijeka**

Year of establishment: **1955**

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Title and name of the head of HEI: Professor **Tomislav Rukavina, MD, PhD**

HEI Bank name and account number: **Zagrebačka banka d.d., IBAN: HR9323600001101410222**

Evaluated period: **from 1 October 2009 to 30 September 2014**

1. Higher education institution management and quality assurance

a) Provide a brief overview of the development of your institution and crucial events in the last 10 years (organizational changes, relocation, basic problems in work).

A brief overview of the development Faculty of Medicine in Rijeka

The Faculty of Medicine in Rijeka was officially founded on 21 November 1955 on the initiative of health professionals in Rijeka, substantially assisted by the Faculty of Medicine in Zagreb. The first academic year of the study of Medicine at this eldest faculty in Rijeka was officially launched by the acting Dean Professor Silvije Novak's inaugural lecture titled "Current significance of internal medicine", delivered in the Rijeka City Hall before six fifth-year and twelve final-year students, the academic staff and eminent guests from Rijeka and Zagreb. Each subsequent year, the study was extended by another year of study until the Faculty finally became independent on 20 June 1957 by the official decision of the Executive Council of the People's Republic of Croatia, which also set the first-year enrolment quota to 100 students. The study of Medicine now included all years of the study and the Faculty of Medicine in Rijeka became the first faculty in Croatia to be established outside Zagreb. The Parliament of the PR of Croatia also supported the proposal to assign to the Faculty of Medicine the Branchetta Brothers building, which these Rijeka-born benefactors had originally had constructed in 1908 for abandoned children and the elderly, and consequently, after extensive reconstruction, pre-clinical departments were located there. The first-year enrolment in the five-year study of Medicine started in the academic year 1957-58, followed by enrolment in a higher year of study each subsequent academic year. During the initial years of its work, the Faculty of Medicine in Rijeka was provided great help in teaching by the staff of the Faculty of Medicine in Zagreb. However, credit for their immeasurable contribution to the establishment of specific institutes and their further development goes to habilitated teachers from Rijeka and scientific and educational experts from other medical centres in the country, who were also the first heads of pre-clinical institutes. Together with a minimum number of assistants, they laid foundations for the first institutes and departments.

As of 1961, the Faculty of Medicine has been offering postgraduate study in addition to the undergraduate one, and its teachers and associates have been holding classes also at the Higher School of Dental Medicine since that year. In June 1966, the Rijeka Municipal Assembly issued the decision on foundation of the Department of Dental Medicine at the Medical Faculty of Rijeka, but the first generation of 45 students enrolled only in the 1973-74 academic year. Before the study of Dental Medicine was launched, special form of full-time study was organised for graduates from the Higher School of Dental Medicine, which was abolished in September 1968. The Faculty continued its development by introducing also professional studies (of Nursing in 1978-79, Medical Radiological Technology in 1985-86, Physiotherapy in 1986-87, and Medical Laboratory Diagnostics in 1987-88). In addition to full-time professional studies, part-time education is offered in Nursing, Physiotherapy, and Medical Radiological Technology. The academic year 1988-89 saw introduction of the part-time study of Dental Medicine organised for Italian citizens, which went on to become full-time undergraduate study of Dental Medicine for foreign students as of 1994-95.

In 1990-91, the full-time four-year study of Sanitary Engineering was established as a new university study. Upon proposal by the Union of Societies of Sanitary and Laboratory Technicians, the first curriculum of this study was designed in 1991 by the Republic Sanitary Inspectorate on the model of similar foreign programmes. The programme was initially implemented also by scientific and educational experts of the Pharmaceutical and Biochemical Faculty in Zagreb and many other highly-skilled professionals in addition to the academic staff of the Faculty of Medicine in Rijeka. Once the junior academic staff of the Faculty of Medicine had become appropriately qualified and following the reconstruction and renewal of the Institute for Chemistry and Biochemistry, the programme of this study started being performed solely in Rijeka. Furthermore, in 1985, the Faculty of Medicine in Rijeka started offering the professional study of Radiological Technology (formerly known as Medical Radiology) first intermittently, and as of 1996-97 permanently. The study was initially a two-year programme and in 2000 became a three-year study. As well, on the proposal of the Association of Midwives and Nurses, in 2007-08

the part-time professional study of Midwifery was launched, which is now delivered as full-time study as well.

The big number of studies and research projects demanded ever increased funding, so the institutes were reconstructed and additionally equipped. In parallel with the organisation of the institutes and clinics, the Faculty filled its recruitment requirements through promotion of the existing staff and by appointment of teachers from other faculties. The original academic staff that included one full professor and 14 associates in 1955-56 have to date increased to a total of 387.

The curricula of the university studies of Medicine, Dental Medicine and Sanitary Engineering, as well as of the professional studies have been repeatedly modified in order to modernise the teaching process and ease the overloaded curricula, with the aim to enhance the pass rates and efficacy of studying. With a view to a better organisation of classes, higher education institutions joined to form a university, so the University of Rijeka was established on 17 May 1973. The study of Medicine was transformed into a six-year programme at all faculties of medicine; the new programme, the curriculum of which essentially followed the programme of the Faculty of Medicine in Zagreb, was introduced in Rijeka in the academic year 1990-91. The study programmes saw some modifications during the war and post-war years, when the teachers' and students' obligations had to be adapted to new circumstances. They were amended again in the 1994-95 academic year upon the recommendations of the Rectors' Conference to comply with the Law on Higher Education Institutions. Elective courses were then introduced in all curricula; at pre-clinical institutes, their choice was determined by specific requirements of a given research programme, which in turn resulted in early student involvement in research and keeping potential researchers at these institutes. The curricula of the study of Medicine included the first attempts to achieve vertical integration of courses. In 1996, the Faculty of Medicine in Rijeka joined the Central European Exchange Programme for University Studies (CEEPUS), which gave the opportunity to several teachers and young researchers to stay at prominent European universities. In the 1998-99 academic year, professional studies were referred to the Health Department of the Polytechnic of Rijeka, only to return to the faculty which had launched them two years later.

The reconstruction of the main building in the academic year 2001-02, carried out as part of a major investment programme of the University of Rijeka, resulted in enlarged premises, renewal of the existing and construction of new lecture rooms, and equipping them with the modern educational devices. The delivery of classes was additionally improved by electronic networking of all institutes.

All study programmes were renewed; major changes were made in the teaching of clinical subjects in the study of Medicine (block teaching), and professional study programmes were improved and extended to three-year programmes. In an attempt to increase the quality of teaching, new, strict study regulations were introduced as well as a single admission test for all faculties of medicine in Croatia.

Major steps were taken at the time to create the European area of higher education, which plays a key role in the promotion of mobility of students, teachers and administrative staff. In the spirit of the basic principles listed in the *Magna Charta Universitatum*, signed in Bologna in 1988 as part of the Bologna process, work on the adaptation and compatibility of higher education system was initiated. It resulted in fundamental reorganization of the Croatian system of higher education and the introduction of ECTS credits in all studies. In early 2005, in accordance with the demands of the Bologna process, all undergraduate and postgraduate studies were reformed. Following the agreement reached by all deans of faculties of medicine in Croatia, a common core curriculum for the study of Medicine was established, and a common catalogue of knowledge and skills for all pre-clinical and clinical courses designed. The individual study programmes were harmonised at coordination meetings of relevant departments, allowing for specific differences in curricula due to some characteristic features of particular faculties. The new curricula, submitted for evaluation to the National Council, which included a decreased number of total teaching hours, aimed to achieve a better vertical and horizontal integration of the courses in order to avoid repetition of the same topics. New teaching methods and evaluation techniques were proposed to increase the quality of teaching and promote interfaculty cooperation, student mobility and mutual recognition of diplomas. All study programmes were modernised; the study for sanitary engineers was reorganised as the study of Sanitary Engineering comprising two cycles: a the three-year undergraduate study and a two-year graduate study. A similar reorganisation was made for the university study programme of Organization, Planning and Management in Health Care: it was launched as undergraduate study in 2005-06 (the last generation enrolling in 2008-09) and as graduate study in 2008-09 (the last generation enrolling in 2011-12).

In order to follow and comply with the European trends in the education of health professionals and at the same time meet the growing needs of the Croatian labour market, the Faculty has aligned the curricula of the studies of Medicine, Dental Medicine, Nursing and Midwifery with Directive 2005/36 EC of the European Parliament and of the Council, and the Act on Regulated Professions and Recognition of Foreign Professional Qualifications (124/09 and 45/11), but also launched a series of new study programmes at undergraduate, graduate and postgraduate levels. Thus, the register of study programmes now comprises the following new programmes: Postgraduate specialist study of Health Promotion and Addiction Prevention (2011), Graduate university study of Physiotherapy (2012), Postgraduate study of Orthopaedics (2012), Graduate university study of Nursing - Mental Health Promotion and Care (2012), Postgraduate study Gynaecology and Obstetrics (2012), Postgraduate study Psychiatry (2012) and Graduate university study of Medical Laboratory Diagnostics (2013). Furthermore, yet another study programme (Graduate university study of Nursing - Management in Nursing) is awaiting the issuance of licences for registration. In addition, a new curriculum for postgraduate doctoral school is being prepared, the aim of which is to consolidate the training of scientific personnel at doctoral level, taking into account the specificities of particular scientific fields within the field of Biomedicine and Health (basic science, clinical science, public health and health care) and of the interdisciplinary field of Science (biotechnology and biomedicine). Furthermore, several programmes of postgraduate specialist studies to be launched at the Faculty are currently in the process of accreditation; they are intended for specialisation in areas which require theoretical training.

With the introduction of the state graduation exam in Croatia, enrolment in all undergraduate and integrated (either full- or part-time) study programmes of the Faculty of Medicine has been carried out on the basis of the results achieved at the graduation exam taken after completing secondary school education as of the 2010-11 academic year (National Information and Application System for Higher Education, the NISpVU system or "Become a Student")

In 2012, the Faculty of Medicine in Rijeka was assigned to use part of the premises in the building of university departments in the campus at Trsat for its Skills Lab, Biobank and Laboratory of Molecular Epidemiology. The Skills Lab was established with the aim of ensuring the conditions for practical training of students for work with patients through practice on dummies. The Biobank was established in the framework of the TransMedRi project financed by the EU as part of the activities of the Faculty's Department of Pathology; it is a collection of biological samples of human origin collected in order to create the preconditions for the implementation of translational research in medicine. The Laboratory of Molecular Epidemiology aims to provide infrastructure and introduce modern technologies for different typing methods on a molecular level.

In August 2012, the Faculty of Medicine entered into an agreement with the University of Rijeka granting it free lease of commercial real estate totalling 2030 m² located at Maršala Tita no. 5 (the building of the former Faculty of Civil Engineering) and the establishment of Faculty of Health Studies. The Faculty of Medicine started using these premises in the academic year 2013-14, thus significantly improving the physical conditions for teaching, which was one of the prerequisites for further development and introduction of new study programmes. The Faculty of Health Studies was established by the decision of the University Senate on 19 March 2013, and on 10 April 2013 the Ministry of Science, Education and Sports (MSES) rendered a decision finding that "the decision on the establishment of the Faculty of Health Studies within the University of Rijeka was in line with the Act on Institutions and the Act on Scientific Activity and Higher Education". Moreover, on 3 July 2014, the Ministry also issued this Faculty with the license to perform activities of higher education, pursuant to which the following study programmes were transferred to the Faculty of Health Studies as of the academic year 2014-15:

1. Graduate university study of Nursing - Mental Health Promotion and Care
2. Graduate university study of Physiotherapy
3. Graduate university study of Medical Laboratory Diagnostics
4. Undergraduate professional study of Radiological Technology
5. Undergraduate professional study of Medical Laboratory Diagnostics
6. Undergraduate professional study of Nursing (full-time, part-time study in Rijeka and part-time study in Karlovac)
7. Undergraduate professional study of Physiotherapy
8. Undergraduate professional study of Midwifery

As well as study programmes that are still pending accreditation (Graduate university study of Nursing – Management in Nursing, and lifelong learning programmes).

These data show that in the 59 years of its existence, the Faculty of Medicine in Rijeka has created its own quality teaching and research staff owing to the knowledge and enthusiasm of all its academic staff, offering study programmes that provide for the wide needs of its potential future students and for the current social needs for a variety of health profiles.

Parallel to the development of educational programmes, the Faculty of Medicine in Rijeka developed its scientific activities and as early as in 1959 saw its first defence of a doctoral thesis. To date, 631 doctoral and 717 master's theses have been defended at the Faculty. Rapid advances in basic medical sciences are fundamental cornerstones of scientific work and professional development in clinical medical sciences, and many eminent clinicians made their first scientific steps in pre-clinical laboratories. Several research teams have achieved enviable international recognition by their work. The Faculty's teaching staff have been active in organisation of numerous scientific meetings, lectures, congresses, conferences and symposia. Its scientists have been awarded numerous national and international recognitions and prizes, as well as the highest state award for science in the Republic of Croatia. The number of scientific papers authored by the Faculty's teachers and associates has been steadily increasing, as well as the quality of journals in which they are published. The majority of research activities have been conducted through national projects funded by the Ministry of Science, Education and Sports or subsidies of the University, but also from international projects. Over the last fifteen years, the Faculty has developed important international collaboration, through which several foreign scientists teach in its postgraduate doctoral studies, but also give invited lectures at the Faculty. The development of research work has been accompanied by significant investments in the necessary scientific equipment, mainly funded by allocated resources of the Ministry of Science, Education and Sports, by funds from international projects or own funds. The Faculty also boasts a well-equipped animal breeding facility, established 20 years ago and completely renewed in 2003 with the funds of the University of Rijeka, which enables breeding of experimental animals under completely sterile conditions.

The quality advances in immunology and experience gained in the production of monoclonal antibodies have created the conditions for the realisation of a technological project for mass production of monoclonal antibodies, which in turn resulted in 2005 in the establishment of the Proteomics Centre in a new building built by funds allocated by the University of Rijeka.

b) Provide a graph presentation of the internal organisational structure of your Institution (council, institutes, departments and other). State the number of full-time employees per each organisational unit. Describe as an addendum the composition and function of individual elements of the structure. Specify which elements of the management structure involve other stakeholders (students, employers and other) and comment on their role and contribution.

The Faculty of Medicine in Rijeka, a component of the University of Rijeka, is a public HEI that organises and delivers university and professional studies, and develops scientific and professional work in the educational and scientific area of biomedicine and health and in several other scientific and professional areas, prepares students for their professional activities on the basis of scientific knowledge and methods, educates young researchers, participates in the realisation of students' social interest, and promotes international, especially European, cooperation in higher education and research.

Faculty of Medicine University of Rijeka

1. Scientific and educational organizational units:

- Departments**
- Clinics**
- Clinical institutes**
- Teaching bases**
- Institutes**
- Centres**
- Laboratories**

2. Technical and administrative organizational units:

- 1. Office of the Dean**
- 2. Financial and accounting department**
- 3. Procurement department**
- 4. Department of legal, personnel and general affairs**
- 5. Department of student affairs**
 - Office for quality assurance and improvement**
- 6. Department of scientific research, postgraduate studies and continuing education**
- 7. Department of international cooperation**
- 8. Department of technical and administrative service for study of Dental medicine**
- 9. Department of information technology**
- 10. Department of maintenance and technical services**
 - Section for protection at work and fire protection**
- 11. Library**

The head of the Faculty is the **Dean**, who is assisted in his work by Vice Deans and the secretary of the Faculty. The number of Vice Deans and their rights and obligations are prescribed by the Statute of the Faculty.

The activities of the Faculty are performed by:

1. teachers (in research-teaching and teaching positions) and associates in associate positions (senior assistants or post-doctorands, assistants)
2. public servants and employees who are in charge of administrative, general and other matters.

All employees perform tasks within the Faculty's organisational units: institutes, department and administrative organizational units. The tasks of all employees are defined in the Faculty's Statute and the Regulations on Internal Job Classification

Organizational units

The organizational structure of the Faculty is adapted to the tasks arising from the scientific, educational and professional activity carried out in scientific and educational organizational units, the professional and administrative tasks performed in the Secretariat, and the library activity carried out in the library.

Departments

Departments are the basic organizational form of the Faculty's teaching and scientific activity. Their number and respective name are regulated by the Faculty's general act on organization. The main role of the departments is conducting and coordinating teaching at all study programmes of the Faculty, care for the improvement of the teaching process, election to a title and promotion of the teaching staff. The work of a department is managed by the Head.

Institutes, clinics and clinical institutes

Institutes, clinics and clinical institutes are the basic organizational form of the Faculty determined on the basis of connectedness of scientific, professional and academic work within a single process. Clinics and clinical institutes are organizational forms that are specific to the education of health care professionals and are organized within the framework of the Clinical Hospital Centre (CHC) and other teaching bases of the Faculty. The organisation of the clinics and clinical institutes meets the strict conditions laid down in relevant regulations governing health care. The work of the institutes, clinics and clinical institutes is run by the Head. Heads of institutes, clinics and clinical institutes are generally also heads of departments. Heads of organizational units manage the work of individual units, chair meetings and coordinate the work of employees in order to ensure functional performance of tasks related to teaching or research.

The Faculty of Medicine has 45 departments and 11 institutes:

1. DEPARTMENT/INSTITUTE OF ANATOMY
2. DEPARTMENT OF ANAESTHESIOLOGY, REANIMATOLOGY AND INTENSIVE CARE
3. DEPARTMENT/INSTITUTE OF BIOLOGY AND MEDICAL GENETICS
4. DEPARTMENT OF DERMATOVENEROLOGY
5. DEPARTMENT OF PAEDIATRIC DENTISTRY
6. DEPARTMENT OF SOCIAL SCIENCES AND HUMANITIES IN MEDICINE
7. DEPARTMENT OF ENDODONTICS AND RESTORATIVE DENTISTRY
8. DEPARTMENT/INSTITUTE OF PHARMACOLOGY
9. DEPARTMENT/INSTITUTE OF PHYSICS
10. DEPARTMENT/INSTITUTE OF PHYSIOLOGY, IMMUNOLOGY AND PATHOPHYSIOLOGY
11. DEPARTMENT OF GYNAECOLOGY AND OBSTETRICS
12. DEPARTMENT/INSTITUTE OF HISTOLOGY AND EMBRYOLOGY
13. DEPARTMENT OF INTERNAL MEDICINE
14. DEPARTMENT/INSTITUTE OF CHEMISTRY AND BIOCHEMISTRY
15. DEPARTMENT OF SURGERY
16. DEPARTMENT OF CLINICAL-LABORATORY DIAGNOSTICS

17. DEPARTMENT OF MAXILLOFACIAL SURGERY
18. DEPARTMENT OF MEDICAL INFORMATION SCIENCES
19. DEPARTMENT/INSTITUTE OF MICROBIOLOGY AND PARASITOLOGY
20. DEPARTMENT/INSTITUTE OF MOLECULAR MEDICINE AND BIOTECHNOLOGY
21. DEPARTMENT OF NEUROSURGERY
22. DEPARTMENT OF NEUROLOGY
23. DEPARTMENT OF NEUROREHABILITATION
24. DEPARTMENT OF NUCLEAR MEDICINE
25. DEPARTMENT OF FAMILY MEDICINE
26. DEPARTMENT OF OPHTHALMOLOGY
27. DEPARTMENT OF ONCOLOGY AND RADIOTHERAPY
28. DEPARTMENT/INSTITUTE OF GENERAL PATHOLOGY AND PATHOLOGICAL ANATOMY
29. DEPARTMENT OF ORAL SURGERY
30. DEPARTMENT OF ORAL MEDICINE AND PERIODONTOLOGY
31. DEPARTMENT OF ORTHODONTICS
32. DEPARTMENT OF ORTHOPAEDICS AND PHYSICAL MEDICINE
33. DEPARTMENT OF OTORHINOLARYNGOLOGY
34. DEPARTMENT OF PAEDIATRICS
35. DEPARTMENT OF PSYCHIATRY AND PSYCHOLOGICAL MEDICINE
36. DEPARTMENT OF RADIOLOGY
37. DEPARTMENT OF REHABILITATION MEDICINE
38. DEPARTMENT OF SOCIAL MEDICINE AND EPIDEMIOLOGY
39. DEPARTMENT OF PROSTHODONTICS
40. DEPARTMENT/INSTITUTE OF FORENSIC MEDICINE AND CRIMINALISTICS
41. DEPARTMENT OF FOOD TECHNOLOGY AND QUALITY CONTROL
42. DEPARTMENT OF UROLOGY
43. DEPARTMENT OF INFECTIOUS DISEASES
44. DEPARTMENT OF ENVIRONMENTAL MEDICINE
45. DEPARTMENT OF HEALTH CARE

Teaching bases

Delivery of part or whole courses is organized and carried out in health facilities that satisfy the required personnel, space and technical conditions. The mutual rights and obligations of teaching in health care facilities are regulated by a contract between the Faculty and the respective health facility - teaching base in accordance with regulations governing health care and higher education. Institutions that do not meet the conditions for the title of a clinical institution can apply to the Minister of Health for authorisation to deliver part of teaching, and thus become partner institutions.

Teaching bases

The teaching of part or complete courses is organized and performed in health care institutions that provide the academic staff, facilities and technical equipment for it. The rights and obligations in the implementation of teaching are regulated by a contract signed between the Faculty and these health care institutions – teaching bases, in accordance with the legislations in the field of health care and higher education. The institutions that do not fulfil the conditions for clinical institutions, should obtain consent by the Ministry of Health and Social Care to participate in teaching. These institutions are assigned the name «collaborative institutions» by the minister.

Teaching bases of the Faculty of Medicine in Rijeka are the following:

- Clinical Hospital Centre (CHC) Rijeka
- Teaching Institute for Public Health of the Primorsko-Goranska County
- Health Centre of the Primorsko-Goranska County
- Orthopaedic Clinic Lovran
- Special Hospital for the Rehabilitation of Heart, Lungs and Rheumatism Thalassotherapy in Opatija
- Polyclinic Medico
- Psychiatric Hospital Rab
- Institute of Emergency Medicine of the Primorsko-Goranska County

Centres

The Proteomics Centre was founded as an internal organizational unit of the Faculty of Medicine aimed at multidisciplinary scientific and technological research. The Centre is run by the head.

Secretariat

The Secretariat is an organizational unit for administrative affairs whose basic activities include:

- administrative work related to research work, record keeping, preparation and coordination of teaching
- legal, personnel and general affairs
- financial and book-keeping services and material business operations of the Faculty
- construction and maintenance services
- IT tasks
- other services necessary for effective functioning of the Faculty regulated by general acts of the Faculty

Library

The Library is a communicative hub which provides scientific and professional information performs library activities for the purpose of scientific work of teachers and associates, as well as students. The library is managed by the head.

The Faculty has professional and administrative organizational units that are in charge of legal affairs, human resources, finances, accounting, IT, student, library, technical, administrative and support tasks, and other general services.

Technical and administrative organizational units are:

1. OFFICE OF THE DEAN
2. FINANCIAL AND ACCOUNTING DEPARTMENT
3. PROCUREMENT DEPARTMENT
4. DEPARTMENT OF LEGAL, PERSONNEL AND GENERAL AFFAIRS
5. DEPARTMENT OF STUDENT AFFAIRS
 - OFFICE FOR QUALITY ASSURANCE AND IMPROVEMENT
6. DEPARTMENT OF SCIENTIFIC RESEARCH, POSTGRADUATE STUDIES AND CONTINUING EDUCATION
7. DEPARTMENT OF INTERNATIONAL COOPERATION
8. DEPARTMENT OF TECHNICAL AND ADMINISTRATIVE SERVICE FOR THE STUDY OF DENTAL MEDICINE
9. DEPARTMENT OF INFORMATION TECHNOLOGY
10. DEPARTMENT OF MAINTENANCE AND TECHNICAL SERVICES
 - SECTION FOR PROTECTION AT WORK AND FIRE PROTECTION
11. LIBRARY

Involvement of other stakeholders in the elements of the management structure

Students participate in the work of the Faculty Council in part as defined by the Statute of the Faculty. Students are entitled to participate equally in all decisions adopted by the Council. Student representatives have the right to suspensive veto on decisions on issues of special interest to students.

Students participate as equal members in the work of a number of boards and committees, the composition of which is approved by the Faculty Council: Commission for Education, Commission for Electives, the Quality Assurance Committee. Other stakeholders are at present involved only in the work of the Quality Assurance Committee. However, very close cooperation has been established with representatives of the teaching bases as significant economic entities (CHC Rijeka, Teaching Institute for Public Health, Orthopaedic Clinic Lovran, Thalassotherapy Opatija, etc.) in the field of personnel policy

and planning and in the field of joint implementation of educational, scientific and professional projects and programmes.

c) Specify the structure of your institution's management (Dean, Vice Deans, heads of departments and other) and briefly describe their roles and election procedure.

Dean

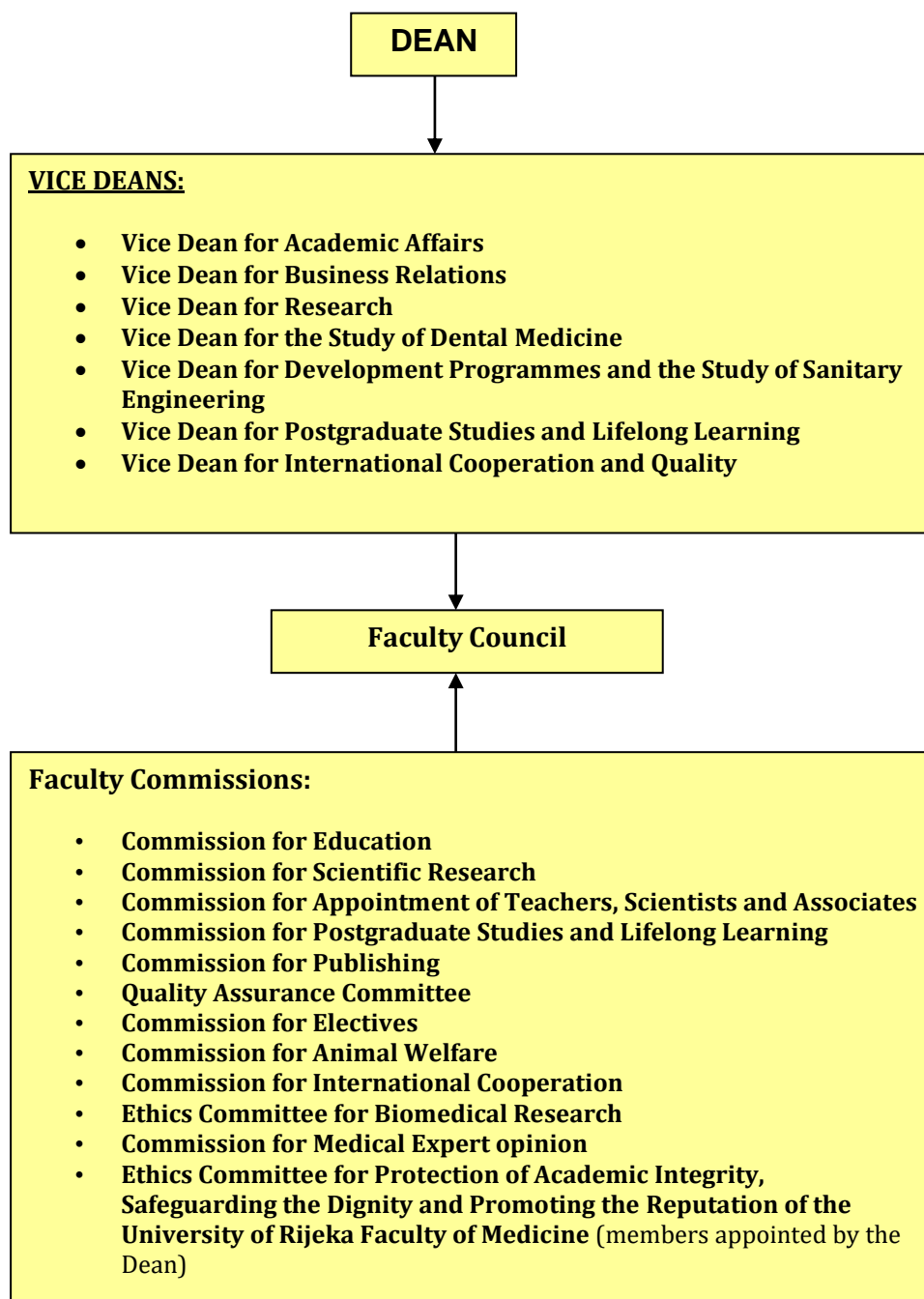
The Dean is responsible for the management of the Faculty, he represents the Faculty and is its head. He organizes all working activities carried out by the Faculty, calls and chairs the sessions of the Faculty Council, appoints working groups and temporary commissions, approves the teachers' work outside the Faculty, decides on the financial planning and annual financial statement, participates in the work of the University's bodies in accordance with the law and the Statute of the University, and performs all the duties as authorized by legislations and the Statute. The Dean is appointed by the Faculty Council for a period of three years. When applying for the position of the Dean, the candidates are obliged to present a work plan for the mandate. The same person can be elected Dean for two consecutive terms. The persons eligible for this position are employees of the Faculty in the research-teaching position as full or associate professors. The Dean is assisted in their work by Vice Deans and the secretary of the Faculty. The **Dean's Council** is an advisory body composed of the Dean, Vice Deans and the secretary of the Faculty. A students' representative is also invited to meetings of the Dean's Council.

Vice Deans:

A person appointed as a Vice Dean must hold a research-teaching title. The Vice Dean's mandate lasts three years. The mandate of a Vice Dean is not limited to two successive re-appointments, in contrast to the Dean's, so the same person may be re-appointed. The Vice Deans are appointed by the Faculty Council on the Dean's recommendation. Each Vice Dean is responsible for their respective area of work. The Dean authorises one of the Vice Deans (the deputy Dean) to act on his behalf in his absence.

The following Vice Deans have been appointed for the Dean's current mandate (as of 1 October 2014):

- **Vice Dean for Academic Affairs**
- **Vice Dean for Business Relations**
- **Vice Dean for Research**
- **Vice Dean for the Study of Dental Medicine**
- **Vice Dean for Development Programmes and the Study of Sanitary Engineering**
- **Vice Dean for Postgraduate Studies and Lifelong Learning**
- **Vice Dean for International Cooperation and Quality**



Faculty Council

The Faculty Council is an expert council of the Faculty and has been operating since 1957 (occasionally changing its name to Research and Teaching Council, Teaching Staff Council, Council of Teachers).

At present, the Faculty Council is composed of all heads of departments, all full professors, elected representatives of teachers in teaching positions (senior lecturers and lecturers) and elected representatives of employees in associate positions (assistants, senior assistants) who are not students of postgraduate studies, student representatives of university and professional studies (15% of the total number of council members on the day of their election - 5% students of postgraduate studies and 10% students of other studies). The Dean and Vice Deans are Council members by virtue of their function.

The Faculty Council establishes permanent and temporary **commissions**:

- **Commission for Education**
- **Commission for Scientific Research**
- **Commission for Appointment of Teachers, Scientists and Associates**
- **Commission for Postgraduate Studies and Lifelong Learning**
- **Commission for Publishing**
- **Quality Assurance Committee**
- **Commission for Electives**
- **Commission for Animal Welfare**
- **Commission for International Cooperation**
- **Ethics Committee for Biomedical Research**
- **Commission for Medical Expert opinion**
- **Ethics Committee for Protection of Academic Integrity, Safeguarding the Dignity and Promoting the Reputation of the University of Rijeka Faculty of Medicine** (members appointed by the Dean)

The Faculty Council appoints the heads of departments/institutes and other organizational units. The mandate of a head of a department, institute or organizational unit is four years, and the same person may be re-appointed. At the beginning of their mandate, the heads of organizational units appoint a deputy who is entitled to perform all activities within the head's range and attend the Faculty Council sessions in the head's absence.

Appointment of the Dean

The Dean is the official representative of the Faculty. The Dean's mandate lasts for three years. The same person may be elected Dean at most twice in succession. The position of the Dean may be assigned to an employee of the Faculty holding the research-teaching position of a full professor or associate professor. The procedure for the appointment of the Dean is initiated at the latest six months before the beginning of a mandate. The Faculty Council issues the decision to begin the procedure for appointment of a new Dean and for formation of the Commission for Appointments. The Commission has three members, two of whom must hold the scientific and academic title of full professor. The candidates for the position of the Dean submit an application within 15 days of the formation of the Commission for Appointments, enclosing their curriculum vitae and work programme for the duration of the Dean's mandate. After the application period of 15 days, the Commission has another 15 days to verify whether all the applications are complete and have been submitted in due time and whether the candidates meet the required criteria, and then submit a report to the Faculty Council. The Dean must then convene a session of the Faculty Council at the latest within 8 days of receipt of the Commission's report. At the session, the Commission reports on the received applications and the Council determines the list of candidates for appointment to the position of the Dean. The list of candidates and their programmes are publicly announced on the web pages of the Faculty and are presented at the session of the Faculty Council within further 15 days. At the electoral session, an Election Committee of five members is formed.

The Dean is elected by secret ballot, by a majority vote of all members of the Council. If none of the candidates obtain more than a half of the votes of all Council members, the voting procedure is repeated in a second or, if necessary, in a third round. If even in the third round of voting no candidate receives a majority vote of the Council members, the procedure for the election of the Dean is repeated within a period not longer than two months.

Study coordinators

Study coordinators have an important role in the running of the Faculty. They are appointed by the Faculty Council at the dean's proposal. In coordination with the course teachers and the timetable coordinator, study coordinators determine the timetable of lectures, seminars and exercises, take care of the modernization of study programmes, propose electives, etc. The Faculty of Medicine in Rijeka has a total of 13 study coordinators:

1. a study coordinator of the Integrated undergraduate and graduate university study of Medicine
2. a study coordinator of the Integrated undergraduate and graduate university study of Dental Medicine
3. a study coordinator of the Undergraduate and graduate university study of Sanitary Engineering
4. a study coordinator of the Postgraduate university study of Biomedicine
5. a study coordinator of the Postgraduate university study of Health and Environmental Engineering
6. study coordinators of all postgraduate specialist studies (8)

d) If your institution is a constituent of a university, list the integrated elements.

The Faculty of Medicine in Rijeka is a scientific and educational constituent of the University of Rijeka with legal personality.

In accordance with the Statute of the University of Rijeka, the constituents transfer to the University **in full** the tasks within the field of:

- University strategy,
- plan of construction of capital facilities,
- international cooperation and
- the budget of the University and its constituents.

Elements of integration, i.e., tasks that components can **partially** transfer to the University, are defined in Article 9 of the Statute of the University of Rijeka, which refers to functional integration.

The following are specific elements of integration with examples for each of the tasks:

- a) procurement from the university budget: joint procurement for the needs of, for example, printing of diplomas;
- b) determining the initial elements of wage policy and common criteria for collective negotiation and collective agreements at the level of the University and its individual constituents;
- c) information system: there is a common IT department, the University IT Centre, which is in charge of development of common information systems at the University level;
- d) the library system: the University Library organizes meetings of heads of individual faculty libraries at which the work of subsidiaries is analysed and common standards of work established,
- e) the student standard: the University Fund for Student Loans has been established and the Senate adopted criteria for granting student loans and scholarships on the basis of the University Regulations on Student Loans;
- f) curriculum reform and launch of multidisciplinary study programmes: the Faculty is involved in the preparation of proposals for a series of university study programmes at postgraduate level which it will implement;
- g) introduction of ECTS credit system and student documents: the form and content of diplomas and certificates has been adopted at the University level, there are unified and IT supported solutions for issuance of study diploma supplements;
- h) determining study capacities and enrolment quotas: enrolment quotas are approved by the decision of the Senate for all studies and each academic year, the competition for entry is published jointly for all studies offered by the University of Rijeka;
- i) publishing activity: the University has its Rules of Publishing Activity, a Faculty representative participates in the work of the University Commission for Publishing, the plan of publishing activities is defined at the University level;
- j) ensuring the quality of work: Faculty representatives participate in the work of the Quality Assurance Committee of the University of Rijeka, the Commission for Accreditation of Study

Programmes, and the Commission for Evaluation of Postgraduate Studies; at the University level there is a Teaching Quality Assurance Manual, which is an integral part of the Faculty's Quality Assurance Manual; standards and procedures related to quality assurance agreed and accepted by the University bodies are applied at the Faculty;

- k) helping students to overcome development and academic difficulties: the Student Counselling Centre and the Office for Students with Disabilities have been established at University level and the Faculty collaborates with them by advertising the opportunities and referring students who need help for counselling;

e) Specify the core values and methods of monitoring ethical behaviour in your activities related to research, teaching and student relations.

The University of Rijeka Faculty of Medicine accepts the core values and methods of monitoring ethical behaviour in relation to its activities in research, teaching and student relations as defined in the Code of Ethics of the University of Rijeka, as well as in the Code of Ethics of Teachers, Associates and Researchers of the Faculty of Medicine (adopted in 2010) and the Code of Ethics of Students of the Faculty of Medicine (adopted in 2012; the Code of Ethics of Professional Services of the Faculty of Medicine is currently under preparation).

In short, the Faculty strives conscientiously and consistently to meet its social mission, protect and further academic freedom and integrity, and promote the principles of ethical and professional responsibility and excellence in all fields of activity. The staff and students are expected to be committed to the highest ethical values of honesty, fairness, credibility, accountability and mutual respect, as well as to the professional principles of seeking truth, acquiring and disseminating knowledge and academic excellence in the broadest sense.

The Faculty has the Ethics Committee for Biomedical Research and the Ethics Committee for Protection of Academic Integrity, Safeguarding the Dignity and Promoting the Reputation of the Faculty of Medicine, the task of which is to monitor the implementation of codes of ethics and conduct procedures to determine their violations. Every student or staff member of the Faculty can report any case/incident of unethical behaviour on the part of their fellow students or staff.

A standardized university survey (a questionnaire investigating their experience in classes) is carried out to assess, among other things, whether and to what extent teachers treat them with respect. The average results regarding both individual teachers and the Faculty as a whole resulting from the survey indicate that the students are very satisfied with this aspect of our teachers' work.

The Code of Ethics of the University of Rijeka is available on website
http://www.uniri.hr/files/staticki_dio/propisi_i_dokumenti/Eticki%20kodeks%20Sveucilista%20u%20Rijeci.pdf,
the Code of Ethics of Teachers, Associates and Researchers of the Faculty of Medicine on website
<http://www.medri.uniri.hr/dokumenti/index.htm>,
and the Code of Ethics of Students of the Faculty of Medicine on website
<http://www.medri.uniri.hr/dokumenti/assets/EtickiKodeksStudenata.pdf>.

f) Briefly describe the mission and vision in line with the strategy of your HEI and evaluate its implementation in activities carried out by your institution (study programmes, employment policy, international dimension, scientific activity, students, quality assurance, business activities, etc.).

The mission of the Faculty of Medicine is determined by the Croatian Act on Science and Higher Education, other relevant laws and by-laws, and the Strategy of the University of Rijeka (the previous 2007- 2013 Strategy of the University of Rijeka, and the newly adopted 2014- 2020 Strategy). In particular, the University of Rijeka stresses its mission to foster scientific, artistic and developmental research, artistic and professional work, and undergraduate, graduate and postgraduate education based on them. In this context, the mission of the Faculty is the education and training of academic staff in the areas of biomedicine and health premised on the indivisibility of scientific work and higher education.

For almost 60 years now, the Faculty has been offering university programmes in the field of biomedicine and health as the only higher education institution in three counties (Primorsko-Goranska, Istarska and Ličko-Senjska). Its aim is to train future professionals who will be able to face all challenges in the field of medicine in the changing conditions of today's world. Students of the Faculty acquire quality and recognizable knowledge, skills and competencies in their core profession, especially in the fundamental part of the programme, and in adopting modern technologies. The study programmes are designed to foster interdisciplinarity as a basis for finding appropriate solutions for sustainable development, which the Development Strategy of the University of Rijeka also recognised as an indispensable universal approach to further development of human society.

The mission of the Faculty is to educate personnel that will fulfil not only qualitative but also quantitative needs of its local community; the policy of planning the appropriate entry quotas ensures that, on the one hand, the Faculty provides the sufficient number of graduates to meet the staffing needs of the community, but does not generate too many surplus graduates who will not be able to find employment on the other.

The mission of the Faculty is also to promote the medical profession and raise the awareness of the meaning and value of this activity for overall sustainable development, at the same time promoting academic principles and values and thus contributing to the development of the city, the region and the Republic of Croatia.

The scientific research activity of the Faculty is based on promotion of international cooperation, mobility of the Faculty's scientific and administrative staff and students, as well as on collaboration with industry and the local community in solving specific tasks and developmental problems. The Faculty operates on the principles of scientific integrity and professional ethics, academic freedom, social responsibility and equal opportunities for all employees and students, thereby accepting international standards of quality in evaluating its work.

The recent processes of globalization in the field of scientific research and education not only provide great opportunities for further development of the University of Rijeka and of the Faculty of Medicine as well as its constituent, but are also a prerequisite for their survival in the world of science.

In this context, the Faculty sees its future as an active and internationally recognized factor in promotion of the existing and creation of new knowledge in the field of medicine and related disciplines through synergy with higher education at all levels, based on learning outcomes and lifelong learning.

To this end, the Faculty will continue its active cooperation with other constituents of the University on its own programmes and on those of the University of Rijeka, particularly by encouraging expertise, creativity, and work and social responsibility of its employees and students. Also, the Faculty will develop cooperation with public authorities and economic operators and will continue to be included in the European and broader, worldwide area of research and higher education through programmes of international cooperation and mobility.

Along with this developmental policy open to globalization processes and the international community, the Faculty will also nurture very close collaboration with the wider and local community, based on meeting the needs of the community for highly professional staff in the field of medicine, and in research and professional projects related to sustainable development of this community and protection of its resources. In this sense, the vision of the Faculty is to expand educational and research approach, namely, foster interdisciplinarity in a way that, in addition to its own field of biomedicine and health in which it has so far achieved recognizable scientific results, it remains the nucleus of development of educational and scientific research processes and interdisciplinary fields of science.

g) Explain the importance and uniqueness of your institution in comparison with other institutions in your scientific field in Croatia.

The University of Rijeka Faculty of Medicine is the only higher education institution in three counties (Primorsko-Goranska, Istarska and Ličko-Senjska) that offers all levels of study in the field of biomedicine and research in this territory, which is where we see the specific importance of the Faculty for the

development of the wider region in which it operates. The Faculty also regularly enrolls a significant portion of students from more distant counties, which points to the attractiveness of the programmes it offers. The Faculty is unique in the Republic of Croatia in that it educates the broadest range of health professionals; in this respect, we must emphasize the studies of Sanitary Engineering and Midwifery, which are the only studies of this kind in our country. A unique feature of the Faculty is also the fact that its study programmes of Medicine, Dental Medicine, Nursing and Midwifery comply with the EU Directive on Regulated Professions, which guarantees the recognition of the diplomas of the Faculty of Medicine in the whole EU.

Furthermore, it should be noted that in the six decades of its operation, the Faculty has continuously sought to promote scientific research beyond the local framework, opening itself to international cooperation. The result of this effort is a steadily growing number of national and international research projects funded from various sources, a growing number of scientific publications in top quality international scientific journals, and a broader network of international partner institutions with which it achieves ever richer scientific, educational and professional cooperation.

Another feature of the Faculty that we boast of is also the fact that numerous students say that our Faculty is a nice and enjoyable place in which to study. We believe that the credit for this should go to the Faculty staff for their high readiness for partnership cooperation with the students, which has resulted in an array of students' scientific, professional and social projects and activities that enjoy full support of the Faculty.

h) Comment on potential overlaps of your work with the work of similar institutions within the same university.

The University of Rijeka has no constituent other than the Faculty of Medicine that offers studies or conducts research in the field of biomedicine and health. Consequently, we can conclude that there are no overlapping activities of our institution with those of any other institution within the University of Rijeka.

i) Attach the documents on strategy and procedures for quality assurance of scientific and teaching activities at your HEI and assess the level of their implementation, commenting on the annual reporting procedures.

In addition to the framework given by the positive acts of higher order (Act on Quality Assurance in Science and Higher Education, OG 45/09; the Ordinance on the Content of a Licence and Conditions for Issuing a Licence for Performing Higher Education Activity, Carrying out a Study Programme and Re-Accreditation of Higher Education Institution, OG 24/10, Art. 17 and 18 and others), a system to ensure and improve the quality of all aspects of the activities of the University of Rijeka Faculty of Medicine is based on the following documents annexed to this text:

1. Rules of Procedure of the Quality Assurance Committee of the University of Rijeka (January 2010);
2. Teaching Quality Assurance Manual of the University of Rijeka (3rd, revised edition, June 2012);
3. Rules Governing the Quality Management System of the University of Rijeka (March 2013);
4. Rules Governing the Quality Management System of the University of Rijeka Faculty of Medicine (March 2012);
5. Rules on Amendments to the Rules Governing the Quality Management System of the Faculty of Medicine in Rijeka (March 2014).

In a broader sense, the following are also in the service of promoting quality:

1. Code of Ethics of Teachers, Associates and Researchers of the University of Rijeka Faculty of Medicine (October 2010);
2. Code of Ethics of Students of the University of Rijeka Faculty of Medicine (March 2012);
3. Rules of Procedure for Protection of Academic Integrity, Safeguarding the Dignity and Promoting the Reputation of the University of Rijeka Faculty of Medicine (May 2012),

and other documents of the Faculty of Medicine, the University of Rijeka, etc.

In July 2013, following an independent external evaluation, the Agency for Science and Higher Education awarded the University of Rijeka the Certificate of Quality Assurance System. The Faculty of Medicine has been using the final report on the conducted evaluation as a guideline for development of quality systems together with its own report on the results of internal evaluation of the quality assurance system. The adopted documents are implemented to the extent possible, with some elements being enhanced through additional measures (Ethics Committee for Protection of Academic Integrity), while the implementation of additional elements is expected to be carried out by the newly formed Quality Assurance and Improvement Committee of the Faculty of Medicine. Heads of departments regularly submit their annual progress reports to the Dean; the annual reports submitted so far by the Faculty Council referred to the student surveys on the quality of teaching, but are expected to be extended to other aspects of the quality system as well.

j) List the bodies that continuously work in the field of quality assurance. Assess their work in the past five years.

Since 2005, when it was formed by a decision of the Faculty Council, the Quality Assurance and Improvement Committee (former Quality Management and Improvement Commission) has been active at the Faculty of Medicine. The Committee consists of 13 members, among whom, in accordance with the relevant University Rulebook, members of the Faculty management, teachers, associates, students, administrative and technical service and external stakeholders. The Committee is provided administrative support by the Office for Teaching Quality Assurance, formed within the university services. In the past five years, the Committee has held regular sessions, participated in the preparation of all relevant documents in the proceedings/process of internal and external evaluation of the quality system, has brought the Faculty Quality Assurance Manual to a high degree of preparation, initiated the adoption of a three-year Action Plan of the University of Rijeka Faculty of Medicine for improvement of the quality assurance system, regularly organized student surveys on the quality of teaching and analysed their results, which it reported to the Faculty Council, issued certificates of assessment in student surveys to teachers needed for their election into a title, investigated the causes of students' unsatisfactory study results and put in place measures to prevent failures in studying, (established a mentoring system, organised workshops for students, etc.), carried out annual analyses of the pass rates in courses, finding measures to improve the efficiency of studying, participated in submitting the annual reports on the implementation of the Strategy of the University of Rijeka, the implementation of institutional SWOT analysis and annual institutional self-evaluation in cooperation with the Faculty management, submitted the results to the Quality Assurance Committee of the University of Rijeka, etc.

Student surveys have become a condition for election into a higher position, and their results are submitted to the heads of department who, in the event of poor results (any mean grade lower than 3.0 is considered to be negative), discuss the results with the teacher evaluated. The surveys (uniform at the University level) assess regular delivery of classes, the teacher's ability to link the content of the course with the requirements of the practice setting and motivate students, their availability, etc. The Committee has worked and collaborated with relevant university bodies, primarily the Quality Assurance and Improvement Committee and the Quality Assurance and Improvement Centre (which processes centrally the results of all student surveys).

The above-mentioned three-year action plan, adopted at the session of the Faculty Council in September 2013, envisages the following (the current stage of realization is given in the brackets):

Academic year 2013-14:

1. adopt the University Teaching Quality Assurance Manual (in final stage);
2. display the Quality Assurance and Improvement System in a separate segment on the Faculty website (composition of the Committee and the Office, Rules and Manual, the work plan of the Committee, analyses of results, annual reports, announcements for panel discussions and meetings, links to relevant pages of the University, etc.) (a separate network site for the quality system has been created - under "Organisation");
3. harmonization of terminology in accordance with the applicable University Rulebook (the names of the Committee and the Office) (Amendments to the Rulebook have been adopted);
4. devise a way of periodic monitoring of the adequacy of the ECTS system with respect to student workload;

5. design new websites with the aim of improving their clarity by extending and unifying the relevant information, particularly in relation to classes (new uniform university design of websites is pending - information regarding classes will be unified for all studies - under "Studies");
6. regular updating of information on the websites, clearly distinguishing the level of responsibility and role of the persons responsible for the design, selection and information and for the technical production of the web - students will also be included in this process (the person responsible for technical support is still the head of IT services, and department heads are responsible for updating the content of their department's webpage).

Academic year 2014-15:

1. harmonise the layout of implementing curricula for all study programmes for better clarity and comprehensiveness and post them on the respective department's website with the existing web-presentation of the department's profile (layouts are uniform - under "Studies");
2. incorporate the form of the final exam and applicability of evaluation criteria in the implementing curricula of all courses - set all the exam dates and list them on the implementing curriculum (all information is now available in the curriculum);
3. continue the process of foundation of the Alumni MedRi association and complete the website with relevant data (the changes made in the Statute and the leadership resulted in an increased activity of the association and several-fold increase in its membership);
4. create our own survey for final-year students to check their satisfaction with the results achieved, the learning outcomes, competencies, the quality of teaching and study programmes, the relationship with teachers, technical and administrative staff, their best and worst experience during studies, the possibilities of improving the process of studying, etc.;
5. interview students about the work of the administrative staff in departments and student offices, the library, etc.;
6. institute periodic monitoring of the adequacy of the ECTS system in relation to student demand workload.

Academic year 2015-16:

1. in cooperation with the University Quality Assurance Committee, carry out peer reviews, because close cooperation of several teachers is needed in the realization of a particular course, as well as evaluation of the learning outcomes and assessment of students (the peer review process is currently being designed as part of the programme contract between the University and the MSES);
2. make it possible for teachers, especially assistants, to attend certain forms of pedagogical-psychological- didactic-methodological training in order to improve the teaching process. The realization of this goal requires cooperation with colleagues of appropriate faculties of the University of Rijeka who would help improve our staff's teaching skills recognising the uniqueness and specificity of education at our Faculty, (despite huge interest expressed, given the limited capacities, only two of our teachers attended the programme "Teaching Competence in Higher Education: Learning and Teaching ", offered within the University programme contract with MSES).

In its work carried out so far, the Committee has focused most of the effort on stimulating teachers to conduct student surveys and raising the awareness of students about their importance. The appointment of new members of the Faculty management in October 2014 brought about the establishment of a Vice Dean for Quality, which defined a stronger orientation of the new administration toward a broader understanding of the quality system, which is expected to have a more proactive approach in proposing measures and ensuring their implementation in the domain of the quality of teaching, scientific research, efficiency of administration, etc.

Table 1.1. Internal quality assurance

Type of activity	Activity coordinator (name of the body or person)	Activity frequency (number of meetings or activities per year)	Number of reports resulting from a given activity in the last 5 years	Practical results of activity (description in the self-evaluation)
Thematic sessions on teaching quality	Faculty Council (annual report of the Committee Chairperson)	twice a year	10	-
Work of the Teaching Quality Assurance Committee (Commission)	Committee	Four or five times a year	20-25	-
Student survey (implementation, processing, informing students, teachers' responses)	Office of the Committee; the Office head in cooperation with associates, teachers and students	throughout the academic year	about 55 survey yearly	-
SWOT analysis at the level of the HEI	Committee	-	-	-
Monitoring of indicators of quality of the HEI*	University of Rijeka Quality Assurance Centre (Jasenska Mršić Pelčić, PhD, representative of the Faculty)	-	-	-
Other forms of evaluation	-	-	-	-

* Ordinance on the Content of a Licence and Conditions for Issuing a Licence for Performing Higher Education Activity, Carrying out a Study Programme and Re-Accreditation of Higher Education Institutions (OG 24/2010). and Ordinance on Conditions for Issuing a Licence for Performing Scientific Activity, Re-Accreditation of Higher Education Institutions and the Content of the Licence (OG 83/2010)

k) Specify and briefly explain the main strategic goals that the HEI management plans to achieve in its current mandate and any difficulties it encounters in their realisation (study programmes, employment policy, international dimension, scientific activity, care of students, quality assurance, business activities, etc).

The following is a list of activities and goals for the next mandate period (2014-2017):

1. Teaching and Students
 - Discussion about the possibilities of improving the existing models of teaching in order to raise the quality of teaching

- Introduction of modern technologies in the teaching process
 - Procurement of modern teaching aids
 - Redefining the learning outcomes and horizontal and vertical synchronization of the content of various courses
 - Improvement of the quality system
 - Electronic evaluation and self-evaluation of the teaching process
 - Broad participation of students in all activities of the Faculty, particularly in scientific research
 - Discussion on amendments to the grading system
 - Evaluation and systematization of publishing activities
 - Creation and accreditation of study programmes of Medicine in English
 - Elaboration of the design of a new building of the Faculty within the University campus
2. Science and research
- Creating a database of current and past research projects to present current scientific interest
 - Creating a base of scientific research equipment in view of its rational use
 - Establishing a "core facility" laboratory
 - Intensifying cooperation between scientists, especially clinicians and pre-clinicians
 - Encouraging scientific research of young scientists - young scientists fund
 - Improvement of scientific research infrastructure
 - Elaboration of the design for the Centre for Translational Research within the University campus
 - Reorganization and strengthening of the activity of the Scientific Research Service
 - Promoting international scientific cooperation
3. Professional activity
- Regulation of professional services in accordance with current regulations in the Republic of Croatia to ensure the survival of the existent and development of new ones, required by the local health system
 - Cooperation with health institutions in the region, especially with teaching bases
 - Establishment of a contractual relationship with the Croatian Institute for Health Insurance
 - Establishment of cooperation with other insurance companies and a wider market of health care in the region
4. International Cooperation
- Fostering and improving the existing cooperation through the exchange of students, teachers and services, and encouraging joint application for projects
 - Expanding the network of former students of the Faculty through Alumni MedRi association with the aim of enriching offers for student and teacher exchanges and scholarships, as well as facilitating the search for partners for new scientific, technical and infrastructure projects
 - Expansion of the existing network of partner institutions as a basis for the realization of joint future projects
5. Professional services
- Improving the work, reorganization and new systematization of professional services in order to increase their efficiency
 - Improvement of IT support and training of employees
 - Accreditation of procedures and work processes with the aim of improving the quality of work
 - Emphasis on reinforcing services for international cooperation and scientific research activities with all available personnel with experience in these areas
6. Business operations of the Faculty
- Increasing income through all infrastructure and research projects, as well as professional and educational work
 - Reduction of expenditure through rationalization and reduction of operating costs
 - Investment projects in order to create favourable conditions for studying and working conditions
 - Start activities on resolving the issue of inadequate spatial capacity to meet the needs until relocation to a new building at the University campus
 - Signing the contract on business cooperation with the Faculty of Health Studies
7. University hospital

- Continued work on finding ways to start construction of the new hospital through professional, administrative and political structures at all levels

Possible difficulties in achieving the goals set:

- the greatest difficulty for achievement of the goals set is, in our view, the **absence of the institution of a university hospital** as an integrated form of professional, educational and scientific institution in which all three segments would form an indivisible whole in practice
- the slowness and rigidity of administrative and bureaucratic control apparatus at all levels can slow down or completely prevent the implementation of many of the plans
- the current economic moment and recession conditions in which we have been operating for several years now makes it financial monitoring and implementation of investment programmes difficult, and represents a significant barrier to the creation of development employment policy
- the rigid and inert legislative framework may constitute an obstacle to the realization of some projects.

I) State your opinion about the main advantages and disadvantages of the programme, staff and material potentials of your HEI.

The continuing effort invested by the teachers and the management is reflected in the innovations introduced in the teaching process, with constant care being given not to compromise the quality of students' final competencies. This has resulted in recent years in study programmes that provide students with clear and unambiguous information on the learning outcomes, their rights and obligations in the study, giving them the opportunity to adopt the defined outcomes through various forms of teaching. We believe that the great commitment to the advancement of the study has resulted in better quality delivery of the study programmes and, consequently, better knowledge and competencies of our graduates.

The advantage of the Faculty, which we believe has still to come to the fore, is the continuous investment in staff development from which to recruit new teachers who will form the base of future development of the Faculty. At this point we want to emphasize in particular the training of staff on the postgraduate specialist and doctoral levels, which is carried out continuously and which meets the needs not only of the Faculty, but also of health institutions in our region for quality professional, scientific and teaching staff. Moreover, we see great possibilities and advantage in our newly planned programmes of lifelong learning, which should satisfy the practical needs of a wide range of medical professionals, but also a wider range of stakeholders.

In addition to the above, we see an advantage in separating the professional studies into the framework of the newly established Faculty of Health Studies. This separation will allow the staff of the Faculty of Medicine to focus more intently on further development of the University studies of Medicine, Dental Medicine and Sanitary Engineering, which will certainly contribute to improvement of the quality of both the studies and studying, as well as that of the staff that our institution will generate.

To achieve the ambitious development plans of the Faculty, it will be necessary to expand the base of teachers and associates, which is at present limited by Government decisions. We expect to establish a dialogue with the responsible structures in the near future in order to put forward our view of the possible solutions to this limiting factor.

However, we would like to stress again that at the national level, unfortunately, the issue of recognizing the institution of a university hospital as an umbrella institution for training health personnel still remains unresolved, despite our intense solicitation for over a decade. Indeed, only such an institution can create conditions for integration of professional, educational and scientific activities in an indivisible whole.

Yet another advantage of the Faculty lies in the fact that we maintain a high standard in terms of scientific infrastructure, which is level with the highest European and world standards, which in turn creates conditions for further development of scientific research.

One of the disadvantages can be the unsatisfactory working conditions for professional and administrative services of the Faculty, which results in an unsatisfactory functioning and connectivity between various professional services and as such will not be able to follow the growing needs for further development of the Faculty. The activity to the professional services needs to be modernised, enabling them to make better use of IT and other technological opportunities, which will certainly contribute to better efficiency and flow of information between teachers, students, the University of Rijeka and the MSES.

The material conditions of work are also not at the desired level; however, even in this regard we plan to make significant progress and invest in the spatial and educational infrastructure to bring it to a satisfactory level.

m) If your institution has already been subject to some form of external evaluation, comment on the recommendations given and the improvements implemented so far.

In 2009, the Faculty was subject to an external evaluation conducted by an expert commission appointed by the National Council for Higher Education, which made a series of recommendations in his final report.

The first of the recommendations referred to the orientation of the Faculty on its main studies, which has been achieved in most part through the establishment of the Faculty of Health Studies.

Furthermore, the Commission proposed separation and transition of the studies of Sanitary Engineering and Organization, Planning and Management in Health Care directly to the University. The study of Sanitary Engineering is a study programme offered at two levels (undergraduate and graduate) which provides the knowledge, skills and competences within area 3. Biomedicine and Health (3.03. Public Health and Health Care), which justifies this study to be offered at the Faculty of Medicine in Rijeka. In contrast, due to difficult employability of staff with the competencies acquired after completion of the interdisciplinary study programme of Organization, Planning and Management in Health Care (also undergraduate and graduate), this study has been withdrawn and is no longer offered at the Faculty of Medicine in Rijeka.

The comment suggesting improved active promotion of the Faculty has been taken very seriously and we have been investing a lot of effort on concrete measures that will make both the Faculty and its studies, but also the medical profession as such, even more popular and attractive to current and future students.

Another recommendation was to increase investment in teaching equipment and textbook material, which has been continuously implemented in the past few years. The Faculty now has a Skills Lab with a series of models, dummies and simulators for practical exercises, the library stock has significantly increased in the last three years, and at the end of 2013, we participated in an MSES competition with a project proposal that would significantly improve the educational infrastructure but, unfortunately, the results of the competition have not been made known to date.

The recommendation to persevere in development and consistent application of the Catalogue of knowledge and skills has also been taken seriously so, at a thematic session of the Faculty Council in November 2014, a serious discussion about teaching involving this issue was held.

As for the proposal to extend the scientific research groups, we applied the TransMedRi project for EU funding, the basic idea being to integrate preclinical and clinical research and researchers by strengthening the scientific infrastructure for the implementation of translational research in medicine.

n) If there is one, please mention a foreign HEI you could compare to and explain the criteria for comparison.

By its structure, operation mode, geography and tradition, we like to think of the Faculty of Medicine as belonging in the group of Central European university institutions. Owing to the contacts and good cooperation established so far, we have had the opportunity to get to know well the organization and operation of a number of related institutions, such as universities in Maribor, Ulm or Graz. These

institutions operate in small urban centres that are largely oriented precisely to university higher education activity. In recent decades, these faculties have been developing very intensively in the field of education, science and profession. They are also HEI that are becoming increasingly popular and attractive both to students and to teachers and scientists by their activities. Thanks to the efforts of the entire University, in the last fifteen years Rijeka has also been working very intensively in this field and has achieved significant success. We believe that now is the time for the Faculty of Medicine to make a significant move in this direction by introducing the programme of the study of Medicine in English and thus become recognizable in the wider area. Furthermore, all the above-mentioned faculties maintain very close relationships between science and industry through the implementation of technology and applied research, which is also outlined in the Work Programme of the Dean for this term. Moreover, we believe that the criteria by which we can compare ourselves are the current international scientific research projects and the existing research infrastructure

o) Specify when and how you reacted and/or participated in making decisions of public interest.

Faculty teachers participate, individually or at Faculty initiatives, in discussions and decision-making processes that are of public interest both in the field of science and higher education (e.g., panel discussions on draft laws and other acts in the domain of science and higher education) and in the field of biomedicine and health (amendments to basic laws). Faculty teachers actively participate in the work and in decision-making in a number of the highest state forums in the field of science and higher education or health (ministries, committees, national councils, parliamentary committees). Furthermore, teachers are very active in work and participate in decision-making of professional associations and chambers, both domestic and international. As well, many teachers are involved in the work of editorial and scientific boards of various journals, conferences, symposiums and other scientific professional meetings, both on domestic and international level.

p) Specify to what extent you are satisfied with the current situation and propose possible improvements.

We can be only partially satisfied with the existing situation in the areas of activity of the Faculty of Medicine. Despite the best efforts of all those participating in the teaching process and the advances made so far, there still remain ample space and opportunities for improvement, always taking into account the diversity that exists within different organizational units. Public debate which should include teachers, associates and students should be organised to define the shortcomings and find solutions that will enable a qualitative step forward in teaching and reinforce recognition of the Faculty as a higher education institution. Care should also be taken to introduce state-of-the-art and easily accessible technologies, particularly IT, which have so far not been fully utilised. In addition, it is necessary to modernize teaching aids for easy transfer and acquisition of practical knowledge and skills.

It is also necessary to continue the activities aimed at redefining the learning outcomes, which need to be based on actual needs, realistic and feasible, and make a thorough analysis of the contents of courses, which need to be synchronized vertically and horizontally in order to avoid unnecessary repetition of teaching units within different courses, and harmonise the contents of individual thematic units. In this way, the teaching process would gain credibility and become more interesting to students, who are actually its main users.

Special emphasis should be placed on ensuring the quality of teaching and of all other activities at the Faculty in order to ensure its viability, but also the viability of the health system in our city, of the University and the local environment.

Students of the Faculty should be encouraged to participate in extracurricular activities in even greater numbers, particularly in scientific research and social work. Encouraging our young fellows will create a broad base of creative young professionals who should become the cornerstones of the future development of the Faculty, the profession and the society as a whole.

Despite significant steps forward made in recent years, it is still necessary to intensively encourage the teachers' publishing activities. Given the limited spatial and financial conditions, special emphasis should

be placed on electronic editions in order to ensure the availability of quality literature to students, thus reducing the costs of studying.

In order to exploit the performance potential of the Faculty, but also of the broader environment, in the near future we will be offering the study programme of Medicine in English. Its launch is interesting also in a commercial sense and will represent a significant source of financing for the all activities of the Faculty of Medicine. In parallel with the process of curriculum development and accreditation of the study programme in English, we will endeavour to ensure the spatial and personnel requirements that meet the needs of the teaching process of the new study. As regards the human resources, this will include expanding the base of fixed-term contract teachers and associates in the existing teaching bases and outside them. This will expand the base of participants of the teaching process, but also provide the base for recruiting the best personnel that should be in charge of the teaching process in the future.

In collaboration with the University of Rijeka, we will actively continue work on the design of the new building of the Faculty within the University campus, as well as on application for its construction through programmes of EU funds, and thereby ensure adequate conditions for the further development of the Faculty, and of all its activities.

Another fundamental activity of the Faculty is scientific research. In the past decade, significant changes have taken place in the field of science which resulted in over a hundred projects funded from various sources in the period since 2007 alone. However, the circumstances of funding from domestic sources have also changed significantly so that solutions for finding new sources of funding should be found. The Faculty of Medicine should continue to profile itself in the domestic and international environment as a component that wants to develop itself within the framework of a research university. This is indeed the basis of the existing strategies of the University and of the Faculty of Medicine. In the field of science, there is great potential for further development. The Faculty must provide the conditions for intensification of scientific activity which can be done in several ways. The first would be to create a database of current and past research that would present current scientific interests and to make it available to anyone who wants to participate in the opportunities that the Faculty offers. Another would be to launch the initiative to create a similar database also at the level of the University and thus enable cooperation with other existing research groups of the University. This base of the Faculty will be created in a way that will make it easy for interested scientists to use and search it, which in turn will facilitate mutual communication among researchers, in particular clinical and preclinical ones. Indeed, intensifying cooperation between clinicians and preclinicians will be one of the priority tasks. This will also stimulate research focused on the applicability and relevance. Moreover, this kind of networking of scientists will certainly result in an increase in scientific production and in the number of relevant research groups and studies, which will result in a stronger recognisability of the Faculty in the wider scientific community. The increased recognisability will in turn certainly make the Faculty an interesting partner institution to other related institutions in the international environment, which will positively affect the intensification of scientific activities, but also increase the budget of the Faculty, which will be focused on research, and the share of own income in financing the activities of the Faculty .

The next activity to be undertaken is to create a base of scientific research equipment using that already existing at the Faculty in order to make it available to all scientists. In this way the equipment will be used as rationally as possible under clearly defined conditions and for purposes for which it was intended in the first place. As regards technological scientific infrastructure, the Faculty is well equipped, but this equipment is not sufficiently exploited. This definitely has to change so in the future we could plan the purchase of what is really necessary or missing, with a consequent reduction in the acquisition and maintenance costs. Our aim in this is to create the foundations for several core facility laboratories within the existing organizational units, which will certainly contribute to a greater incentive for research activities in the future. We will try to have a similar database of the existing scientific and research equipment created also at the level of the University, given that other constituents already have part of the equipment. The amount of available equipment can be expected to be significantly increased in the foreseeable future due to the implementation of the project Development of the research infrastructure on the University campus, the value of which amounts to 24m Euros, which will significantly improve the research resources of the University and also create realistic possibilities for scientists of our Faculty to exploit it to the fullest.

We intend to put special emphasis on encouraging scientific research of younger members of our academic community. To this scope we intend to use our own resources to create a fund and make it available to our young colleagues to use for their own initial research under defined and controlled conditions. They would have full autonomy in the use of these funds, but would have the obligation to present the results of their research and justify the expenditure to the management and to the broader Faculty community. We believe that this stimulatory measure will result in profiling young scientists who will in future represent the backbone of scientific research activities at the Faculty.

Furthermore, we plan to initiate activities aimed at improving the research infrastructure on a rational basis to ensure good conditions for research to a wider range of scientists, which should result in a greater scientific production. Given the financial opportunities and the current state of scientific infrastructure and real needs, the Faculty must secure funds for the acquisition of all that modern science requires. We believe that the conditions for this do exist despite the current financial situation, and that sufficient funds for the implementation of such plans can be secured through financial independence and from a number of research projects funded from various sources.

In the coming period, the Faculty management will try, in cooperation with the University, to actively continue work on the project of the Centre for Translational Research on the University campus, as well as on the preparation of applications for EU funds for its construction, which would provide conditions for further development of applied translational research.

Apart from financial and physical resources, enhancement of scientific research activity requires also logistical support of the professional services of the Faculty. We are aware of the fact that joining the EU is a historic opportunity that must not be missed. We are daily witnessing floods of information about calls for cooperation in applications of different projects for international funds. Unfortunately, due to our daily obligations, it is extremely difficult to process so much information, which is why they often remain unused. To rectify this, we will reorganize and reinforce the Scientific Research Service of the Department of Scientific Research by using the existing human resources to create a centre that will process the incoming information referring to calls for partnerships and sources of funding in order to facilitate orientation of the Faculty scientific community in the forest of data and enable better utilization of all available resources for the development of research. The work of the centre will include the administrative staff that will be able to track logistically the processes of application and realization of the projects that will take place at the Faculty. We believe that this is also one of the priorities for our management in the forthcoming period.

Provided we achieve the above mentioned assumptions, we believe that it is possible to significantly increase the budget of the Faculty and the amount of our own income. As before, the Faculty must provide funds for our own participation in the implementation of international projects, which is certainly one of our fundamental tasks. In the next period, we should primarily enhance mutual cooperation of scientists within the Faculty of Medicine itself and wherever possible focus on connecting our scientists with colleagues from similar institutions in the country and abroad. In particular, efforts should be made to work on more active search for partners among our scholars who have asserted themselves abroad and who have so far proved to be very open to any form of cooperation with our institution.

Given that, several years ago, Faculty of Medicine obtained approval from the Ministry of Health to register itself for performing health care activities, the Faculty expanded its registration at the Commercial Court in this regard. During the next period it will be necessary to regulate the area of professional services to ensure the viability of the existing, but also allow introduction of new health professional services required by the local health system, which are currently missing. In addition to satisfying the needs of the health system, professional services should also be seen as a desirable source of income necessary for improving the activities of the Faculty. Professional activities should be developed in harmony together with all health institutions in the immediate environment, especially with our teaching bases. The first significant step in the realization of the objectives will be to co-operate with the Croatian Institute for Health Insurance with a view to entering the circle of contractual health organizations, which would represent a significant boost to the development of research activities in the future, which has been the topic of talks with the Rijeka branch of the Institute for some time now. However, will offer the range of the Faculty's health professional services also to other insurance companies and to the broader health care market in the region. Given the probable significant changes in the field of professional health services provided by the Faculty, this activity will necessarily need to be reorganized in accordance with

the current regulations in the Republic of Croatia. It will also be necessary to amend accordingly the internal regulations of the Faculty so that the professional services could be further developed in accordance with the interests of the Faculty.

We have already repeatedly emphasized the importance of international cooperation, i.e., inclusion of the Faculty in the wider, primarily European environment and the field of education, science and profession. Although we have already established cooperation with numerous foreign institutions, which should definitely be cultivated and further improved through the exchange of students, teachers and services and by encouraging joint application projects, the network of former students of the Faculty of Medicine in Rijeka, created owing to the formation of the Alumni MedRi association in 2007, emerges as a yet not exploited potential. We believe that this potential should not be ignored and that the Alumni MedRi association should continuously work on systematic gathering of former students and thus enrich the offer of student and teacher exchanges and scholarships, and facilitate partner search for new scientific, technical and infrastructure projects. Furthermore, students, teachers and professional services of the Faculty have not been exploiting fully the exchange potential within the programme "Erasmus +" and others. It is planned to establish a better system of internal information and encouragement of those who apply for exchange, as well as those individuals or organizational units that attract foreign guests.

The basis of international cooperation should be continued work on the expansion of the existing network of partner institutions, which should represent a good basis for the realization of joint future projects. The plan is to expand the network of new partner institutions in the South Eastern European region (Slovenia, Bosnia and Herzegovina, Serbia, Montenegro and Macedonia), which would imply encouraging systematic exchange of students, teachers, services and experience, arranging joint projects, and presentation of the programme of the Faculty of Medicine at partner faculties and/or universities.

Despite continuous efforts, the activity of professional services is not adequately organized and their functioning is rather outdated, inert and inefficient. Modern IT and other technological capacities are not used sufficiently, which has resulted in unsatisfactory use of the available resources. We therefore plan to reorganize the professional services and clearly define the specific tasks related to each position in order to increase their efficiency. The management will actively support these changes also through adequate technological support to improvements in work, but also through appropriate training of the staff of professional services in accordance with available opportunities. The planned changes should result shortly in accreditation of procedures and work processes, which would mean a significant step forward in improving the quality of work of professional services.

Given the historical environment in which the Faculty operates, particular emphasis should be put on improving the services for international cooperation and scientific research. We plan to include in the work of these services all available personnel with experience in these areas in order to maximally enhance the work of these two extremely important segments for the future work of the Faculty.

In this, naturally, we will have to face the complex financial conditions of work and ensure the prerequisites for unobstructed activities of the Faculty and its further development. In this regard, we plan to implement continuous activities in order to increase our income through all forms of work of the Faculty (infrastructure, scientific projects, professional and teaching activities), which is in line with the objectives of the current Strategy of our Faculty. As for the other, the expenditure side, we will continue our activities aimed at rationalisation and reduction of operating costs. In this sense, we expect to get support of all organizational units. We believe that the share of our own income in the budget of the Faculty may shortly increase to such an extent as to ensure financial independence of operation despite the current negative trends.

Within the limits of available financial resource, we are planning to launch certain investment projects aiming to create favourable studying and working conditions at the Faculty (ventilation and air conditioning of lecture rooms, complete replacement of the existing joinery in buildings, repair of the flat roof of the Pathology facility, replacement of the existing roof covering the building in Braće Branchetta Street). In addition, we plan to start activities on resolving the issue of lacking spatial capacities appropriate for preclinical work in the study of Dental Medicine, the core facility lab, the lab for the provision of professional services, the student reading room, and the professional services, in particular the Student Affairs Service, which would cover the need for spatial capacities until the construction of the new Faculty building at the University campus.

One of the most important tasks will be to sign a contract on business cooperation with the Faculty of Health Studies, which would regulate the mutual relations between the two faculties in the best possible way. The contract should represent the optimal solution of all outstanding issues (personnel, material, space, teaching, etc.) to our mutual benefit with a view to improving all the activities of both faculties.

All previous attempts to construct the new hospital capacities in Rijeka have not, unfortunately, been successful. The Faculty of Medicine will continue to persevere in warning and pointing to the unsustainable state of the Clinical Hospital Centre Rijeka in all relevant places. The management and all employees of the Faculty, in collaboration with the University, the administration of the CHC, and representatives of local authorities, should continue to work on the concept of a new hospital that will be functionally integrated into the University, which is an absolute priority for the development of the medical profession, the science and education that has no alternative. The new hospital is a basic prerequisite for the existence of the health system of our region, further development of human resources, but also a prerequisite for the development and survival of Rijeka's academic medicine, and thus the academic community as a whole. As employees of the Faculty, but also and at the same time citizens of Rijeka, we cannot accept the fact that our students will not have the appropriate standards of education, that our patients will go and ask for better service in other communities, and that our best experts and scientists will be forced to leave Rijeka. In that sense, we will seek to take advantage of all available opportunities to get the project of building a new hospital moved from the deadlock.

2. Study programmes

Tables 2.1. to 2.7. (in the attached document)

a) Present a tree diagram of study programmes (undergraduate, graduate, integrated and postgraduate) and, if applicable, their possible branching. If you offer professional studies, provide their configuration as well. Give functional reasons for such configuration, primarily from the perspective of achieving optimal educational outcomes (employability, continuation of studies, mobility) in relation to the projected enrolment quotas. Specify which study programmes are dislocated and comment on their justification.

The curricula of the Faculty of Medicine have been defined in the licences granted by responsible national bodies. The University of Rijeka Faculty of Medicine offers the following university studies: two integrated undergraduate and graduate studies, one undergraduate university study, eight undergraduate professional studies, five graduate university studies, two postgraduate university studies (doctoral studies) and eight postgraduate specialist studies.

Integrated undergraduate and graduate university studies:

Integrated undergraduate and graduate university study of Medicine
Integrated undergraduate and graduate university study Dental Medicine

Undergraduate university studies:

Undergraduate university study Sanitary Engineering

Undergraduate professional studies:

Undergraduate professional study of Nursing – full-time study
Undergraduate professional study of Nursing – part-time study in Rijeka
Undergraduate professional study of Nursing – part-time study in Karlovac
Undergraduate professional study of Physiotherapy – full-time study
Undergraduate professional study of Medical Laboratory Diagnostics– full-time study
Undergraduate professional study of Medical Laboratory Diagnostics– part-time study
Undergraduate professional study of Radiological Technology – full-time or part-time
Undergraduate professional study of Midwifery – full-time or part-time

Graduate university studies:

Graduate university study of Sanitary Engineering
Graduate university study of Nursing - Mental Health Promotion and Care (2012-2013)
Graduate university study of Physiotherapy (2012-2013)
Graduate university study of Medical Laboratory Diagnostics (2013-2014)
Graduate university study of Organisation, Planning and Management in Health Care (we have not been enrolling since 2012-2013)

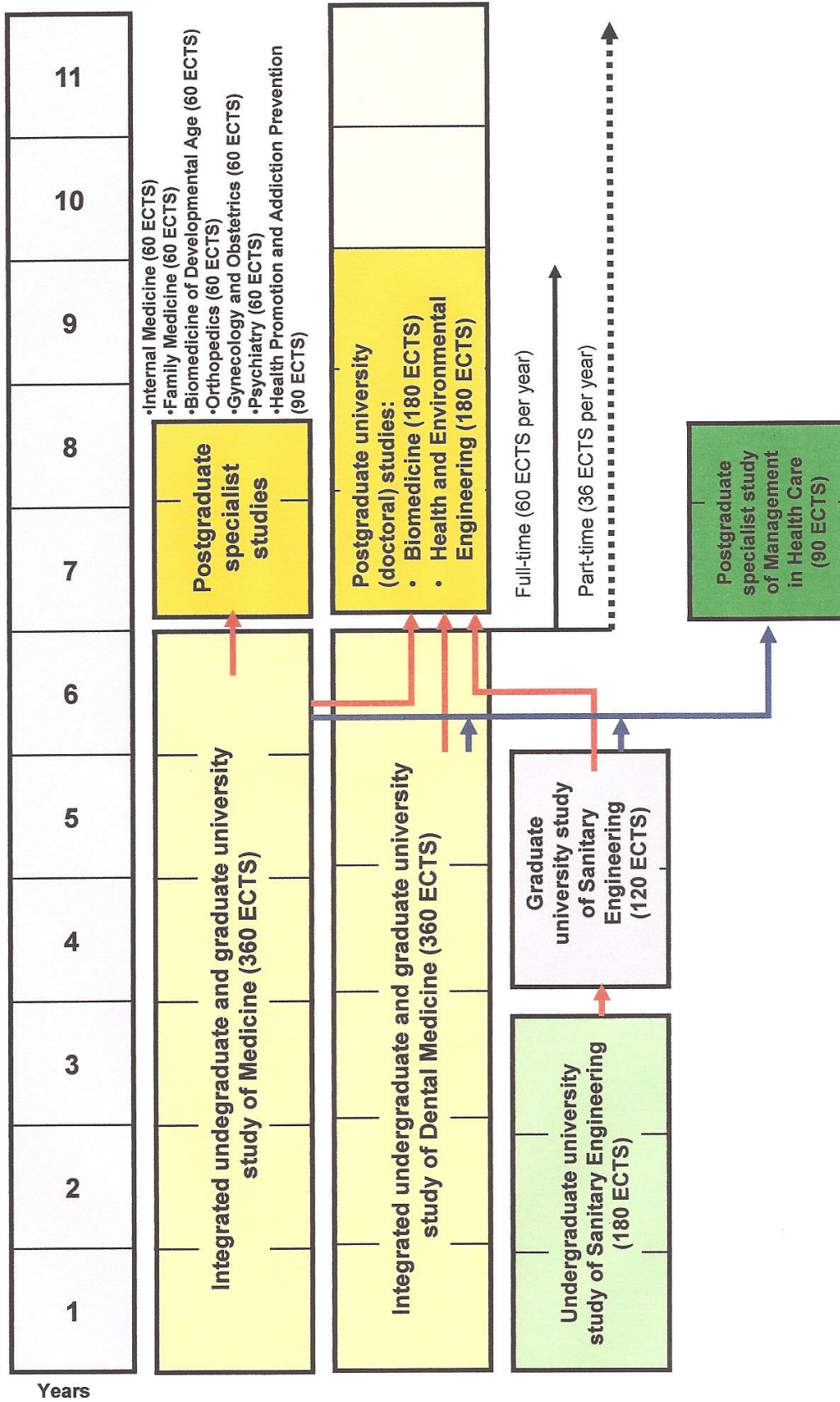
Postgraduate university studies (doctoral studies):

Postgraduate university study of Biomedicine
Postgraduate university study of Health and Environmental Engineering

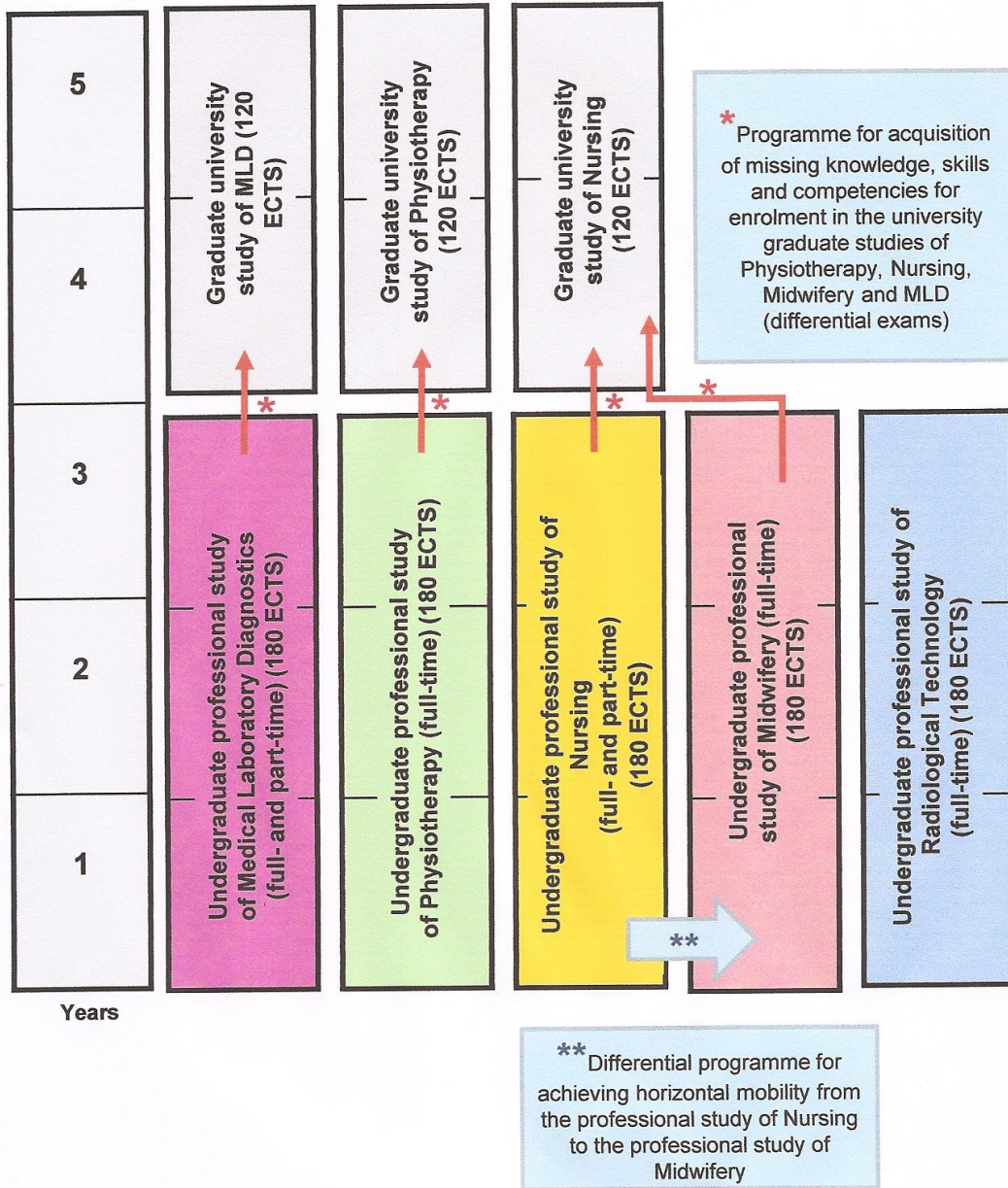
Postgraduate specialist studies:

Postgraduate specialist study of Internal Medicine
Postgraduate specialist study of Family Medicine
Postgraduate specialist study of Biomedicine of Developmental Age
Postgraduate specialist study of Orthopaedics
Postgraduate specialist study of Gynaecology and Obstetrics
Postgraduate specialist study of Psychiatry
Postgraduate specialist study of Health Promotion and Addiction Prevention
Postgraduate specialist study of Management in Health Care (we have not been enrolling since 2006-2007)

The diagram of university study programmes (academic year 2014-2015)



The diagram of professional study programmes (academic 2014-2015)



The University of Rijeka Faculty of Medicine has formed such vertical configuration of university and professional study programmes in accordance with the needs of the community, the economy and the development of the society, based on its spatial, organizational and human resources that provide quality and effective education through all three levels of university studies. The projected enrolment quotas provide great employment opportunities after completion of studies, and the size of the study groups ensures high quality education and possibility of continued education.

SHORT DESCRIPTIONS OF STUDY PROGRAMMES

I. INTEGRATED (UNDERGRADUATE AND GRADUATE) UNIVERSITY STUDIES

1. Integrated undergraduate and graduate university study of Medicine

The Faculty of Medicine in Rijeka was founded on 21 November 1955, which marked the official beginning of the first academic year of the undergraduate study of Medicine, and has since been operating in a continuous sequence. In all the years since the beginning of studies to date, the programme has undergone a series of changes and improvements (the change of the name, the duration of studies or substantial amendments to the programme).

The programme of the Integrated undergraduate and graduate university study of Medicine was aligned with the comparable programmes of medical schools in Zagreb, Split and Osijek in 2005, when a reform of all graduate and postgraduate studies was performed in accordance with the requirements of the Bologna Process. At that point, the common core curriculum and joint catalogues of knowledge and skills were adopted for all preclinical and clinical courses, with some differences in the implementing curricula due to the specificity of individual faculties. On 9 June 2005, the Ministry of Science, Education and Sports (MSES) issued the Faculty of Medicine in Rijeka with accreditation for the study programme of Integrated undergraduate and graduate university study of Medicine, which was renewed on 14 August 2009 following the completion of the evaluation process of the quality and efficiency of the Faculty of Medicine in Rijeka carried out by the National Council for Higher Education.

The latest, very important amendments to the study programme of Medicine were caused by the request of the MSES of 25 January 2010 to amend study programmes in the field of regulated professions (doctors of medicine) as a result of the harmonization of the Croatian legislation with the *acquis communautaire* in the process of Croatia's accession to the European Union. In 2009, the Act on Regulated Professions and Recognition of Foreign Professional Qualifications (OG 124/09 and 45/11), whereby by the Croatian legislation adopted the provisions of Directive 2005/36/EC of the European Parliament and of the Council governing recognition of professional qualifications of 7 September 2005. The Directive stipulates the automatic recognition and the minimum conditions of training for regulated professions from the first day of EU membership. Consequently, in accordance with the provisions of the Act and the recommendations received after completion of the peer mission to assess the situation in the five regulated professions in the health sector in the Republic of Croatia (7 to 10 July 2008), it was necessary to make changes in the existing study programmes in order to be adapt them to the provisions of the Directive. Moreover, these amendments to the study programmes were an integral part of the provisionally concluded negotiating Chapter 3, within which the European Commission sought information on study programmes, namely, asked for the harmonization of minimum conditions of qualification outcomes of these study programmes for the purpose of technical adjustment. These changes, i.e., the new study programmes, had to be approved by the European Commission and had to start being implemented in the period preceding the conclusion of Croatia's negotiations with the EU. The amended programme of the study of Medicine has been implemented since the academic year 2011-2012 (from the first year of study). In the period from 11 to 15 June 2012, a European peer mission visited Croatia to assess the situation in the five regulated professions in the health sector, and on 14 June 2012 it also officially visited the Faculty of Medicine in Rijeka. We presented to the commission details of our new programme study of Medicine and received their positive opinion, after which they sent us a certificate of conformity with the requirements of the Directive. Positive opinion on the conformity of the study programme with the provisions of the Directive was also issued by the Ministry of Science on 09 January 2014.

The study is in conformity with the European Credit Transfer and Accumulation System (ECTS), according to which one year of studies in the full study load carries at least 60 ECTS. The study lasts for six years, which means that during the study a student must obtain a total of 360 ECTS credits. The programme, revised according to EU standards, has 5500 hours of teaching in medical courses, and an additional 360 hours include subjects that the European Commission does not count in the mandatory curriculum study of Medicine (Medical English I-VI during all the years of study, Physical Education in the first two years, the drafting of the thesis). A student is considered to have completed the study when they have passed all the examinations, produced a diploma thesis and passed the final examination. The student is then issued a diploma and a diploma supplement specifying all the examinations passed, grades achieved and other information necessary for an understanding of the qualification acquired. The academic/professional title acquired upon completion of studies: **Doctor of Medicine (dr.med. /MD/)**.

The study programme includes compulsory general and vocational subjects (the so-called basic medical, preclinical, clinical and public health subjects), and electives. In general educational subjects, students are introduced to physical, chemical and biological bases of life, and in basic medical subjects, with the structure and function of the human body. The preclinical subjects present the mechanisms of diseases, their causes, and the type and mode of drugs action. The clinical subjects study diseases, methods of their recognition, prevention and treatment, and rehabilitation of the consequential damages. The public health subjects treat the impact of environmental and social factors on health, and the role of doctors in combating and treating diseases in the context of man's natural environment. The study also introduces students to the basics of scientific research, statistics and medical informatics.

Classes are delivered to a lesser extent in the form of lectures (25%), but primarily through practical work in the practicum, through laboratory exercises, section exercises, clinical practice, specific clinical practice, clinical rotations, exercises in the clinical skills lab, and seminars. The number of student groups for each type of teaching is based on the total number of students who enrol the course, with full respect of the legal norms. From the academic year 2008-2009, the classes have been organized in trimesters in the first three years of study, and in blocks in the remaining three years. During a single block, two or three clinical subjects are taught concurrently due to the need to exchange the training groups. We pay special attention to the development of mechanisms for quality control of the teaching process, we strive to achieve horizontal and vertical integration of the courses, and pay special attention to the development of the teaching process aimed at gaining practical skills and competencies.

Given that the Integrated undergraduate and graduate study of Medicine offered at the Faculty of Medicine in Rijeka is comparable with all the same kind of studies in other medical schools in Croatia, as well as those in EU countries, student mobility is feasible both in the national and international higher education area, and students can earn ECTS points by attending a given course at any corresponding study programme within the EU through official programmes and mobility (Erasmus, CEEPUS, etc.) if it has identical learning outcomes, provided that an inter-institutional agreement on student exchange has been concluded with that other institution.

The programme of Integrated undergraduate and graduate study of Medicine is fully aligned with the needs of the labour market, both in the public and in the private sector of health care, and quotas are adjusted to the annual reports of the Croatian Employment Service for the entire Republic of Croatia, the guidelines of the Network of HEI and study programmes in the Republic of Croatia, and with the spatial and personnel capacities of the Faculty.

Students who enrolled in the Integrated undergraduate and graduate university study of Medicine prior to the Croatia's accession to the EU (i.e., before the academic year 2012-2013) have to attend internship, and after its successful completion and acquired competences described in the internship curriculum, they take the certification exam before a commission of the Ministry according to the Ordinance on Internship of Medical Doctors (OG 114/13), after successful completion of which they are awarded the license to work independently. Students who enrolled in the study programme of Medicine (compliant with the provisions of the Directive) after Croatia's accession to the EU will not be required to attend internship. Therefore, we have based almost all latest amendments to the programme on the possibility of implementing the internship in the curriculum of the study programme in order enable students to acquire the best possible practical knowledge and skills necessary for independent work in clinical practice already during the study.

Throughout their working career, medical doctors are obliged to attend continuous professional courses (continuing professional development) in which they are informed about the latest professional achievements, and have to renew the license issued to them by the Croatian Medical Chamber every 6 years. After successful completion of the state certification exam, physicians choose one of the clinical, pre-clinical or public health specializations (which are also compliant with the EU Directive). A lesser number of physicians opt for professional scientific work in the field of basic medical sciences, where they are engaged in research in the field of physiology, histology and embryology, pharmacology, anatomy, biochemistry, molecular medicine, genetics, immunology and others. Continuing education of medical doctors is achieved by enrolment in postgraduate studies (postgraduate university or postgraduate specialist studies).

2. Integrated undergraduate and Graduate university study of Dental Medicine

The study of Dental Medicine was established in 1973 on the grounds of the Higher School of Dental Medicine with the aim of training the then dentists for a university degree in dental medicine.

The study leading to the professional title of Doctor of Dental Medicine comprises compulsory general medical and dentistry preclinical and clinical subjects. The general courses teach students the physical, chemical and biological bases of life, while basic medical courses introduce them to the structure and function of the human body. Preclinical subjects cover disease mechanisms and their causes, different types of drugs and their effects, and approach to and manner of examining patients. Clinical medical subjects study diseases, the manner of their recognition, prevention and treatment, as well as rehabilitation of the resulting impairments. Courses on public health offer a study of the impact of environmental and social factors on health and the physician's role in disease control and treatment in man's natural environment. The study introduces students to the basics of scientific research, statistics and medical informatics. In the dentistry preclinical courses, students learn the basics of dental prosthetics and diagnostics, and practice dental treatment on a dummy. Through clinical dentistry subjects, students acquire knowledge about all branches of dental science, which they can put into practice in clinical practical work with patients. Moreover, they are taught medical and dentistry terminology and approach to medical literature in an international language.

In 2005, the curriculum was adjusted to the basic principles of the Bologna process and was last modified in 2010. Then study was then organized as an integrated undergraduate and graduate study lasting six years. Students are required to earn 60 ECTS credits each year, totalling 360 ECTS credits over the six years. The programme fully complies with the recommendation of the peer mission for evaluation of regulated professions and with Directive 2005/36/EU.

It is harmonised with other study programmes in Croatia at the level of competencies, knowledge, skills and learning outcomes. In addition to compulsory courses, students also take electives. Of the total number of teaching hours, the teaching of dental medicine amounts to 61%. The number of teaching hours increases by over 20% in the later years, but this is due to the large number of dental clinical practice. In the 40 years of existence of the study, the ratio of preclinical, medical and dental-medical subjects has changed with a view to a gradual increase in the load of vocational dental medicine. We will further strive for horizontal integration of clinical medical subjects with clearer definition of the learning outcomes and competencies. A major change in the programme was made in the penultimate reform in 2005, when topics related to dental-medical issues were included into the preclinical courses.

Teaching is provided partly in the form of lectures but predominantly through exercises, seminars, demonstrations, consultations, and practical work in clinical wards and health centres. In the first two years of study, classes are organised in one-course blocks, the students being engaged in only one course over a certain period of time. The winter semester of the third year of study also follows this pattern, but in the summer semester of that year and in the fourth and fifth years of study, all classes are delivered throughout the semester.

The study ends when a student has produced a diploma paper, which can be a professional, scientific or review paper, and passed the practical and oral final exam organized according to the OSCE model. The final exam checks the student's ability to recognize the most important diseases and suggest to patients the most appropriate dental medical treatment and rehabilitation. The study of Dental Medicine delivered at the Faculty of Medicine in Rijeka educates students for the profession of doctors of dental medicine

qualified for the tasks of primary dental care. After completed studies, the student acquires the title of **Doctor of Dental Medicine (dr. med. dent. /DMD/)**.

In the academic year 2013-2014, the last generation of students following the previous five-year programme of studies completed their studies. After completion of their study, these students have to five months' internship and pass the certification exam, after which they will be licensed for independent practice as dentists. All doctors of dental medicine have to continue their professional training and attend professional courses where they are introduced with the latest professional achievements. They also have to renew their license for independent work every six years. Many doctors of dental medicine who have passed the certification exam or have worked in the primary dental protection for a number of years go on to choose one of the clinical dental-medical specialisations. Doctors of dental medicine can also attend complete a postgraduate university study, engage in scientific research and, once they have defended their doctoral dissertation, become teachers on the study of Dental Medicine at the Faculty of Medicine.

As part of the negotiations between the Republic of Croatia and the EU regarding professional recognition of the title of Doctor of Dental Medicine, the European Commission suggested inserting internship into the 6-year study of Dental Medicine, so the Faculty of Medicine amended the programme accordingly. Consequently, the academic year 2015-2016 will be the first year in which our students of dental medicine will do their practical training as part as part of the curriculum and will not have the obligation of taking the certification exam.

II. UNDERGRADUATE UNIVERSITY STUDIES

Undergraduate university study of Sanitary Engineering

By adopting the National Environmental Health Action Plan (NEHAP), the Republic of Croatia became one of the countries that launched organized struggle for the preservation of quality interrelationships between health, the environment and sustainable development. Agenda 21 (Rio de Janeiro, 1992), points out that national development strategies should move towards increasing the number of qualified specialists, the lack of whom is the main reason for the slow progress in reducing environmental risks. Training of personnel in this field, in which graduate sanitary engineers (i.e., environmental and health officials) definitely belong, should be based on health ecology and public health interests. As a result of the adoption of the Global Strategy, the Environmental Action Plan for Europe, WHO/EURO and the CEC was adopted in Copenhagen in 1995, which emphasizes in its objectives the need of education, at all levels, of experts who will address environmental health.

The University of Rijeka Faculty of Medicine has accepted the challenge of education of staff whose main task is the preservation and improvement of the health of individuals, families and society, and disease prevention, which is done by applying measures to maintain hygiene, sanitary and epidemiological levels in the working and living environment of people. Also, in collaboration with other health profiles, the task is to perceive, define and remediate environmental factors that can adversely affect health. In 1990, the Integrated study of Sanitary Engineering was established; being a scientific study, from the academic year 2005-2006, it was organized on the model of the Bologna Process and divided into Undergraduate university study of Sanitary Engineering (3 years) and the Graduate University study of Sanitary Engineering (2 years).

The enrolment quota for the Undergraduate study of Sanitary Engineering is 30 students. This is the optimal study group adapted to both the market needs of the society and to a quality education of sanitary engineers, based on the staff potential of the University of Rijeka Faculty of Medicine's teachers in research-teaching, teaching and associate positions (in full- or part-time employment). Moreover, the quality of teaching also benefits from adequate spatial capacities (sufficient number of student places in lecture rooms, laboratories or practicums), based on the optimal size of a group of 10-15 students for lectures, seminars and practical exercises.

The study programme includes compulsory general education and professional courses, and electives. In general subjects, students are introduced to physical, chemical and biological life, and the structure and function of the human body. In professional and elective courses, students are trained to select and perform analyses of physical, chemical and biological factors in all environment media that may endanger

the health of the population. Teaching is done in the form of lectures, exercises, seminars, demonstrations, tutorials, as well as practical work in public health institutions. In each academic year, classes are organized in three trimesters in the block form. During each block, two or three courses are given concurrently due to the need to exchange the practice groups. The study offers the possibility to students to engage in scientific research from the beginning of the study. As a result, a large number of students are involved in all aspects of scientific work.

The undergraduate study programme carries 180 ECTS credits. Upon completion of the three-year undergraduate study, students acquire the academic title of **University Bachelor of Sanitary Engineering (univ. bacc. sanit. ing. /BSE/)**.

III. GRADUATE UNIVERSITY STUDIES

1. Graduate university study of Sanitary Engineering

The Graduate university study of Sanitary Engineering lasting two years was launched in the academic year 2008-2009 on the model of the Bologna Process. The enrolment quota for the Graduate study of Sanitary Engineering is 30 students. This is the optimal study group adapted to the market needs of society and to quality education of sanitary engineers, based on our own teaching staff potential. It should be noted that in the last five years, the ratio of our own teachers in relation to associates has fundamentally changed, so now the courses in the study of Sanitary Engineering are delivered by teachers from the home institution. A fact corroborating the development of studies, or the quality originating from our own sources is that in the past few years, nine teachers, sanitary engineers trained exclusively at the University of Rijeka Faculty of Medicine, have been promoted to academic titles of assistant professor and higher. Also, what contributes to the quality of teaching are adequate spatial capacities (sufficient number of student places in lecture rooms, laboratories or practicums), based on the optimal size of a group of 10-15 students for lectures, seminars and practical exercises.

The study programme includes compulsory general education and professional courses, and electives. Special emphasis is laid on the potential risks to the environment and health of the individual and the wider community caused by various agents present in the air, water, soil and food. In professional and elective courses, students are trained to select and perform analyses of physical, chemical and biological factors in all media environment that may endanger the health of the population, including the control and analysis of the safety of food, general use items, air, soil and water. Also, students are introduced to the methodology of normative and continuous monitoring of the effectiveness of protection of human health. Teaching is done in the form of lectures, exercises, seminars, demonstrations, tutorials, as well as practical work and public health institutions. In each academic year, classes are organized in three trimesters in block form. During each block, two or three courses are given concurrently due to the need to exchange the practice groups.

The study offers the possibility to students to engage in scientific research from the beginning of the study. As a result, a large number of students are involved in scientific publications, professional and scientific proceedings of scientific and professional conferences. This has created good conditions for continued training at the doctoral study of Health and Environmental Engineering, introduced in the academic year 2010-2011. Students can also opt for the doctoral study of Biomedicine at the University of Rijeka Faculty of Medicine.

Upon completion of the two-year graduate study, the students acquire a total of 120 ECTS credits and the academic title of **Master of Sanitary Engineering (mag. sanit. eng. /MSE/)**. They are qualified for independent and creative work in a large number of different areas in health care. Based on the decision of the Ministry of Health of the Republic of Croatia of 2013, graduates of this study, namely, master degree holders, are included in the health care personnel, the tasks of whom includes sanitary inspection, DDD, handling toxins, work in the food industry, quality control of food, water and air, assessment of the impact of different activities on the environment, occupational safety, tourism, etc.

Upon completion of studies, masters of Sanitary Engineering who do not want to continue quality scientific training has to do internship in public health institutions, such as public health institutes, public

utilities and public companies, and government and local self-government bodies (primarily sanitary inspection). After completing a one-year internship and passing the certification exam, the candidate will receive a license for independent work as a sanitary engineer or master of sanitary engineering. Furthermore, throughout their working lives, the graduates continually attend vocational courses in which they learn about the latest advances in their profession, and have to renew their licence issued by the Croatian Chamber of Health Professionals every six years.

The above indicates that university graduates in the field of Sanitary Engineering are indispensable to Croatia, the more so because the Republic of Croatia is traditionally a tourism-oriented country where any negative occurrences that could lead to distortion of its sensitive biological balance must be prevented. During its existence, this study has often been upgraded and adjusted to the needs of the labour market in Croatia and abroad. The justification for this study and its compliance with the real needs of the community is confirmed also by the data from the Croatian Employment Service that point to a low number of unemployed sanitary engineers.

2. Graduate university study of Nursing - Mental Health Promotion and Care

European Commission Directive 2005/36/EC was adopted in 2005 and is a key piece of legislation on regulation of mutual recognition of qualifications and diplomas between Member States. For certain regulated professions, which also include nursing, it is necessary to follow a common minimum training curriculum to have the acquired qualification automatically recognized in a Member State of the EU. As a candidate for membership in the EU already, the Republic of Croatia met the requirements and thus became a member of European umbrella and international organizations, such as the International Council of Nurses (ICN), the European Federation of Nursing Regulators (FEPI) and the European Federation of Nurses Associations (EFN). All these associations advocate the necessity of higher education, based on Directive 2005/36/EC. Therefore, the launch of the university graduate study of Nursing was a response to the request for vertical educational mobility put forward in the Bologna Declaration, but also to the needs of our community and the development of the nursing profession in Europe and worldwide.

The academic year 2012-2013 saw the launch of the Graduate university study of Nursing - Mental Health Promotion and Care. Given that, according to predictions of the WHO, the problems of mental health are likely to become the leading pathology in morbidity of the world population in the coming twenty years, it was necessary to initiate education of the nursing personnel trained to work in safe houses, community nursing teams and on the so-called case management. On the other hand, recent knowledge gained about the causes and treatments of mental disorders increasingly acknowledge the need for biopsychosocial approach in the treatment of mental disorders. These were the reasons for starting the graduate study of Nursing - Mental Health Promotion and Care. Masters of nursing are indeed the missing link in the implementation of reforms in the existing mental health system. In accordance with the principles of the Bologna Declaration, the study programme is structured and evaluated with 120 ECTS credits and lasts for two years. The first year comprises four modules: general compulsory courses, scientific research methods, psychological - pedagogical module, and a module that includes nine elective courses out of which students choose three. The second year of studies comprises five compulsory courses related to mental health and 31 elective courses from which the students choose eight. The graduate study of Nursing contributes to significantly better education of bachelors of nursing and helps them to cope with the vast amount of new developments in this profession, enabling nursing graduates to think critically in accepting new both technical and scientific advances in this rapidly developing profession. The modern way of life and work forces us to face ever bigger challenges, which disrupts the balance between health and disease, so application of appropriate methods is the necessary path to successful treatment, improvement of health in general, reduction of sick leave time, and extension of working potential, thus acting favourably on the quality of life. This graduate university study provides graduate students with adequate knowledge, skills and competencies for them to give classes in the field of health care and participate in scientific research.

At the end of this university graduate study, students produce a diploma thesis and are then awarded the title of **Master of Nursing (mag. med. techn. / MN/)**.

3. Graduate university study of Physiotherapy

European and world standards of education in the field of Physiotherapy emphasize the need of education of physiotherapists at undergraduate and graduate levels. Moreover, training in the core professional area and clinical practice needs to be provided by physical therapists qualified also for teaching. It was to this end, but also on the long-standing insistence on the part of the Croatian Chamber of Physiotherapists to organise a graduate study and provide vertical educational flow, that in the academic year 2012-2013 the programme of the Graduate university study of Physiotherapy was launched. The programme lasts two years (120 ECTS credits). Education includes 19 compulsory courses which are grouped into five modules. The first year of studies comprises general compulsory courses, such as Measurement and Assessment of Pain, Approach to Persons with Disabilities, Rights and Duties of Health Professionals, and Management in Healthcare. Furthermore, the Scientific Research Methods module enables the students to deepen their knowledge of scientific approach to research, while the Psychology and Pedagogy module introduces them to pedagogical approach and the art of teaching. In the second year, two modules focus exclusively on acquiring additional skills in Physiotherapy, such as motion analysis, and group projects where students acquire the knowledge and skills related to the locomotor apparatus and therapeutic treatments of neurological and cardiopulmonary diseases. In fact, according to data of the Croatian Institute for Public Health, chronic non-communicable diseases, such as respiratory diseases, cardiovascular diseases and diseases of the muscular - skeletal system and connective tissues, are steadily increasing. During studies, student can choose three of the elective courses offered. Among other things, they also acquire the knowledge and skills required in the educational process, which will also contribute to the training of those responsible for introduction of changes in the physiotherapy profession itself, with special emphasis on the application of the latest achievements in this ever-growing field. In doing so, they will be able to reach the level of knowledge and skills of their colleagues in the EU.

The study ends with the production of the diploma thesis based on research, upon which the students are awarded the title of **Master of Physiotherapy (mag. physioth. /MPhty/)**.

4. Graduate university study of Medical Laboratory Diagnostics /MLD/

Despite a series of reform changes in the educational system in the Republic of Croatia in terms of harmonization with international documents (Bologna Declaration), which are covered by the educational institutions in health, there was no vertical mobility in education for medical laboratory workers in the Republic of Croatia, which is what Directive 2005/36/EU stipulates in terms of recommendations for harmonization with the European Qualifications Framework and with national frameworks of developed European countries with regard to health professionals. Health studies in the neighbouring countries, as well as in EU countries, are already organized as university studies and their educational programmes are aligned with the EU Directive, thereby achieving the professional identity and removing the obstacles to free movement of persons and services between Member States concerning health activities of citizens of EU Member States. Medical laboratory activity is a legally regulated profession which is functionally and logically related to medicine and therefore has a special social significance which is significantly reduced without highly qualified staff.

The Graduate university study programme of Medical Laboratory Diagnostics was launched at the University of Rijeka Faculty of Medicine in the academic year 2013-2014. Its main objective is education of medical laboratory staff, i.e., production of highly qualified specialists for jobs in medical laboratories in health institutions, hospitals, health centres and research institutes. Upon completion of studies, masters of Medical Laboratory Diagnostics are qualified to introduce innovations in the field of laboratory medicine and adapt them to the needs of laboratory diagnosis, and have practical knowledge for conducting research work and basic management.

The programme provides the basis for continuous lifelong professional development. Upon completion of the study, its graduates, professionals with the second level of university education, will fill the void that currently exists in the labour market in the field of laboratory medicine. Upon completion of studies, masters of Medical Laboratory Diagnostics have the option of continuing their studies at the Postgraduate university study of Biomedicine.

The study is fully adapted to the need and standards of mobility on the basis of the Bologna Process. The structure of the study and the ECTS credits gained in it allow increased mobility at both the Faculty and the University levels, where the harmonized standards of allocation of credits and the ratio of compulsory and elective courses are implemented, but also in the sphere of inter-agency and international mobility. The students have the possibility of longer and shorter periods of study at other institutions whose organization is compliant with the standards adapted in harmonization of higher education within the EUA (European University Area). After three years of undergraduate studies, students can further their education on graduate studies. The study is open in the vertical structure as it allows continuation of education at postgraduate specialist or university studies, in particular those in the field of Biomedicine.

Upon completion of the study, the students have highly specialized knowledge in the field of Medical Laboratory Diagnostics and skills necessary in using new technologies and informatics. They also have the specialized skills necessary for resolving problems related to research and/or innovations in order to create new knowledge and procedures, and integrate their knowledge from the field of laboratory medicine. In addition to their capacity of independent decision making and problem solving, they also have organizational skills and the skills needed for independent or team work. They can think creatively and are familiar with the problem of ethics and responsibility in general, and especially in the field of Medical Laboratory Diagnostics. The study ends with production of a diploma thesis, upon which they are awarded the title of **Master of Medical Laboratory Diagnostics (mag. med. lab. diag.)** /Master of Medical Laboratory Sciences (MMLS)/.

IV. UNDERGRADUATE PROFESSIONAL STUDIES

1. Undergraduate Professional Study of Nursing

The Professional study of Nursing was first organized at the Faculty of Medicine in Rijeka in 1978 as a two-year professional study. During the two years the students had a total of 2300 teaching hours, of which 70% theoretical and 30% practical. Over the years, the programme has undergone numerous changes. In 1999, we initiated a three-year study programme for nurses whom we tried to harmonize with European programmes in view of better mobility and mutual recognition. The number of teaching hours consequently increased to 2600 hours. Given that the basic scope of nursing activity is health care of man in terms of fulfilling basic human needs, diagnosing problems and providing different types of assistance, the nurses must have a high degree of independence in their work and be adequately qualified.

To this end, in 2005 we changed once again the programme in order to increase the number of hours of instruction in health care and bring the study closer to European programmes and in line with the Bologna system, which is implemented in most countries of Europe. The training of nurses still lasts three years, but the system of ECTS credits has been introduced, with students earning a total of 180 ECTS credits over the three years. Given that nursing is one of the regulated professions in the health sector, the education of these health professionals is prescribed by the Act on Regulated Professions and Recognition of Foreign Professional Qualifications, which adopted the guidelines of Directive 2005/36/EC of the European Parliament and of the Council on the recognition of professional qualifications in regulated professions. In 2008 and 2012, experts from the European Commission visited the authorities and educational institutions in the Republic of Croatia providing education for health professions to verify whether education for regulated professions in the health sector in the Republic of Croatia was in line with European standards. Based on the recommendations of international experts and representatives of the European Commission, prior to joining the European Union, the Ministry of Science, Education and Sports asked the Agency for Science and Higher Education to conduct thematic evaluation of study programmes in the field of health. Following the recommendations of this thematic evaluation, the MSES called on all HEI offering the study programme of nursing to comply with the provisions of Directive 2005/36/EC. Representatives of HEI concluded that the best solution would be the to adopt a common compulsory part of the study programme of nursing on the basis of which each HEI would further align their respective curricula. Consequently, on 6 November 2013, a working group made up of representatives of all HEI offering undergraduate study programmes of nursing was formally appointed. Directive 2005/36/EC describes in detail the minimum qualification requirements for the education of nurses, stipulating that education should take at least three years or 4,600 hours of theoretical and clinical training, that lectures should take a third of the total duration of the study programme, and clinical

practice a half of it. All compulsory activities prescribed by the Directive are included in this study programme.

The training includes the compulsory, general education and vocational subjects (the so-called basic medical, preclinical, clinical and public health subjects). In addition to compulsory subjects, the study offers a number of elective courses. Teaching is done in the form of lectures, exercises, seminars, demonstrations, tutorials, and work on clinical departments and in health centres. In basic medical subjects, students are introduced to the structure and function of the human body. The preclinical courses cover the mechanisms of diseases, their causes and the type and mode of drug action. Clinical courses cover diseases, methods of their identification, prevention and treatment, and care and rehabilitation of consequential damages. In public health courses, students are acquainted with the effect of environmental and social factors in health and the activity of nurses in the prevention of diseases in the context of man's natural environment. The study provides the students with the basics of scientific research, statistics and medical informatics. The study ends with defence of the final work, pursuant to which the graduates are awarded the title of **Professional Bachelor of Nursing (bacc. med. techn. /BN/)**.

After completion of studies, professional bachelors of nursing have acquired knowledge and skills to perform nursing practice, are able to work on the principles of uniform nursing care, apply the process of nursing care and keep nursing documentation. Their role in the health care team at various levels of health care is to monitor the health status of patients and critically ill persons. Professional bachelors of nursing can evaluate the training needs and apply the principles and techniques of training individuals, families and communities. In addition, they can pursue further continuous learning, monitoring of related studies and research in nursing, and can participate in the education of nurses.

2. Undergraduate professional study of Physiotherapy

The Professional study of Physiotherapy was introduced at the Faculty of Medicine in Rijeka in 1985 as a two-year study. As the education of physical therapists strives to meet the needs of society and the health system, in 1999 the programme of studies was significantly amended, the number of classes, primarily practical training, increased, and the programme transformed into a three-year study. The development of the profession, as well as new trends in Europe and worldwide, have created the need for further amend the programme. These amendments were made in 2005, when the programme was aligned with the training programmes of physiotherapists in Europe according to the principles of the Bologna Process and the ECTS credits system was introduced. The Professional study of Physiotherapy lasts three years and upon its completion the students acquire 180 ECTS credits.

The training includes compulsory, general education and vocational subjects, the so-called basic medical, preclinical, clinical and public health subjects, and acquisition of knowledge and skills from all areas of Physiotherapy. In addition to compulsory subjects, the study offers a number of elective courses. Teaching is done in the form of lectures, exercises, seminars, demonstrations and tutorials in the teaching bases of the University of Rijeka Faculty of Medicine. Teaching in the form of practical training takes place in the Clinical Hospital Centre Rijeka, county hospitals, general and specialized hospitals and health centres.

In basic medical subjects students are introduced to the structure and function of the human body with special reference to the structure and function of the musculoskeletal and nervous systems. The preclinical courses cover the basics of physiotherapy, i.e., the mechanisms and modes of action of physical therapy on individual tissues, organs and organ systems. The clinical courses present the use of physiotherapy in individual diseases, with compulsory acquisition of knowledge and skills in habilitation of children and rehabilitation of children and adults. Physiotherapy is a health profession that is applied in people of all ages and encompasses, besides physiotherapy procedures proper, methods of health promotion and prevention, and habilitation and rehabilitation. The study provides the students with the basics of scientific research, statistics and medical informatics. The study ends with defence of the final paper, pursuant to which the graduates are awarded the title of **Professional Bachelor of Physiotherapy (bacc. physioth. /BPhty/)**.

After completion of studies, professional bachelors of physiotherapy have acquired knowledge and skills necessary to perform professional work which includes procedures for health promotion, disease prevention and treatment, and habilitation and rehabilitation. Professional bachelors of physiotherapy

base their work on the principles of medical ethics respecting international codes of conduct in health care, are active members of professional rehabilitation teams and, together with a physician of appropriate specialization, plan and apply kinesiotherapeutical procedures, and apply other physical procedures taking into account the individual approach to the patient according to holistic principles. Professional bachelors of physiotherapy also apply the principles and techniques of training individuals, families and communities. In addition, they have the possibility of further learning, monitoring the related sciences, application of knowledge acquired in their field, and monitoring of and participation in research in the field of physiotherapy.

3. Undergraduate professional study of Medical Laboratory Diagnostics

The Study of Medical Laboratory Diagnostics has a long tradition. It was introduced at the University of Rijeka Faculty of Medicine as a two-year professional study in the academic year 1987-1988. The curriculum has changed several times over time. In 2000, the study was transformed into a three-year study, and the biggest changes in it were made in 2005, when the programme was amended according to principles of the Bologna Process. Upon completion of studies, students acquire 180 ECTS credits.

The study programme provides theoretical and practical knowledge, skills and ability for independent professional work. It covers all areas of medical laboratory diagnostics, from the simplest ones, applicable in smaller, less equipped laboratories, to highly differentiated, experimental and scientific ones. The programme includes compulsory, general education and vocational subjects (i.e., basic medical, preclinical, clinical and public health subjects). In addition to compulsory subjects, students take a number of elective courses. Teaching is done through lectures, exercises, seminars, demonstrations, tutorials, work on clinical departments and in health centres. At the end of the second and third years, teaching is delivered in the form of professional practice in the laboratories of the Clinical Hospital Centre, the Institute of Public Health of the Faculty of Medicine in Rijeka (Institute of Laboratory Diagnostics - medical biochemistry laboratories at Sušak, Rijeka and Kantrida localities; Clinical Institute for Transfusion Medicine, Institute of Clinical Microbiology, Institute of Pathology, Institute of Clinical Cytology - cytology laboratories at Sušak and Rijeka localities), which meet the requirements envisaged in the present studies. At the end of studies, students defend their final paper. Due to the great need for this profession, in the academic year 2011-2012, the Professional study of Medical Laboratory Diagnostics started being delivered also as a part-time study. Upon completion of the study, the graduates are awarded the title of **Professional Bachelor of Medical Laboratory Diagnostics (bacc. med. lab. diagn.)** /Bachelor of Medical Laboratory Science (BMLS)/.

After completing their studies, professional bachelors of MLD have adequate knowledge and skills to perform all types of work in medical laboratory diagnostics. They are qualified to work according to the principles of medical ethics respecting international codes of conduct in health care, and can perform all tasks of MLD engineers in laboratory medicine. Upon completion of studies, professional bachelors are prepared for: organization of collection, transportation and storage of biological material, organization of activities within the scope of the work programme, analysis of biological material by directing and controlling the work of health technicians and engineers of laboratory medicine, maintenance and calibration of individual devices through application of the principles of quality, independently perform complex tests from all areas of laboratory medicine with the knowledge of handling simple and complex appliances (which work on the principles of spectrophotometry, fluorometry, polarimetry, nephelometry, turbidimetry, densitometry, atomic absorption spectrometry, gas chromatography, electrophoresis), detection and determination of substrates, activity of enzymes, hormones, vitamins, drugs; make haemogram and other cytochemical-haematological tests, including coagulation and transfusion time; work in special conditions, make histological, histopathological and cytological slides in all its stages, and work in all types of laboratories in medicine and related sciences.

4. Undergraduate professional study of Radiological Technology

The Professional study of Radiological Technology has been offered at the Faculty of Medicine in Rijeka since 1985, but in continuity since the academic year 1996-1997. The study was initially a two-year study, but was transformed into a three-year study in 2000. With the introduction of the Bologna Process

in 2005, the study programme underwent major changes, introduced the ECTS system and increased the number of theoretical and practical training.

Education for the professional title includes compulsory general medical, preclinical and clinical courses. Teaching is done to a lesser extent in the form of lectures, but mostly in the form of seminars, exercises, demonstrations and practical work at the Clinical Institutes for Radiology, Oncology with Radiotherapy, and Nuclear Medicine. In general medical subjects, students are introduced to the structure and function of the human body. In preclinical subjects, they study the mechanisms of diseases, their causes and ways of action of drugs. In clinical medical subjects, they study diseases, methods of their identification, prevention and treatment. During studies, students become familiar with the basics of statistics and computer science. In radiological preclinical courses students learn the basics of radiological anatomy and pathology, imaging techniques, conventional radiological diagnostic methods, the basic structure of radiological devices, occurrence and biological activity of ionizing radiation and protection from it. In professional courses students learn about all types of radiological conventional and computerized technologies, methods of radiotherapy, and diagnostic and therapeutic radionuclides. They learn medical and radiological terminology, and approach to radiological literature in one of foreign languages. At the end of studies they defend the final paper. In the academic years 2012-2013 and 2013-2014, study was also offered as a part-time study. After completing their studies, the students acquire the professional title of **Professional Bachelor of Radiological Technology (bacc. radiol. techn. / BSRT/)**.

After completing one year of internship and passing the certification exam, Professional Bachelors of Radiological Technology get the license for independent work. Professional Bachelors of Radiological Technology can continue to work throughout their career with the obligation to attend professional courses in the field of ionizing radiation every five years, take tests and renew their license. It is also desirable to periodically attend professional courses and learn about the latest professional developments. Most Professional Bachelors of Radiological Technology who have passed the certification exam choose to work in one of the hospital facilities, community health centres or specialized radiological institutions.

5. Undergraduate professional study of Midwifery

The first midwifery school in Croatia was founded in 1986 in Rijeka, under the leadership of Rijeka surgeon Jakob Cosmini. It operated only for a year, however, because as a private institution it did not have the support of the state. Soon afterwards a lack of this staff was observed on gynaecological and maternity wards so, after protests of many eminent physicians and gynaecologists and requests of professional associations, the School for Midwives was re-opened in Zagreb in 1991. It is the only school in the country that continuously educates midwives, while in our larger cities they are trained only periodically, according to the needs of the local health system. The great advances in perinatal medicine and the introduction of many new diagnostic and therapeutic procedure resulted in the need for additional education of midwives at the higher education level. Consequently, on the recommendation of the Association of Midwives and the Croatian Nursing Council, in the academic year 2007-2008 a part-time professional study of Midwifery was launched at the Faculty of Medicine in Rijeka, whose programme is in compliance with the requirements of the Bologna Process. The study lasts three years, during which the students acquire 180 ECTS credits.

Midwifery as a profession belongs to regulated professions the education of which is conditioned by the EU Directive 2005/36/EC and the Act on Regulated Professions and Recognition of Foreign Professional Qualifications. Given the explicit guidelines of the EU Directive and the Act, the existing programme of the Professional study of Midwifery had to be amended. As part of the IPA project of the Ministry of Health and Social Welfare (entitled "Increasing the knowledge and skills of nurses and midwives and harmonizing their curricula with Directive 2005/36/EC"), of which we were active participants, in 2011 a new programme was created in collaboration with a professional team from Finland. The new study programme, aligned with all the requirements of the Directive, started being implemented in the academic year 2012-2013. As of the academic year 2014-2015, it is offered also as a full-time study.

Training for the professional title of midwife includes compulsory (general medical, preclinical and clinical courses) and elective courses. Classes are held in the form of lectures, seminars, exercises, demonstrations and practical work. In general medical subjects, students are introduced to the structure

and function of the human body. In preclinical subjects, they study the mechanisms of diseases, their causes and ways of action of drugs. In clinical medical subjects, they study diseases, methods of their identification, prevention and treatment. During the study, students become familiar with the basics of statistics and computer science. Teaching is done in blocks, and after completion of the course, students take an exam. The knowledge and skills of the midwifery profession are also acquired in clinical practice, performed at the end of the first, second and third years of the study, held at the Department of Obstetrics and Gynaecology of the Clinical Hospital Centre, and in primary health care and gynaecological surgeries. Upon completion of the study, students defend the final paper and acquire the title of **Professional Bachelor of Midwifery (bacc.prim. / BM/)**.

V. POSTGRADUATE PROFESSIONAL STUDIES

1. Postgraduate professional study of Biomedicine

In recent decades, the area of biomedical sciences has been characterized by an extraordinary advance owing to the large number of important discoveries, especially in the study of the human genome and the clarification of many diseases and disorders at the molecular level. These significant achievements give reason to expect an even more rapid development of biomedical sciences and medicine in general in the near future. This has created the need for education of scientists who must be trained to keep abreast with new technologies and scientific knowledge from various scientific sources, as well as for independent creation of new knowledge.

The Postgraduate doctoral study of Biomedicine was launched in the academic year 2005-2006. The primary purpose of this doctoral study is to provide quality scientific education to university researchers who, after completion of their study, should be able to set and solve scientific tasks, write research projects, organize the work of a research group, manage research projects and present scientific work. The doctoral study is designed as a source of high-quality and modern university teachers who will be ready to respond to the needs of ever-higher standards of education. In addition, this study should educate scientists who will work in biotechnological institutes, modern pharmaceutical companies and laboratories, in public and private sectors. After completion of their study, students should be trained to independently conduct research projects and create the core of future research groups. Given that the study is designed also for medical doctors working in clinical hospitals, in addition to the full-time study programme lasting six semesters, the study can be taken also as a part-time study lasting ten semesters, which enables clinical doctors to master concurrently the programme of the doctoral study and that for their professional or specialist training. This additional education and training should provide physicians who complete the graduate study a better understanding and more effective implementation of new technologies and scientific knowledge with the expected increase in quality and level of services for patients. After completing the study, doctors can advance further in their research-teaching career and form and coordinate research groups at clinics. In addition to graduates in the area of Biomedicine and Health (all fields and branches), the doctoral study can also enrol students of natural sciences (biologists, biochemists, chemists) and students of some social sciences (psychologists, therapists, bioethicists). The doctoral study is interdisciplinary by its contents, programme and the selected teachers, and equivalent and analogous to the corresponding studies in most Western European countries.

The enrolment quota for the doctoral study is 30 students. Students in the part-time study are mostly research assistants at clinics that have the obligation of specialization. Due to their simultaneous participation in two programmes, namely, their obligation to work on a project and on their specialization, students in the part-time study have lower course requirements (36 ECTS per year) at the Postgraduate doctoral study of Biomedicine. This solution enables them to complete both their specialization and produce a doctoral dissertation over a longer period (five to six years). This problem is also present in other EU countries and various countries have tried to resolve it in a similar way. Students in the full-time study are mainly research assistants in pre-clinical projects and can have the load of 60 ECTS per year. Of the students currently enrolled, about 70% study full-time and about 30% part-time. At present, this ratio corresponds to the level of development of individual scientific research nuclei and their absorption capacity for inclusion of research assistants, since the capacity of preclinical departments is significantly higher. It should be noted in this regard that a large number of projects are supported by relatively small

funds (predominantly clinical) that are often insufficient to support the work of research assistants. In the future, scientific research cores at our clinics should be strengthened to maximize their absorption power for involvement of research assistants, which could also result in a different ratio of enrolled students.

The number of potential mentors who meet the criteria of the National Council for Higher Education for leaders of projects allocated by the Ministry of Science, Education and Sports (MSES) is 64, which is sufficient for the enrolment quota of 30 students per year. Scientific work at the Faculty is currently financed by 64 research projects of the MSES, 9 projects are funded from other national sources and 11 from international sources, so there is potential for further increase in the number of mentors.

2. Postgraduate professional study of Health and Environmental Engineering

Respecting the principle of lifelong learning and an individual's right to continuing education, with its nearly fifty years of experience in postgraduate education, the University of Rijeka Faculty of Medicine, launched in the academic year 2009-2010 the new doctoral study of Health and Environmental Engineering (HEE), so far the only one of this type in the Republic of Croatia. The graduate programme for masters in Sanitary Engineering was introduced with a view to increasing interdisciplinary and collaborative work in the field of health services and care, and providing additional scientific qualification to sanitary engineers in other scientific institutions.

The doctoral study of HEE qualifies professionals for proposing programmes and projects important for the control of the environmental factors harmful to human health, for supervision and assessment of the effectiveness of implemented measures, and for independent creation of new knowledge in the context of scientific education university researchers. These experts are qualified to cope with new risks to the environment and human health, induced by various agents present in the air, water, soil and food, and with potentially harmful physical agents. They are also trained to work within the health care system, with a special focus on protecting the population from the negative effects of the environment, protection of the environment from the potentially negative effects of human activities, and on improving the quality of the living environment. The comprehensive approach of the programme comprises also economic and legal knowledge at the level of principles, norms and laws necessary for the operation of the profession. In addition to their high professional level, the competencies of doctorands of this doctoral study include the ability to independently conduct research projects. Moreover, their knowledge enables them to better understand and implement new technologies, pursue further their research and teaching career, as well as establish and lead research groups at university and beyond.

This postgraduate doctoral study is interdisciplinary by its contents, programme and selected teachers, and complementary to the relevant health studies at the international level. We emphasize that in the appointment of its teachers, this study was led by internationally recognized criteria of excellence, so we gathered a relevant group partly composed of some our own top experts, but for the most part includes lecturers outside our institution.

The basis of the curriculum, in addition to imparting knowledge in the field of physiology, chemistry, biochemistry, microbiology and toxicology, is closely linked to scientific research. It allows participants of the doctoral study programme to be directly involved in solving the set goals in a specific research project, and thus develop the skills necessary for independent and creative work in research and development, both at the Faculty and in other research institutions with which we collaborate and in the laboratories of which the students can also work. The performance of the doctoral study includes teachers of Faculty of Medicine and other faculties of the University of Rijeka (Faculty of Engineering, Faculty of Civil Engineering, Faculty of Tourism and Hospitality Management in Opatija, Faculty of Law) and the University of Zagreb (Faculty of Medicine, Faculty of Chemical Engineering and Technology, Faculty of Pharmaceutical and Biochemical Sciences, Faculty of Food Technology and Biotechnology, and the Faculty of Science), and guest speakers from the Ruđer Bošković Institute. The doctorands also regularly attend the "Scientific Colloquia" - lectures by foreign experts visiting the University of Rijeka.

The study programmes of the Faculty are available in digital form on the website of the University of Rijeka Faculty of Medicine. It shows the conditions for enrolment in the study, the selection criteria and procedures, the structure and organization of the study, as well as a list of compulsory and elective courses. The objectives and activities of individual courses are not presented online due to the specificity

and originality of the doctoral study in the regional environment in order to protect intellectual property. All this online information and any other relevant information is available to participants in printed form in a brochure that students receive at registration.

Enrolment quota for the doctoral study is 30 students, who have the opportunity to study full-time or part-time. Full-time students attend the doctoral study for three years and earn 180 ECTS credits (3 x 60 ECTS). It is important to point out that part-time students follow the same three-year programme of study but distributed in five years, and also earn a total of 180 ECTS credits, 36 ECTS per year. In this way, students who are employed are able to collaborate on research projects with project leaders as student researchers.

Each student of the postgraduate doctoral study has a mentor with whom they define the area of scientific research and elective courses of the doctoral study to be taken. Mentors and co-mentors are mostly leaders of scientific research projects of the University of Rijeka Faculty of Medicine. The number of potential mentors who meet the criteria of the National Council for Higher Education is sufficient for the enrolment quota of 30 students per year, and there is the potential to increase the number of mentors.

The University of Rijeka Faculty of Medicine, including the Centre for Proteomics and the Teaching Institute of Public Health in Rijeka, has a number of well equipped laboratories and favourable conditions for scientific research.

VI. POSTGRADUATE SPECIALIST STUDIES

Postgraduate specialist studies that are performed at our Faculty are: **Internal Medicine, Family Medicine, Biomedicine of Developmental Age, Orthopaedics, Gynaecology and Obstetrics, Psychiatry, Health Promotion and Addiction Prevention, and Management in Health Care**. All these specialist studies, except the last two, are compulsory parts of the respective programmes of specialization in internal medicine, family medicine, paediatrics, orthopaedics, psychiatry and obstetrics and gynaecology, according to the Health Care Act and the Ordinance on Specialist Training of Medical Doctors.

1. Postgraduate specialist study of Internal Medicine

This postgraduate specialist study is held at the Faculty of Medicine in Rijeka for the purpose of enabling doctors of medicine to master modern scientific knowledge and gain competencies in internal medicine or related fields in order to incorporate them into their clinical practice in the most acceptable way. It is a one-year study delivered part-time over three semesters of 20 ECTS credits each. After completion of the study and other parts of the specialization programme, the students take the certification exam, after successful completion of which they acquire the title of specialist in internal medicine. The need for this specialization study is continuous because it enables implementation of the programmes of specialization in internal medicine in our Clinical Hospital Centre in Rijeka and our teaching bases with our staff and spatial capacities, and thus contributes to the training of specialists.

Individual specialist postgraduate studies in the field of Internal Medicine - Endocrinology and Diabetology, Gastroenterology, Internal Oncology, Cardiology, and General Internal Medicine - are currently pending accreditation; they are to replace the current study of Internal Medicine already in the academic year 2014-2015.

2. Postgraduate specialist study of Family Medicine

One of the fundamental reasons for starting this study is the fact that countries of the European Union have many more family medicine specialists than Croatia, which created the need for specialist training of doctors in family medicine. The requirements of our public health, primarily private, sector in health

centres are very big. The University of Rijeka Faculty of Medicine has a Department of Family Medicine with trained teachers who are able to impart the skills, competencies and knowledge to future specialists in family medicine, and teach them the latest scientific knowledge. The study lasts two semesters and upon completion of the study the students acquire a total of 60 ECTS.

At the end of the study, students have specific competencies gained by adopting the theoretical and practical bases for scientific study and monitoring of health and disease based on the concept of single medicine and continuous care of individuals and families. The students are able to analyze contemporary health issues and define the scope of facts, methods and problems dealt with by general practitioners, and in particular epidemiological, outpatient and community nursing work methods. During the study, the students adopt the methods of analysis of the health status of the population and selection of health interventions, and practice techniques of these activities within their scope of work without separating specific health problems from work and family related, psychological and social problems. Moreover, this study programme enables students to acquire the general competencies of planning, coordination and evaluation of health care of their local population and link it to all elements of the health system, and to develop the ability for permanent horizontal and vertical communication and teamwork. The students also gain knowledge of economic relations in health care, and the ability to independently and continuously conduct additional professional qualification.

Upon completion of the study and the obligations imposed by specialization, students acquire the title of specialist in family medicine. In addition to completion of the study and passing all exams in it, students also have to complete the practical part of specialization, as defined by the Health Care Act. Apart from the diploma of postgraduate study, the students do not acquire any special academic title.

3. Postgraduate specialist study of Biomedicine of Developmental Age

This study originated from the need for specialist postgraduate education of residents who are studying to fill in the lack of such professionals in the Clinical Hospital Centre (CHC) in Rijeka and in a number of other public and private health institutions. In order for medical specialists to possess the knowledge of the possibilities of modern medicine upon completion of their specialization, it is essential that the postgraduate specialist study enable them to get acquainted with modern scientific knowledge so they can incorporate it into their clinical practice in the most acceptable way. This form of study is comparable to similar programmes implemented in the framework of lectures on medical HEI in Europe. It is a one-year study delivered part-time over three semesters of 20 ECTS credits each (total 60 ECTS). Upon completion of this study, students possess the competencies which, together with the theoretical basis, provide quality access to paediatric patients. The study also enables them to master the knowledge and skills necessary for clinical work of general paediatricians. Specific competencies are gained in specific courses teaching scientific and professional knowledge of a specific area. Upon completion of the study and the obligations imposed by specialization, and success in the certification exam, students acquire the title of specialist in paediatrics. The need for this specialization study is continuous because it enables implementation of the programmes of specialization in paediatrics in our Clinical Hospital Centre in Rijeka and our teaching bases with our staff and spatial capacities, and thus contributes to the training of specialists.

4. Postgraduate specialist study of Orthopaedics

The Specialist postgraduate study of Orthopaedics offered at the Orthopaedic Clinic Lovran of the University of Rijeka Faculty of Medicine originated from the need for specialized training of residents who are studying to fill in the lack of such professionals in the Orthopaedic Clinic Lovran and in a number of other (public) state and private health care institutions in the Republic of Croatia. In addition to residents of orthopaedics, residents in physical medicine, occupational medicine and others also take the prescribed part of compulsory specialisation training in the field of orthopaedics. This study provides specialising doctors with the necessary knowledge about the latest possibilities of modern professional and scientific medicine in the field of orthopaedics and its application in everyday clinical practice. The Postgraduate specialist study of Orthopaedics is a compulsory part of the specialisation curriculum which enables students to take the certification exam in orthopaedics. After successful exam, the students acquire the title of specialist in orthopaedics, which will entitle them to get employed and do this job in the local

community but also throughout Croatia.

Given that the Orthopaedic Clinic Lovran is accredited to perform most of the specialization programme and to conduct the certification exam, this study programme allows it to offer the entire programme of specialization in orthopaedics. Study is delivered in two semesters of a total load of 60 ECTS credits, 30 per semester. In each semester students take 26 ECTS credits in compulsory subjects and 4 ECTS credits in elective courses. Participants are required to attend lectures and seminars in order to be eligible to take the exams. The Commission for the Postgraduate specialist study of Orthopaedics, led by the Study Coordinator, can authorize the transfer of ECTS credits from other studies offered at the University or in other HEI applying the criterion of one working week, or 40 hours of student workload, equalling 1.5 ECTS. In direct teaching, it corresponds to 15-25 contact hours, depending on whether these are hours of lectures, seminars or exercises. Students of the Postgraduate specialist study of Orthopaedics can choose electives from other postgraduate specialist studies at our Faculty. At present, these include elective courses from the postgraduate specialist studies of Family Medicine, Health Care Management, Internal Medicine, Biomedicine of Developmental Age, Psychiatry, Obstetrics and Gynaecology, and Health Promotion and Addiction Prevention.

5. Postgraduate specialist study of Gynaecology and Obstetrics

The Postgraduate specialist study of Gynaecology and Obstetrics aims to provide the participants of this study a comprehensive knowledge of the profession and modern scientific knowledge in the context of organized learning activities. Residents are trained at the Clinical Hospital Centre in Rijeka, as a teaching base of the Faculty of Medicine in Rijeka, for the purpose of filling the lack of these professionals in the CHC Rijeka and in other state and private health institutions in the Republic of Croatia. This study allows an organized and systematic provision of knowledge in the field of gynaecology and obstetrics which the participants will be able to include in their daily practice. The Postgraduate specialist study of Gynaecology and Obstetrics is the mandatory part of the specialisation curriculum that entitles students to take the certification exam in gynaecology and obstetrics, after which they are awarded the title of a specialist in gynaecology and obstetrics. The programmes and conditions of the specialist training in gynaecology and obstetrics are aligned with the conditions laid down by the Croatian Society for Gynaecology and Obstetrics, the Croatian Medical Association and the Croatian Medical Chamber, which issues licenses for independent work.

The programme is comparable to similar studies in the Republic of Croatia (Perinatology and Ultrasound in Obstetrics and Gynaecology, offered by the University in Zagreb), as well as the specialized study in gynaecology and obstetrics of the University of Siena, Italy. The programme of this study enables mobility of students in the national and international levels due to the existence of similar study programmes in Croatia itself, but also in the neighbouring and EU countries. This is especially true of electives, so students from other faculties may take certain courses of this study and our students can take some elective courses at other HEI. The Department of Obstetrics and Gynaecology of the CHC in Rijeka has been accredited by the Ministry of Health and Social Welfare for the training of specialists in gynaecology and obstetrics, which represents one of the strategic objectives of the Department of Gynaecology and Obstetrics. The specialist study is a compulsory part of the specialist training in gynaecology and obstetrics so, by offering this specialist study, our institution provides the entire contents of specialist training. The study is organized as a one-year study that is conducted in two semesters with total student workload of 60 ECTS. Given that, according to the Health Care Act (OG 150/08) and the Ordinance on Specialist Training of Medical Doctors (OG 111/09), in addition to professional work carried out at the clinic, residents have to attend theoretical professional classes, the study is part-time.

6. Postgraduate specialist study of Psychiatry

The Clinic for Psychiatry of the CHC in Rijeka is the location for specialization internship in psychiatry taken for many years by residents of the CHC in Rijeka and other psychiatric institutions within the region (Psychiatric Hospital Rab, Psychiatric Hospital Lopača, etc.), as well as of other institutions in Croatia. Under the new programme of specialization in psychiatry, which is in force as of 1 January 2012, the residents are obliged to attend a one-year specialist study programme. Given that the Department of Psychiatry of the Rijeka CHC is accredited to perform most of the specialization programme and to

conduct the certification exam, this study programme allows it to offer the entire programme of specialization in psychiatry. The participants of the study are doctors who have been granted residency in psychiatry for the needs of mental health care and institutions that operate in the wider region of Rijeka and throughout Croatia. This programme of study and conditions of specialist training in psychiatry are in line with the conditions set by the Ministry of Health, the Croatian Medical Chamber and professional psychiatric associations. No other similar specialist study of psychiatry existed in the territory of Croatia prior to this accreditation. This programme offers training in all general and specific knowledge and skills in the field of psychiatry that are required by valid specialization programmes. Students must take and pass exams in all compulsory courses (40 ECTS credits). Electives in the amount of 5 ECTS credits and other optional activities can be acquired in other postgraduate studies of the Faculty of Medicine and the University of Rijeka, or in and other universities in the Republic of Croatia and the EU upon previous arrangement with the study mentor. The study fits into the strategy of the University of Rijeka Faculty of Medicine for 2010 to 2015, which envisages drawing up a joint plan of specializations of the Faculty of Medicine. Upon completion of the study and specialization in psychiatry, students acquire the title specialist in psychiatry and are thus entitled to get employment in private and public institutions that deal with mental health. They are also authorised to work independently in the field of clinical psychiatry.

7. Postgraduate specialist study of Health Promotion and Addiction Prevention

The Postgraduate specialist study of Health Promotion and Addiction Prevention derived from the Joint European Project, the Tempus programme of the European Commission. It is a programme which aims to strengthen the professional capacities for the implementation of health promotion and prevention of addiction. As a result of social, political and economic transition and the war and post-war period in the 1990s, Croatia is faced with a growing public health needs in the field of prevention of risky behaviour of children and youth. Thus, according to the Croatian National Institute of Public Health, in the last ten years the number of drug addicts in Croatia quintupled (from 1340 treated addicts in 1995 to as many as 7733 in 2010). Another worrying issue is the by the fact that the abuse of tobacco, alcohol, inhalants and illegal drugs is becoming ever more common among adolescents. Unfortunately, the few evaluation studies conducted in Croatia point to a number of weaknesses of our system of prevention, primarily in the areas of planning, implementation and evaluation of prevention programmes. Professionals working with children and young people, primarily in the health and education systems, often lack basic knowledge and skills necessary for the implementation of modern programmes of prevention of these new phenomena (such as addiction or violence).

The programme of this study is based on contemporary interdisciplinary knowledge of health promotion, prevention of mental and behavioural disorders, and other risky behaviours of children and youth. It is conceived as a combination of practical experience, primarily through examples of good practices, or model of practice, and academic potential present primarily in the area of application of scientific methodology in planning and evaluation. The programme of study is designed to include, in addition to course coordinators, university teachers, also top experts in this field in Croatia. Their synergy should result in increased quality to the benefit of the professional and academic community. Thus, in addition to strengthening the professional capacity of the wider professional community, this is expected to result in additional academic development of the University of Rijeka.

The study was designed as a postgraduate training of experts in various fields (doctors, psychologists, social pedagogues, etc.) who are already working with children and youth in health and educational institutions or in the NGO sector, so there can be no reference to the classical need of the labour market in this respect. There is, however, the need for their life-long training and specialization, which has been evidenced through the analysis of the situation in the Republic of Croatia and the described experiences in other countries.

A draft study programme was implemented as a pilot programme in the form of education that had been accredited by the maximum number of points by the Medical Chamber, the Psychological Chamber and the Agency for Education and Training. Representatives of both Chambers and the Agency participated in the process of curriculum development in the capacity of an advisory body which supported the proposed programme.

The study is delivered, in addition to the Faculty of Medicine, also by Faculty of Humanities and Social

Sciences and Teaching Institute for Public Health, Croatian Institute for Public Health, and the Faculty of Education and Rehabilitation Sciences. The practical part of training also takes place in the study participants' institutions, especially in schools, associations and the local community. Upon completion of the study, students acquire 90 ECTS credits, of which 49 ECTS in compulsory subjects. Almost half of the study programme is based on elective courses tailored to the needs of students, which can be earned through mobility within our University or with other universities, by attending other programmes of accredited organizations (such as chambers) or by performing practical scientific research or professional work. Upon completion of the study the students are awarded the title of university specialist in health promotion and addiction prevention (univ. spec. sanit. publ.).

8. Postgraduate specialist study of Management in Health Care

The postgraduate specialist study of Management in Health Care has not been offered for several years due to the lack of interest of potential applicants even though it was accredited. It is a university study programme organized by the University of Rijeka Faculty of Medicine in cooperation with the Faculty of Economic, the Faculty of Law and the Faculty of Humanities and Social Sciences of the University of Rijeka, and other institutions from abroad. The study lasts one and a half academic year (90 ECTS), namely, three semesters. The programme includes compulsory and elective courses, practical work, and the final paper and supplementary activities. The maximum number of students per year is 25. Enrolment is conditioned on the placement procedure, which takes into account success in graduate study, the achieved master's and doctoral degrees, experience in professional work and management, etc. The study may enrol graduates from a university study lasting four to six years (Biomedicine, Economics and Law) or from graduate studies whose graduates participate in the organization of work and reform of health care institutions.

The study is intended for university graduates who are involved in the management of health institutions, departments and divisions, or will in any way be involved in the health care reform. The purpose of the study is to impart specialized knowledge oriented towards modern management methods and an interdisciplinary approach to a complex system, such as health care institutions. The education of physicians, who occupy most managerial positions in health care institutions, carried out so far did not train them to follow relevant legislation or teach them about management, regulation of procurement and consumption, or basic economic and legal principles, while, on the other hand, the graduates educated in these fields in our HEI have little knowledge about the basic biomedical principles. Generally speaking, Croatian institutions rarely generate graduates with basic professional knowledge in management and communication skills. Therefore, the interdisciplinary approach is one of the greatest values of this postgraduate education. Upon completion of the study the students acquire the title of specialist in management in health care.

b) Specify overlaps, if any, of your study programmes with similar study programmes at other constituents of your university. Explain the steps you have taken to avoid future overlaps.

None of our study programmes overlap with those of other constituents of the University of Rijeka.

c) For each of type of study (undergraduate, graduate, integrated and postgraduate, postgraduate specialist studies and professional studies, if applicable) separately answer the following questions.

c1) Specify the criteria that you consider in proposing the enrolment quotas for undergraduate (or integrated undergraduate and graduate) or professional studies (if any). Assess the justification for these enrolment quotas from the standpoints of needs of the society and the number of unemployed, the capacity of the institution to provide quality teaching in groups, and the number of competent and motivated students for effective studying pursuant to the set programme.

Performance of all our study programmes is entirely justified, purposeful and coordinated with regard to social needs (needs of the labour market), and the quotas are coordinated with the annual reports of the

Croatian Employment Service for the entire Republic of Croatia (Table 3.3.), indicators of professional associations, and guidelines of the Network of HEI and study programmes in Croatia that are based on the minimum physical and human resources capacities of faculties necessary for successful teaching and work in small groups of students, all with respect of the area of study of our programmes (Biomedicine and Health), taking care to maintain the high standards of the quality of teaching done in clinical departments. The enrolment quotas for our university studies have not changed in the past five years, while the changes in the quotas of the professional studies were result of adaptation to the needs of the labour market for each individual health profession (Table 2.1.). It should be noted that pursuant to the Agreement on incentives for enrolment in higher education, various categories of applicants (applicants with disabilities rated at 60 percent or more; Croatian Homeland War veterans; Croatian disabled Homeland War veterans; children of killed, captured or missing Homeland War veterans; children of 100% disabled Homeland War veterans) are entitled to enrol in the status of full-time students outside the approved enrolment quotas even if they are not ranked within the approved quotas, provided they have passed the qualification threshold. In applying this, our Faculty enables enrolment of the above-mentioned categories of applicants without limiting the chances of other candidates within the approved enrolment quotas.

We find that the enrolment quota for the Integrated undergraduate and graduate university study of **Medicine** (130 students) is appropriate for a quality education for doctors of medicine, as it is based on the Faculty's teaching staff potential in teaching-research, teaching and associate positions in either full-time or part-time employment, its spatial capacities (sufficient number of student places in lecture rooms, laboratories or practicums), and the size of the group for lectures, seminars (up to 30 students), practical exercises in preclinical (10-15 students) or clinical practice (up to 6 students), and in specialized clinical practice (up to 4 students). Furthermore, the enrolment quota is completely justified and consistent with the needs of the labour market, both in the public and the private sector of health care, which is visible from the annual reports of the Croatian Employment Service for the entire Republic of Croatia. The programme is aligned with the requirements and recommendations of the professional association - the Croatian Medical Chamber (CMC), which is responsible for issuing licenses for the operation of graduate medical doctors. The Croatian Medical Chamber provides updated information on the number of doctors who are needed in the health system according to European guidelines and standards (according to the latest indicators of the CMC, Croatia currently has a shortage of 4300 doctors, or 3.6 doctors per 1,000 inhabitants), which should significantly influence the decisions of all medical schools to increase the enrolments quotas, as well as the decision of the Ministry of Science, Education and Sports regarding subsidies for tuition fees of occupations in short supply. Since Croatia's accession to the EU, important indicators of the need to increase the quota for admission to this degree programme have also been periodic reports of CMS on the number of medical doctors or specialists in certain areas who have already moved abroad or have requested permission to go to work abroad. These two data, added to the already known fact about the lack of medical teams in rural areas, islands and areas of special state concern, justify additionally the increasing demands of the Ministry of Health to increase significantly the enrolment quotas for the study of Medicine. Such requests should definitely not undermine the existent standards of quality studying, manifested in the optimal teacher-student ratio and work in small groups, because these are clear prerequisites for successful studying and mastering the study programme. In particular, work in small groups must be maintained in the clinical part of the study programme, where hospital facilities are very limited and where work with patients does not allow for large groups of students. It goes without saying that such requirements for increased quotas should be accompanied by increase in the number of staff involved in the implementation of the study programme, which was actually significantly slowed down by the latest decisions of the competent Ministry of Science, Education and Sports to "freeze" the number of positions.

We find that the enrolment quota for the Integrated undergraduate and graduate university study of Dental Medicine (30 students) is appropriate; it has remained the same over the years. According to the statistics of the Croatian Employment Service, in the past decade or so, the number of unemployed dentists has been significantly reduced and the latest data, presented in Table 3.3., show that currently there are no unemployed doctors of dental medicine. We hold that the enrolment quota of 25-30 students has been correctly estimated, taking into account the spatial and human resources, and equipment. The pre-clinical cases are held in two or three groups (depending on the number of students per year), while practice groups in professional subjects are organized according to the number of available dental units. The practice rooms have four dental units and are supervised by two or three teachers or assistants, depending on the type of exercise. We strive to provide the conditions for having only two students per

each dental unit. Clinical work is organized at the Clinic for Dental Medicine of the CHC Rijeka in a single educational and professional process, and each student must master the mandatory clinical procedures specified in the study programme. Students are provided a sufficient number of patients who are willing to give a written statement certifying that they voluntarily agree to be treated by students under the supervision of teachers and assistants of the study of Dental Medicine.

The enrolment quota for both the undergraduate and the graduate study of **Sanitary Engineering** is 30 students. This is the optimal size of a study group, adapted to the labour market needs of the society and to the quality education of sanitary engineers, which is based on the Faculty's own staff potential in research-teaching, teaching and associate positions in full- or part-time employment. It should be noted that in the last five years, the structure of the Faculty's teachers in relation to external associates has fundamentally changed, so now teaching at the study of Sanitary Engineering is given predominantly by our teachers. Another point corroborating the development of the study, or rather, its quality stemming from our own resources, is the fact that in the past few years, nine teachers, sanitary engineers entirely educated at the University of Rijeka Faculty of Medicine, have been promoted to academic titles of assistant professor or higher. Moreover, the quality of teaching owes its high level also to adequate spatial capacities (sufficient number of student places in lecture rooms, laboratories or practicums), based on the optimal size of a group of 10-15 students for lectures, seminars and practical exercises.

Enrolment quotas for most **professional study programmes** did not change in the analyzed five years (Radiological Technology, Nursing - part-time study in Karlovac, Medical Laboratory Diagnostics - full-time and part-time study, Midwifery), but the change in enrolment quotas for other professional study programmes was justified. So, in the academic year 2012-2013, we reduced the enrolment quota for admission to the full-time Professional study of Nursing and to the Professional Study of Physiotherapy (from 40 to 30) due to the need to increase the quality of work in small groups of students in these two full-time studies. In contrast, in the same academic year, we increased the quota for the part-time Professional study of Nursing in Rijeka (from 30 to 45) due to the exceptional need for continuing education of employed nurses who had graduated from the secondary medical school, especially because of the rules set by the EU in connection with the required level of education for nurses working in specific clinics or clinical departments. In accordance with the requirements of the Clinical Hospital Centre Rijeka (as the largest teaching base of the Faculty of Medicine in Rijeka) and the requirements of professional associations, the Senate of the University of Rijeka approved a further increase in the quota by 15 students for two academic years (2010-2011 and 2012-2013). Despite the continued need to increase the quota for most undergraduate professional studies, further increase should be carefully thought through in the context of human and physical capacity of the institution and maintenance of the quality of the teaching process. Moreover, in order to create conditions for continuing education, we have opened several new graduate university studies (Graduate university study of Nursing - Mental Health Promotion and Care; Graduate university study of Physiotherapy; and Graduate university study of Medical Laboratory Diagnostics) which enable further continuation of education of professional bachelors in graduate studies. The need for this was expressed and strongly supported also by professional chambers, so the enrolment quotas were indeed set on the basis of assessment of professional chambers and their insight into the needs of employers for such levels of competencies. In order to enrol in a given graduate university study, professional bachelors must first complete the appropriate accredited differential programme (lifelong learning programme), or pass the differential exams for that programme (as of the academic year 2014-2015 and according to the new Act on Scientific Activity and Higher Education).

The enrolment quota for **postgraduate university studies** (graduate studies) were determined on the basis of real needs and capacity of the Faculty of Medicine with its teaching bases. The Faculty's departments feel the need to increase their scientific potential and research-teaching staff in order to ensure implementation of research projects and respond to the increasing demands of their curricula. Clinics and clinical institutes of the Clinical Hospital Centre Rijeka as the Faculty's largest teaching base, but also other teaching bases, need doctors of science in order to develop their respective profession, ensure implementation of the teaching and scientific work, and maintain the status of a clinic. Mentorship potential of our Faculty is sufficient for enrolling and monitoring the above number of students. The decision on the enrolment quota was also conditioned by the University of Rijeka Strategy 2008-2013, which promotes an increase in the number of total number of doctors of science.

The need to announce the call for applications for enrolment in a specific **postgraduate specialist study** depends primarily on the current number of doctors in a particular specialization within our teaching bases or the number of residents of other health institutions and their interest for the study. The

enrolment quotas usually correspond to the maximum capacity of the study programme (which is defined on the basis of human and physical resources of the institution).

c2) Analyse the pass rate in the first year of study (undergraduate, integrated and professional) and relate it to the enrolment criteria. Reflect on the types of secondary schools your candidates come from and their average secondary school grade (GPA).

Table 2.1. presents the following data for each programme of study (undergraduate, integrated and professional) at the University of Rijeka Faculty of Medicine for the current (2014-2015) and the previous four academic years: a) interest in the study: the ratio between the number of applicants and enrolment quotas for the first year of study, according to data from the National Information System for Applications for Higher Education (NISpVU system) after the publication of the final ranking; b) the structure of enrolled students by high schools from which they graduated (grammar schools, vocational and other schools); c) the GPA of enrolled secondary school students. The analysis included all academic years in which enrolment was done according to the results of the state graduation exam, and not according to the results of the entrance exam.

a) Interest in enrolment in the study programmes

Interest in enrolment in the **Integrated undergraduate and graduate university study of Medicine** is very high, as indicated by the ratio between the applications and the approved enrolment quota. The official data obtained in the official report of the NISpVU system are listed in a tabular presentation for each the study, created after the publication of the final ranking (mid-July for the current academic year). The data for the study of Medicine point to about 6.73 to 12.6 times greater interest in relation to the approved enrolment quotas (2010-2011: 1641/130; 2011-2012: 1524/130; 2012-2013: 876/130; 2013-2014: 930/130; 2014-2015: 905/130). The official data obtained from the NISpVU system immediately after the application deadline for our study programmes (May 30 in the current academic year) indicate an even greater interest in the study because the number of applicants at that point surpassed the enrolment quotas by 9.99 to 14.8 times (2010-2011: 1835/130; 2011-2012: 1924/130; 2012-2013: 1299/130; 2013-2014: 1415/130; 2014-2015: 1833/130). The reason for these different figures can be found in the rules for application in the "Become Student" system and the possibility for applicants to opt for another study until the "locking" of the final rankings in mid-July, which is particularly intense after the announcement of the state graduation exam results and which has no direct relationship with the interest in the study itself but rather to the increased possibility of enrolment in any study. According to our analysis, the ratio between the applications for the study and the enrolment quotas at a time when students do not yet have the results of the state graduation exam is a better indicator of the interest in the study. Actually, the information on the results achieved in this exam and the position in the provisional ranking is a clear indication to many applicants to sign off from the application for our study in order to be able to apply to another study in which they stand a greater chance of enrolment.

According to the data obtained from NISpVU reports, interest in the study of **Dental Medicine** ranges between 5.8 and 17.6 applicants per the enrolment quota. Also, the interest in the study of **Sanitary Engineering** is greater than the enrolment quota by 2.66 to 20.5 times. The reasons for the large differences observed in the number of applications in relation to the established enrolment quotas in all analysed academic years is not in a reduced interest in university studies, but in a significant change in enrolment parameters in the academic year 2012-2013. Namely, for the first two generations of students who enrolled on the basis of results of the state graduation exam (2010-2011 and 2011-2012), all the compulsory subjects of this exam (Croatian language, Mathematics and a foreign language) were considered and only one elective course was mandatory (Biology, Chemistry or Physics), in which the best result achieved in any one of these subjects carried 20%, and the result in any of the other two electives (if taken by the student) 10% of the points each. Also, for the first two generations of students enrolled on the basis of results of the state graduation exam, there was no pre-condition of mandatory attendance of Biology, Chemistry and Physics classes for at least two years during secondary school. The reasons for introducing stricter enrolment parameters lie in the poor previous knowledge in basic sciences shown by the first two generations of students enrolled on the basis of results of the state graduation exam, as reported by course coordinators of these subjects in the first year of all university studies. Moreover, as of the academic year 2012-2013, we set the classification threshold at 40% (applicants who earn less than

400 of the total of 1,000 points do not have the right to enrol regardless of their position on the ranking list). The enrolment for university studies applied as of the academic year 2012-2013 is presented in Table 2.1.).

The ratio between the number of applications and the enrolment quotas for full-time professional study programmes also shows several times higher interest: for the Professional study of **Nursing** 9.43 to 14.92 times; for the Professional study of **Physiotherapy** 18.83 to 32.15 times; for the Professional study of **Medical Laboratory Diagnostics** 18 to 42.86 times; and for the Professional study of **Radiological Technology** 6.8 to 47.86 times. The reasons for the multifold decrease in interest in the study of Radiological Technology lies in the introduction of stricter enrolment parameters in 2014-2015 related to attendance of Physics classes for at least two years in secondary school (prerequisite for entry), as well as compulsory taking the elective subject of Physics in the state graduation exam (which is valued as 30% of the points). The reasons for this change in the enrolment parameters lie in the poor foreknowledge of this subject shown by the previous generation in the first year of study.

The interest in part-time professional studies is also several times higher than the enrolment quotas: for the study of **Nursing - part-time study in Rijeka** 3.8 to 6.7 times; for the study of **Nursing - part-time study in Karlovac** 3.2 to 6.28 times; for the part-time study of **Radiological Technology** from 15.2 to 17 times; for the study of **Medical Laboratory Diagnostics** 4.86 to 6.66 times; and for part-time study of **Midwifery** 2.2 to 3.13 times. The enrolment parameters for professional studies applied as of 2012-2013 are presented in Table 2.1.B).

b) Structure of enrolled students

The structure of students enrolled in the Faculty of Medicine in Rijeka in the analysed academic years (from 2010-2011 do the current 2014-2015) by study programmes is shown in Table 2.1.

The total number of students enrolled in the **Integrated undergraduate and graduate university study of Medicine** over the last five academic years shows a significantly higher prevalence of graduates from grammar school (77.27%; 95.42%; 90.98%; 91.73 %; 95.5%, respectively) compared to those from professional schools (22.72%; 4.58%; 9.02%; 8.27%; 4.48%, respectively). The GPA of all enrolled grammar school graduates ranges from 4.52 to 4.62, in contrast to those of vocational schools, whose GPAs show a wider range (4.00 to 4.77).

The total number of students enrolled in the **Integrated undergraduate and graduate university study of Dental Medicine** over the last five academic years shows a significantly higher prevalence of graduates from grammar school (76.66%; 90%; 76.66%; 90%; 86.66%, respectively) as compared to those coming from professional schools (23.33%; 10%; 23.33%; 10%; 13.33%, respectively). The GPA of all enrolled grammar school graduates ranges from 4.46 to 4.60, in contrast to those of vocational schools, whose GPAs show a wider range (3.64 to 4.97).

The total number of students enrolled in the **Undergraduate university study of Sanitary Engineering** over the last five academic years shows a significantly higher prevalence of graduates from grammar school (63.33%; 53.33%; 74.07%; 75.86%; 85.18%. respectively) as compared to those coming from professional schools (36.66%; 46.66%; 25.93%; 24.13%; 14.8%, respectively). The GPA of all enrolled grammar school graduates ranges from 3.74 to 4.18, in contrast to those of vocational schools, whose GPAs show a wider range (3.72 to 4.38).

The total number of students enrolled in **full-time professional studies** over the last five academic years shows a significantly higher prevalence of graduates from vocational school over those from grammar school. The biggest prevalence of vocational school graduates over grammars school ones was observed in the study of **Nursing**, in which vocational school graduates prevail: (92.68%; 80%; 100%; 100%; 100%; respectively; GPA between 3.83 and 4.26). In the past few years, the study of **Physiotherapy** has been enrolling an ever increasing share of vocational graduates (50%; 42.5%; 60%; 81.25%; 84.37%; respectively; GPA between 4.30 and 4.49). In almost all the observed academic years (except 2011-2012), the study of **Medical Laboratory Diagnostics – full-time study** enrolled primarily grammar school graduates (66.66%; 40%; 81.25%; 73.33%, 73.33%; respectively; GPA between 3.97 and 4.48). As for the study of **Radiological Technology**, in some academic years it enrolled primarily grammar school graduates (2011-2012: 53.33%; 2013-2014: 60%; 2014-2015: 86,66%; GPA between 3.89 and 4.15), and

in others primarily vocational school graduates (2010-2011: 52.92%; 2012-2013: 66.66%; GPA between 3.13 and 4.47). In contrast to full-time studies, the share of graduates from vocational or other schools enrolling in a **part-time study** (Nursing, Midwifery, Medical Laboratory Diagnostics) is almost 100% because a prerequisite for enrolment in these studies is employment in the relevant professions (nurse, midwife; medical-laboratory technician), the number of service in these jobs being one of the enrolment parameters.

c) Enrolment criteria

The right to apply for enrolment in the first year of studies is given to candidates who have successfully completed a secondary school lasting four years, meet the enrolment prerequisites, and have successfully passed the state graduation exam in compulsory and elective courses. The enrolment prerequisites and parameters of evaluation of results achieved for each academic year are approved by the Faculty Council, confirmed by the Senate of the University of Rijeka, and then publicly announced on the website of the National Information and Application System for Higher Education (NISpVU system or "Become a Student"). The applicants are entitled to enrol according to their position on the final ranking list within the enrolment quotas approved by the Senate of the University of Rijeka (Table 2.1.C). All enrolment conditions are publicly announced in the Call for applications for enrolment in the first year of studies at the University of Rijeka posted on the Faculty's website (link to all documents: <http://www.medri.uniri.hr/upisi/index.htm>) and in the NISpVU system. As of the academic year 2014-2015, applicants from EU countries are placed on the same ranking list as the citizens of the Republic of Croatia

Table 2.1.A) Enrolment parameters for the first year of **university study programmes** at the Faculty of Medicine in Rijeka for the academic year 2014-2015:

	*Prerequisite	GPA in all subjects	COMPULSORY SUBJECTS (CRO+MATH+FOREIGN LANGUAGE) - lower level All exams are compulsory, but only some are counted in	ELECTIVE SUBJECTS (BIO + CHE + PHY) All three compulsory	Test of manual dexterity	Overall threshold
MEDICINE	YES	25%	0% + 0% + 0%	25% + 25% + 25%	-	40%
DENTAL MEDICINE	YES	25%	0% + 0% + 0%	20% + 20% + 20%	15%	40%
SANITARY ENGINEERING	YES	25%	0% + 15% + 0%	20% + 20% + 20%	-	40%

*Prerequisite: mandatory attendance of Biology, Chemistry and Physics classes for at least two years during secondary school

Table 2.1.B) Enrolment parameters for the first year of **professional study programmes** at the Faculty of Medicine in Rijeka for the academic year 2014-2015:

	* Prerequisites	GPA in all subjects	** GPA in some secondary school subjects	COMPULSORY SUBJECTS (CRO+MATH+FOREIGN LANGUAGE) - lower level	*** ELECTIVE SUBJECTS (obligation to take them – yes/no)	Overall threshold
Nursing - full-time study	-	30%	20%	10% + 10% +10%	20% BIO (no)	40%
Nursing part-time study in Rijeka	Years of service (up to 30%)	30%	20%	0% + 0% + 0%	20% BIO (no)	-
Nursing part-time study in Karlovac	Years of service (up to 30%)	30%	20%	0% + 0% + 0%	20% BIO (no)	-
Midwifery - full-time study	-	30%	20%	10% + 10% +10%	20% BIO (no)	40%
Medical Laboratory Diagnostics - full-time study	-	40%	-	10% + 10% + 10%	20% + 10% CHE/BIO (no)	40%
Medical Laboratory Diagnostics - part-time study	Years of service (up to 30%)	40%	-	0% + 0% + 0%	20% + 10% CHE /BIO (no)	-
Radiological Technology - full-time study	Attendance of Physics classes for at least two years during secondary school	40%	-	10% + 10% + 10%	30% PHY (yes)	40%
Physiotherapy - full-time	-	30%	10%	10% + 10% +10%	20% + 10% BIO/ PHY (no)	40%

*** PREREQUISITES:**

a) Obligation to present proof of service (Nursing, MLD = **1 year**) and proof of employment in the relevant position (nurse; laboratory technician). Manner of scoring:

from 1 to 5 years of service = 5 points

from 6 to 10 years of service = 10 points

from 11 to 15 years of service = 15 points

from 16 to 20 years of service = 20 points

over 21 years of service = 30 points

b) Mandatory attendance of Physics classes for at least two years during secondary school (prerequisite for the study of Radiological Technology – full-time study).

** Average grade in secondary school (for the study of Nursing and Midwifery –grade in **Health Care**; for the study of Physiotherapy - grade in **Anatomy with Physiology**)

*** Taking an elective subject exam is mandatory for the full-time study of Radiological Technology.

Elective subject exams are not mandatory for other studies, but if taken, the one in which the best grade is achieved carries 20%, and the one with a lesser grade 10%.

Table 2.1.C) Enrolment quotas for the academic year 2014-2015

	Citizens of Croatia and EU	Foreign citizens (non-EU)	Part-time students
Integrated undergraduate and graduate university study of MEDICINE (full-time study)	125	5	-
Integrated undergraduate and graduate university study of DENTAL MEDICINE (full-time study)	25	5	-
Undergraduate university study of SANITARY ENGINEERING (full-time study)	30	3	-
Undergraduate professional study of NURSING (full-time study)	30	-	-
Undergraduate professional study of NURSING (part-time study in Rijeka)	-	-	45
Undergraduate professional study of NURSING (part-time study in Karlovac)	-	-	45
Undergraduate professional study of PHYSIOTHERAPY (full-time study)	30	-	-
Undergraduate professional study of MEDICAL LABORATORY DIAGNOSTICS (full-time study)	15	-	-
Undergraduate professional study of MEDICAL LABORATORY DIAGNOSTICS (part-time study)	-	-	15
Undergraduate professional study of RADIOLOGICAL TECHNOLOGY (full-time study)	15	-	-
Undergraduate professional study of MIDWIFERY (full-time study)	30	-	-

d) Pass rates in the first year of studies

Tables 2.2.A and 2.2.B, and Chart 2.2.B give the percentage of all students enrolled in the four academic years (from 2010-2011 to 2013-2014) who achieved, respectfully, up to 1/3, between 1/3 and 2/3, or more than 2/3 of the possible ECTS credits in the first year of study for each study programme. Given that these are the generations that enrolled on the basis of the results achieved in the state graduation exam, this information enables us to compare these data with those disclosed above (referring to the secondary school they had attended and the GPAs achieved in it).

The percentage of first-year students (Table and Chart 2.2.B) who earned more than 2/3 of the ECTS credits in the **Integrated undergraduate and graduate university study of Medicine** in the four observed years was, respectfully, 79.54%; 61.07%; 81.2%; and 78.2%; GPA: 4.141 - 4.405; for the **Integrated undergraduate and graduate university study of Dental Medicine** 80%; 96.66%; 86.66%; and 86.66%; GPA: 3.552 - 3.703; and for **Undergraduate university study of Sanitary Engineering** 83.33%; 80%; 70.37%; 72.41%; GPA: 3.095 - 3.287.

In professional study programmes, the percentage of students who earned more than 2/3 of the ECTS credits in the first year of study was: for the **Professional study of Nursing – full-time study** 84.62%; 92.5%; 96.77%; and 100%; GPA: 3.536 - 3.675; for the **Professional study of Nursing – part-time study** 93.47%; 100%; 98.39%; 93.33%; GPA: 3.547 - 3.8; for the **Professional study of Physiotherapy** 87.5%; 90%; 80%; 93.75%; GPA: 3.719 - 3.862; for the **Professional study of Medical Laboratory Diagnostics - full-time study** 80%; 86.66%; 93.75%; 80%; GPA: 3.979 - 4.227; for the **Professional study of Medical Laboratory Diagnostics - part-time study** (94.12%; 93.33%; 84.62%; GPA: 4.226 - 4.32; for the **Professional study of Radiological Technology** 88.24%; 86.66%; 73.33%; 86.66%; GPA: 3.654 - 3.982; and for the **Professional study of Midwifery** 100%; 92.86%. 100%; GPA: 3.186 - 4.093.

e) Pass rates of completion of studies within the prescribed period

Also, in order to gain insight into the overall performance in individual study programmes and see what percentage of students completed their study within the legally defined period, we also analyzed the results of graduates who belong to the "Bologna generation" , who enrolled in the academic year 2006-2007. Given that our Faculty offers integrated study programmes (lasting six years), but also shorter undergraduate (3 years) and graduate study programmes (2 years), we included in the analysis the students enrolled between 2006-2007 and 2010-2011 academic years.

Table 2.2.C. and the corresponding chart show that the percentage of student who graduated within the prescribed period ranges for the Integrated undergraduate and graduate university study of **Medicine** from 52.94% to 64.96%, for the Integrated undergraduate and graduate university study of **Dental Medicine** from 66.66 to 86.66% (except for the generation that enrolled in the five-year study in 2009-2010, where it is 33.33%; these students are about to defend their diploma paper and take the final exam); for the Undergraduate university study of **Sanitary Engineering** from 62.5 to 81.81%; for the Graduate university study of **Sanitary Engineering** 100%. The data for the same generations in the professional studies are: for the professional study of **Nursing** from 81.60 to 95.71; for the professional study of **Physiotherapy** from 78.04 to 100%; for the professional study of **Medical Laboratory Diagnostics** from 56.25 to 86.66%, for the professional study of **Radiological Technology** from 87.5% to 92.30%, and for the professional study of **Midwifery** from 84 to 100%.

The results that speak of successful completion of studies (within the prescribed period) in most study programmes are at a satisfactory level. However, with regard to certain study programmes, especially the Integrated undergraduate and graduate study of Medicine, the Integrated undergraduate and graduate study of Dental Medicine and the Undergraduate university study of Sanitary Engineering, we are not completely satisfied with the overall pass rates of all enrolled generations so we, in addition to regular monitoring of student achievements, we have begun implementing activities to improve student success. To this end, our HEI started implementing the project entitled "Project to increase student success in technical, biomedical, biotechnological and life sciences, and in the information and communication field in interdisciplinary studies related to these areas" (STEM field) within the first strategic objective *Acquisition of qualifications in the period prescribed by the study programme* (as part of the programme contract which the University of Rijeka signed with the Ministry of Science on 11 December 2012). Thus, we are actively involved in a number of sub-projects in which aim to provide additional support to students and motivate them for the study of their choice (for example, "Increasing competencies before the start of studies", "Organized peer and teacher support throughout the study," etc.). By maintaining an optimal teacher - student ratio, reconsidering the justification for enrolment quotas, comprehensive work on the quality of the teaching process through institutional quality assurance system, and through new organizational instruction units at our Faculty of Medicine, we continuously endeavour to increase student pass rates in each year of study. The positive results of such activities are reflected in the increasing pass rates of first-year students in most study programmes offered at the Faculty, and particularly in those with a smaller number of enrolled students. We must emphasize that our steps to increase the pass rates have not been taken at the expense of the quality of teaching or lower criteria for assessing the learning outcomes.

c3) State which methodology was used to set learning outcomes when planning study programmes. Use one study programme as an example of linking obligatory courses and competencies acquired in them.

Applications for a new study programme or amendments to an existing study programme has a well-defined procedure, which involves filling in the appropriate forms for the description of the curriculum which must explain in detail all the items relevant to the execution and justification of the study programme. This description of a study programme must comprise, among other things, clearly defined learning outcomes of the study programme based on the following data: a) Competencies acquired upon completion of the study (according to the Croatian Qualifications Framework (CQF): knowledge, skills and competencies in the narrow sense - independence and responsibility); b) Employability (list of possible employers and compliance with the requirements of professional associations; c) The possibility of continuing studies at a higher level. The description of each course contains *Expected learning outcomes* (general and specific competencies that the students acquire in each individual subject), based on evaluations by the course coordinator and all those participating in the course, aligned with the learning outcomes of the whole study programme. The course description also defines in which way the ECTS credits are earned through continuous attendance and in the final exam. The new study programmes are first approved by appropriate commissions of the Faculty and then presented to the Faculty Council. Upon approval of the Faculty Council, they are sent to the Commission for Accreditation of Study Programmes of the University of Rijeka, which then refers them to expert reviewers for each specific field. Following positive feedback by the reviewers, who evaluated professionally the overall programme and the learning outcomes of the whole studies, the Senate of the University of Rijeka approves the study programme. Further procedure is prescribed by the Agency for Science and Higher Education (ASHE); it includes the feasibility study for the proposed programme of study.

In determining the learning outcomes of revised study programmes belonging to regulated professions in the field of health (doctors of medicine, doctors of dental medicine, bachelors in nursing and midwifery), we followed the strict guidelines of the Act on Regulated Professions and Recognition of Foreign Professional Qualifications, which include the main provisions of Directive 2005/36/EC concerning mutual recognition of professional qualifications, and the written recommendations of the European Commission prior to the arrival of the EU *Peer Mission for assessment of the situation in the five regulated professions in the health care sector*, according to which specific changes had to be made in the existing study programmes in order to align them and their learning outcomes with European ones. In order to determine the learning outcomes in the study programme of Dental Medicine, we were also guided by the recommendations of the Association for Dental Education in Europe (ADEE) - Task Force II Curriculum Structure, Content, Learning & Assessment in European Undergraduate Dental Education, published in the European Journal of Dental Education Issue 2011; 13: 3. Catalogues of learning outcomes by each subject for all study programmes are currently in preparation; they have been compiled in strict conformity to the guidelines of the Croatian Qualifications Framework (CQF) and the recommended taxonomy. As regards the study of Medicine, we aim to develop a catalogue of learning outcomes that would be unique for all studies of Medicine at the four medical faculties in Croatia. It would be a continuation of the previously drafted unified Catalogue of knowledge and skills for the four medical faculties (Rijeka, Zagreb, Split and Osijek), and its mutual harmonisation is under way.

Detailed implementing plans include the learning outcomes for different thematic (methodological) units for each particular type of instruction (theoretical and practical). (Link to a subject: <http://www.medri.uniri.hr/studies/Medicine/14-15/INP/2.godina/Trobonjaca%20Z-Imunologija-2.g.-2014-2015.pdf>).

c4) Specify the most important goals you used to set the learning outcomes. Assess to what extent the goals you had in mind when creating new undergraduate, integrated undergraduate/graduate, and professional (if any) study programmes have been achieved.

In determining the learning outcomes in the planning of new or amending the existing study programmes, great attention is paid to ensure compulsory courses that develop general and specific competencies specific to a given profession comparable to similar study programmes in the European Union, which ensures the possibility of openness of a study for horizontal and vertical mobility of students in national and international higher education, as well as mutual recognition of qualifications achieved upon

completion of the study. In determining the learning outcomes, particular attention is paid to defining practical competencies that students of all our health-oriented courses must adopt in order to be prepared for work in clinical practice.

By harmonising the study programmes in the field of regulated professions (doctors of medicine, doctors of dental medicine, bachelors in nursing and midwifery), we fulfilled the expectations of all relevant institutions concerned with harmonisation of programmes with EU internationally recognized programmes, and thus created all the conditions for automatic mutual recognition of diplomas and for the possibility of horizontal and vertical mobility, not only of students but also of graduate specialists.

As regards the latest study programmes, our goal in determining the learning outcomes for the application of the Graduate university study of Nursing - Mental Health Promotion and Care was to generate a sufficient number of experts who will be competent to plan, organize and evaluate health care of patients with a holistic approach to the patient. The purpose of the study is to enable students to work independently in the Croatian and EU health systems. When designing the Graduate university study of Physiotherapy, our goal was to provide students with the knowledge and skills that will enable them to introduce changes in the profession of physical therapy, with emphasis on the application of the latest achievements in this ever changing profession, and thus reach the knowledge and skills of their colleagues in the EU. Given that these study programmes started being delivered in 2012-2013, we cannot yet say with certainty to what extent the goals we had in mind when designing them have been reached, because only the first generation of students of these two studies has graduated so far and their competences have yet to be recognized in the clinical practice. Since this study enrolls also applicants who are for the most part already employed in the health system, we are sure that masters of these two fields will find their place in the health care system.

c5) Describe methods and comment on procedures for adjustments of allocated ECTS credits with realistic assessment of student workload.

All our degree programmes are aligned with the European Credit Transfer and Accumulation System (ECTS) according to which one year of studies in full study load equals a minimum of 60 ECTS credits. ECTS credits are assigned to the study obligations of students on the basis of total amount of work that the student must invest in order to obtain the intended learning outcomes as part of that obligation in a particular subject, where one ECTS credit represents 25-30 hours of total average student work invested in the acquisition of the learning outcomes, including classes, independent work, exams and all activities required for taking the exam. The total number of years of studies determines the total number of ECTS credits that the students must acquire during their studies (e.g., for a six-year study - 360 ECTS). ECTS credits are awarded following successful completion of all the prescribed requirements and application of appropriate methods for assessing the established learning outcomes, or passing the exam.

After the organisation of study programmes according to the Bologna Process, in which each course was assigned a given number of ECTS credits, we analysed the teachers' and students' evaluation of the student workload in relation to the number of allocated credits for each course. It was difficult to unambiguously interpret the results of such analysis and consequently make a more systematic change in the number of the ECTS credits in the curriculum for several reasons: 1) the attitudes of teachers and students often disagree on the number of hours that a student should spend to master the learning outcomes of individual courses, and often there is even a major discrepancy among the student population; 2) the results of such analyses cannot always result in changes in the number of ECTS for a course because the total number of ECTS credits per academic year is determined by law (60 ECTS), and any change in the ECTS in one course would affect the number of ECTS in another course in the same year of study for which such change would not be justified; and c) the high student load in studies in the field of regulated professions is defined by precisely determined number of hours of instruction that students must have in the curriculum (according to the EU Directive, a minimum of 5500 hours for the study of Medicine), so harmonization of the number of ECTS with the student workload must not be performed by changing the total number of teaching hours.

Nevertheless, we do recognize the need to periodically assess the student load for each subject, and in the event of a discrepancy between student workload and the ECTS credits allocated to each course, the first step should definitely be to first search for the reasons behind it. If the cause of the student overload/underloaded does not lie in inconformity between the demands of the course coordinator for

the fulfilment of certain course requirements, the prescribed obligatory literature and objectives/learning outcomes listed in the course description, then the number of allocated ECTS should definitely be revised.

c6) Assess competencies of experts who graduate from your HEI with a similar study programme at prominent HEI in Europe and the world, and state to what extent your programmes follow recommendations of European or international professional organisations.

With regard to the programme objectives, learning outcomes, duration and organization of the teaching content, the **Integrated undergraduate and graduate university study of Medicine** is comparable with all other comparable study programmes in the Republic of Croatia (Faculties of Medicine in Zagreb, Split and Osijek) and other programmes within the European Union (Prague, Maribor, etc.). The programme is aligned with the requirements and recommendations of Directive 2005/36/ EC, has received a positive opinion of the Peer Mission of the European Commission in the field of health care, as well as of the MSES concerning its compliance with the provisions of the Directive given after thematic evaluation. This study programme lasts six years, contains 5860 hours of instruction (of which 5500 hours of medical subjects, and 360 hours of the so-called non-medical subjects that the European Commission did not allow us to include in the required subjects of the study of Medicine, and which include Medical English I-VI, Physical Education and Diploma thesis. Furthermore, it contains all the compulsory subjects required for training medical doctors, and the number of hours of practical training in it ensures the acquisition of clinical practical skills necessary for work in the profession. Upon completion of studies, doctors of medicine will have acquired the following knowledge and skills: a) adequate knowledge of the sciences on which medicine is based and a good understanding of scientific methods, including the principles of measuring biological functions, evaluation of scientifically established facts and data analysis; b) sufficient understanding of the structure, functions and behaviour of healthy and sick persons, as well as the relationship between the state of health and a person's physical and social environment; c) adequate knowledge of clinical disciplines and methods, which gives them a complete picture of mental and physical diseases, of medicine from the point of view of prophylaxis, diagnosis and therapy, and of human reproduction; d) adequate clinical experience in hospitals under appropriate supervision. All this ensures automatic recognition of qualifications in the EU.

The **Integrated undergraduate and graduate university study of Dental Medicine**: Training for doctors of dental medicine imparts the following knowledge and skills: a) adequate knowledge of the sciences on which dental medicine is based, and a good understanding of scientific methods, including the principles of biological functions and evaluation of scientifically established facts and data analysis; b) adequate knowledge of the anatomy, physiology and behaviour of healthy and sick persons, as well as the impact of natural and social environment on man's health to the extent that these factors affect dental medicine; c) sufficient understanding of the structure and function of the teeth, mouth, jaws and associated tissues, both healthy and diseased, and their relation to general health and physical and social well-being of the patient; d) adequate knowledge of clinical disciplines and methods that give dentists a clear picture of anomalies, injuries and diseases of the teeth, mouth, jaws and associated tissues, of the prevention, diagnosis and therapeutic dentistry; e) relevant experience under appropriate supervision. Graduate doctors of dental medicine are qualified for the activities involving prevention, diagnosis and treatment of anomalies and diseases of the teeth, mouth and associated tissues. The Integrated undergraduate and graduate study of Dental Medicine is fully compliant with the provisions of Directive 2005/36/ EC and, is well balanced, which ensures it graduates the possibility to act professionally at the international level on par with their counterparts in the European Union.

The **Undergraduate university study of Sanitary Engineering** and the **Graduate university study of Sanitary Engineering**: The International Federation of Environmental Health, (IFEH), is an umbrella organization that brings together professionals and experts in the field of environmental health, including sanitary engineers. This organization, based in the UK, prescribed and standardised the conditions and rules for standardisation of the profession. The studies for Sanitary Engineers offered at our Faculty are highly consistent, both in content and in the allotted time duration of studies, with similar studies at the international level. Although there are some differences in the name and the internal organization of the studies, their content, i.e., competences, is at a very high level, which was confirmed also by the IFEH upon review of our study programmes. Therefore, the competencies of professionals who graduate from these studies correspond to the studies of the same kind offered internationally, including the US, the UK, Germany and so on, to mention but a few. We point out that, together with the Croatian Chamber of Health Professionals and the Croatian Association of Sanitary Engineers, we are launching the initiative

for inclusion of the profession of sanitary engineers on the European list of regulated professions, which would further improve the international competence of our graduates.

Professional studies: The programmes of the Professional studies of Nursing and Midwifery follow the recommendations of the EU Directive 2005/36/EC, which prescribes in detail the minimum qualification requirements for the education of nurses and midwives, stipulating that education should take at least three years or 4,600 hours of theoretical and clinical training, that lectures should amount to 1/3 of the total duration of the study programme and clinical practice to half the total duration of it. The Directive also prescribes the mandatory content that the educational programme for nurses and midwives should include. Bachelors of nursing and midwifery upon completion of the study programme will be able to organize health care of patients in all forms of organization of the health system. Thus, these two programmes are fully compliant with related studies in the EU.

The exit competencies of professionals who graduate from the Professional studies of Physiotherapy, Medical Laboratory Diagnostics and Radiological Technology are the result of consultations with professional chambers and are in compliance with the Law on Physiotherapeutic Activity and the Law on Activities in Health Care. Moreover, the professional chambers were also consulted in the creation of the programme.

As a candidate for membership in the EU, the Republic of Croatia met the requirements for and became a member of several European umbrella and international organizations, such as the International Council of Nurses (ICN), the European Council of Nursing Regulators (FEPI) and the European Federation of Nurses Associations (EFN). Therefore, the exit competencies of our University graduate study of Nursing - Mental Health Promotion and Care were defined in cooperation with the Croatian Nursing Council and the Croatian Nurses Association, who helped us to harmonise our programme and learning outcomes with the needs of profession. In fact, all these associations advocate the necessity of higher education of nurses, are based on Directive 2005/36/EC.

European and world standards of education in the field of Physiotherapy emphasize the need of education of physiotherapists at both undergraduate and graduate levels. When creating the programme, or learning outcomes and the exit competencies of the University graduate study of Physiotherapy, we worked closely with the Croatian Chamber of Physiotherapists and the Croatian Council of Physiotherapists, so that ultimately the exit competencies are aligned with the competencies related studies in the EU.

Postgraduate university studies: The programmes of Postgraduate university doctoral studies of Biomedicine, and Health and Environmental Engineering are mainly in line with the basic standards for doctoral education set by the Organisation for PhD Education in Biomedicine and Health Sciences in the European System (ORPHEUS), the Association of Medical Schools in Europe (AMSE) and the World Federation for Medical Education (WFME), which refer to a strong research environment, equipment and facilities that enable completion of doctoral studies and strict observance of ethical principles, including the approval of the Ethics Committee to conduct research. Compared with other European and world universities, our doctoral studies have excessive workload, too many courses, continuous monitoring of doctoral students is not adequately elaborated, and successful completion of studies is unsatisfactory, all of which were the reasons for initiating the reform of these studies and formation of the Doctoral School of Biomedicine and Health at the University of Rijeka Faculty of Medicine which is currently in the process of accreditation.

Postgraduate specialist studies: The programmes of all our postgraduate specialist studies are based on the highest professional and scientific achievements. The high quality of the studies, in addition to their optimal programme structure, has been achieved by selection of our best teachers and teachers from other universities. This has resulted in educational competitiveness in attracting a growing number of external students, residents of hospitals that are not the teaching bases of the University of Rijeka Faculty of Medicine. In Europe and in the world, there are different programmes of specialization, including postgraduate specialist studies, but according to the expected general and specific learning outcomes there are no major differences among them. Teaching bases of our Faculty (clinics) follow the recommendations of relevant European bodies and organizations that are trying to harmonize medical principles in the EU, which is what our teachers pass on to students.

c7) Describe your process of monitoring and improving the study programmes, their adaptation to new research. Specify possible changes to the originally accepted Bologna study programmes. Describe the purpose of these changes and the decision making process.

The originally accepted Bologna study programmes (Integrated undergraduate and graduate university study of Medicine, Integrated undergraduate and graduate university study of Dental Medicine, Undergraduate professional study of Nursing, Undergraduate professional study of Midwifery) have undergone important changes since they were issued respective licenses (in 2005). These changes were conditioned by request of the MSES of 25 January 2010 to amend the study programmes in the field of regulated professions (doctors of medicine, doctors of dental medicine, bachelors of nursing and midwifery) within the framework of adjustment of Croatian legislation with the *acquis communautaire* in the process of its accession to the European Union. We had to adjust the amendments to all study programmes with the Act on Regulated Professions and Recognition of Foreign Professional Qualifications (OG 124/09, Art. 26-30), which includes the main provisions of Directive 2005/36/EC of the European Parliament and the Council of 7 September 2005 concerning mutual recognition of professional qualifications, and with the recommendations of the Peer Mission of the European Union (which visited the Republic of Croatia between 7 and 10 July 2008). The proposed amendments were approved by the Faculty Council and then referred to the University of Rijeka for accreditation by the Commission for Accreditation of Study Programmes and the Expert Council of the Centre for Studies of the University of Rijeka, and final approval of the Senate. In this complex and long procedure, coordination between all studies and mediation with the European Commission were carried out through three relevant ministries (Ministry of Science, Education and Sports, Ministry of Health and Social Welfare, Ministry of Foreign Affairs and European Integration). The new programme of Midwifery was created with participation of Finnish experts who were visiting Croatia within the IPA project of the Ministry of Health and Social Welfare, of which we were active participants and within which the new programme was created. The European Commission gave its comments on the content of study programmes in two official reports (of 19/01/2011 and 15/04/2011), after which we had to further modify the programme.

The revised study programmes were submitted for assessment to the EU Peer Mission for assessment of the situation in the five regulated professions in the health care sector, which stayed in Croatia from 11-15/06/2012. Members of the Peer Mission in charge of the programmes of our Faculty officially visited the Faculty of Medicine in Rijeka on 14/06/2012 and gave us their very favourable opinion. We had to start delivering the study programmes in the field of regulated professions before Croatia's accession to the EU. In addition, with regard to the study of Nursing, the MSES Accreditation Council adopted on 24 September 2012 the decision referring to evaluation, methodology and reviewers for the programmes of the Professional study of Nursing, for which a working group was formed, made up of representatives of all HEI that perform undergraduate degree programmes in nursing. The working group made a joint study programme of nursing according to all legal regulations and the guidelines of the Directive.

The Agency for Science and Higher Education (ASHE) carried out in 2012 thematic evaluation of all study programmes in the field of five regulated professions so, on the basis of this evaluation and our observations, the MSES issued positive opinion for all the study programmes of **Medicine** (on 1/09/2014 Class: 602-04/14-13/00017; Reg. no.: 533-20-14-0004); **Dental Medicine** (on 1/09/2014 Class: 602-04/14-13/00019; Reg. no.: 533-20-14-0004); **Midwifery** (on 1/09/2014 Class: 602-04/14-13/00020; Reg. no.: 533-20-14-0004); **Nursing** (on 22/4/2014 Class: 604-04/14-13/00012; Reg. no.: 533-20-14-0003).

The undergraduate and graduate study programmes of **Sanitary Engineering** have continuously been evaluated and adapted to professional standards in the practice and the positive legislation in that area. This is particularly evident in the newly established doctoral study, the primary duty of which is to educate students of this profile in light of the latest scientific and professional knowledge, and adaptation to the latest research requirements.

Minor structural changes (at the level of 3-5%) have been made in the originally accepted study programmes to facilitate the learning of content of the course on General and Anorganic Chemistry, so that this course was divided into two new courses - General Chemistry and Anorganic Chemistry. Also, for the same reasons, changes were made in the course on Molecular Medicine and Biotechnology, which was divided into Molecular Medicine and Biotechnology I, and Molecular Medicine and Biotechnology II. Furthermore, the status of some courses was changed - that of Sanitary Hydraulic Engineering from elective to compulsory, and of Town and Country Planning from compulsory to elective - and a new course

was introduced - Water Management. Due to the evolving needs for adjustment to the profession and use of advanced information technologies, which students apply in their work, the new course on Advanced Computer Application was introduced as well. The decision to change the original study programme was supported by the Faculty of Medicine Council and the University of Rijeka Senate.

Postgraduate university (doctoral) programmes are continuously monitored by study coordinators and the Postgraduate Studies Office, the Commission for Postgraduate Studies, and the Vice Dean for Postgraduate Education and Doctoral Studies. All changes within individual courses, which are initiated by the course coordinator, and introduction of new courses are examined by the Faculty Council of the Faculty of Medicine and the University of Rijeka Senate. In the originally accepted Bologna programmes made minor changes were made in the compulsory courses, but without reducing the teaching load. After the 2010 international evaluation by a commission composed of Prof. Dr. Matthias Reddehase of the University Medical Centre of the Johannes Gutenberg University in Mainz, Germany; Prof. Dr. Mathias Mueller of the Veterinary University of Vienna, Austria; and prof. dr. Mary Sopta of the Ruđer Bošković Institute, Zagreb, which established certain shortcomings in the studies, we launched a reform in the proposal of the Doctoral School of Biomedicine and Health, the programme of which combines three courses of study (Biomedicine, Health and Environmental Engineering, and Public Health) to improve their interdisciplinarity and multidisciplinarity, harmonize the criteria for candidate selection and monitoring of their work, and improve the use of teaching resources. The reformed curriculum has received mainly positive reviews and is currently undergoing some minor improvements and pending accreditation.

Any changes to the existing programmes of **postgraduate specialist studies** or formation of new studies, as well as the delivery of courses and the monitoring of the results of the teaching process, are controlled by the **Commission for Postgraduate Studies and Lifelong Learning**, and the Office for Postgraduate Studies of the University of Rijeka Faculty of Medicine. The direct organization of teaching is the responsibility of the coordinator of specialist postgraduate studies. Changes to the programme are normally made on the proposal of the coordinator of studies, who also refers the draft changes to the Commission for Postgraduate Studies and Lifelong Learning, which in turn refers them for approval to the Faculty Council. Subsequently, amendments to the programme undergo an accreditation procedure at the University of Rijeka and the relevant Ministry. So far, the course of postgraduate specialist studies that have undergone some changes is that on Family Medicine, and some course in Orthopaedics are currently being reviewed. The changes made in the study programme of Family Medicine include reduction in the number of hours of the study programme, changes in teaching methods in some subjects, change of the title of some subject without changing its content, change of the course coordinator, introduction of new generic subjects, and adjusting the number of ECTS credits according to the student load in certain subjects.

All these, as well as other study programmes, undergo periodic amendments mainly include the introduction of new elective courses (to introduce in the programme the latest knowledge in a particular profession), change the ratio of the number of hours of theoretical and practical training (thus attempting to adapt the form of teaching to the expected learning outcomes of a course), and sometimes even change the number of ECTS credits, change the list of obligatory literature, or change the course coordinator for some justifiable reason. The approval procedure depends on the volume of the change, and the level of decision-making is prescribed by the University Instruction for amendments to study programmes (for some changes, it is the Faculty Council of the University constituent, and for some the Expert Council of the Centre for Studies and the University Senate).

c8) Assess the justifiability of or reasons for offering the postgraduate specialist studies in your institution (if any).

Professional studies have been offered at the Faculty of Medicine in Rijeka for over 30 years. Over the past years, great changes have taken place in the training of these medical professions and, as recommended by the EU, a strong need for further education of secondary-school medical staff was felt. One of the most important recommendations of the WHO was to achieve goal of 18 – Development of human resources in health care: by 2010, all Member States had to ensure that all health workers in the health system have the necessary knowledge and skills to preserve and improve health.

As the emphasis was laid on systematic education of all health professionals, the Munich Declaration/WHO 2000 set the guidelines for training of nurses. According to the recommendations and standards of the WHO and the EU, professional and trained nurses are needed at all levels of health care. Accordingly, the Croatian health care system needs nurses who will have the elementary knowledge and skills of health care, but also highly trained nurses for the field of management and leadership, and education. At present, there are about 24,000 nurses with secondary school in Croatia who should be additionally trained according to the EU recommendations. This is the reason why, in addition to regular professional studies of Nursing, we have also introduced this programme as a part-time study. Moreover, the strong need for further training of nurses has prompted many universities and polytechnics in Croatia to open a professional study of Nursing.

The study of Physiotherapy is essential to ensure improved quality of life, reduce disparities in the health care system, and access to adequate health care. The current ratio of one senior physiotherapist per 3094 inhabitants in Croatia is significantly higher than in other EU countries, where the ratio ranges between 1: 350 in Austria and 1: 1404 in Slovenia. Physiotherapy is practiced nowadays in almost all clinical areas and is the leading activity in rehabilitation institutions.

The Professional study of Radiological Technology was launched with the aim to educate professionals who are essential to the functioning of radiology, nuclear medicine and radiotherapy in hospitals and outpatient institutions. In recent years, the need for this staff has also been expressed and invasive cardiology. The explosive development of diagnostic technology requires qualified staff who will operate devices of enormous material values, while protecting patients and professional staff from unnecessary exposure to ionizing radiation. European study programmes of the same content and purpose last on average three or four years in which, due to the mandatory one-year postgraduate professional practice, our study is comparable by its student load to the four-year studies of other countries.

Development of medical laboratory diagnostics is an essential segment of modern medicine. Medical Laboratory Diagnostics is a medical, scientific field related to the operation of clinical laboratories for the purpose of diagnosis, treatment and prevention of disease. It is based on the principles of cell and molecular biology that allow understanding of normal and pathological functions of the human body, and is a starting point for setting the simplest or the most complex diagnoses. It requires continuous professional and scientific training in order to apply new knowledge and technology. The Professional study of Medical Laboratory Diagnostics enables acquisition of knowledge and skills in accordance with the requirements of modern clinical studies applicable to the preservation and improvement of human health. The study is multidisciplinary, and the acquired knowledge and skills enable students to understand the pathophysiology of diseases, individual technologies applied in the diagnosis, treatment and monitoring of patients, thus making them associates of the medical team in clinical and scientific activities. A description of the scope of work shows how vast is the area covered by laboratory diagnostics: specialists of this profile are qualified to work on complex analytical procedures in medical laboratory diagnostics and analytics, independently perform complex searches in the field of clinical chemistry, laboratory haematology, bacteriology, parasitology, virology, mycology, immunology, histology, cytology, transfusion, and experimental and nuclear medicine. The need for education of students in a study in which they can acquire knowledge in the field of medical laboratory diagnostics is extremely objective, as its graduates provide the workflow of laboratory services in health and scientific institutions of the Republic of Croatia.

The great advancement of perinatal medicine, and introduction of many new diagnostic and therapeutic procedures created the need to train midwives at the tertiary level. Also, high technical standards were introduced also in the process of treatment and health care of patients and, as a kind of counterbalance, a movement focused on health and its improvement, prompted by the World Health Organization, developed in recent decades. The key characteristics of the project Health for All by 2010 are promotion and preservation of health through knowledge, free will and responsibility, and ensuring the quality of life in health and disease (WHO - European Health 21 - WHO Regional Committee for Europe, Copenhagen, 1998). Given the fact that no institution in Croatia offered a programme for training of midwives at a higher level, although the need for such staff was evident, the Faculty Management and the Faculty Council initiated in 2006 the process of obtaining accreditation for the part-time professional study of Midwifery. The licence was obtained in March 2008, after which we enrolled the first generation in the

study organized as a part-time professional study of Midwifery. As of the academic year 2014-2015, the study is offered also as a full-time study.

The growing need for education of the above-mentioned health professions at all levels, as well as the need to develop new undergraduate professional studies, led to a decision to establish the Faculty of Health Studies which will deliver such studies.

Programmes of **postgraduate specialist studies** are normally mandatory parts of some clinical specialisations, upon completion of which students are entitled to take the specialist certification exam, or complete their specialisation, and get employment in professional jobs in the local community but also the whole of the Republic of Croatia. For this reason, this study offered by our Faculty of Medicine is fully justified. Establishment of new postgraduate studies also corresponds to the growing needs of our clinic to ensure the conditions for implementing the overall programme of specialisations and thus attract residents to our region.

d) Specify the methods of checking the class attendance and your opinion about them.

The University of Rijeka Regulations on Studies of 2008 and the subsequent Amendments to the Regulations of 2011, 2012, 2013 and 2014 define, among other things, the obligations of students of the Faculty of Medicine in Rijeka in terms of class attendance. Article 38 (Examination) states that only students who have fulfilled all the requirements prescribed by the study programme can take the relevant exam. Article 5 paragraph 13 of the Regulations on Grading of the Faculty of Medicine in Rijeka (Decision of the Faculty Council of 15/09/2009) stipulates the obligations of students in relation to absence from classes (Students absent from more than 30% of all forms of teaching - lectures, seminars or exercises - shall be considered not to have fulfilled their obligations under the programme of study). Verification of attendance is made by compulsory roll-calls of students in seminars and exercises, and in most cases also in lectures, and each absence must be justified and, depending on the course, a makeup class or exam taken. Activity in class and demonstrated knowledge in seminars and practical courses are in most cases evaluated and grade points awarded. The student have to collect a certain number of grade points (30 in undergraduate and 40 in graduate studies) in class in order to be entitled to take the final exam. Such a system of student motivation for class attendance has proved to be very effective and useful, because in such forms of teaching the students are actively involved in the teaching process and have to actively participate in discussions and practical exercises, which certainly contributes to better acquisition of knowledge and skills in a particular course.

Links to the Regulations on Studies :

http://www.uniri.hr/files/staticki_dio/propisi_i_dokumenti/Pravilnik_o_studies_-_procisceni_tekst.pdf;
http://www.uniri.hr/files/staticki_dio/propisi_i_dokumenti/Pravilnik%20o%20izmjenama%20i%20dopunama%20Pravilnika%20o%20studies_%20Sveucilista%20u%20Rijeci.pdf;

Link to the Regulations on Grading of the Faculty of Medicine in Rijeka:

<http://www.medri.uniri.hr/dokumenti/assets/Pravilnik%20o%20ocjenjivanju%20studentata.pdf>

Our study programmes are delivered in trimesters (three blocks of classes, in each of which two to four courses are taught concurrently), blocks (in the last three years of the study of Medicine, when two or three, primarily clinical, courses are taught concurrently), or one-course blocks (the study of Dental Medicine). Such "concentrated" forms of instruction have multiple benefits, one of the most important being the commitment to learning one or a small number of courses. However, the main drawback, in our view, is to do with justification of student absences which, even in brief illness, may exceed the 30% of permitted absences because the classes are held in shorter time periods. Based on the written request of the student and the justification for the absence, such problems are resolved by the Dean for Academic Affairs. In the event of justified absence (longer hospitalization, participation in sports competitions in a top athlete status, etc.) we try to find a solution to make up for such absence, but if no solution is viable, the student must re-register for the same course in the next academic year.

e) Describe and assess teaching methods, implementation of practical and field classes. In particular, reflect on problems and possible improvements.

All our study programmes are implemented in all forms of teaching: lectures, seminars, exercises, and only in some study programmes also field work.

Great attention is paid to all forms of teaching, and in particular to encourage the development of practical forms of teaching. Students in most of our study programmes need to adopt practical skills of their profession, so that we have been working hard to increase the capacity and equipment of our skills lab in which clinical skills and competencies are adopted on simulation models. It was the announcement of the abolition of internship after completion of the study of **Medicine** that created the need to develop such teaching methods and make greater investment in equipping the skills lab. Of course, practical teaching in clinical courses is primarily conducted with patients in clinical departments; we have introduced clinical rotations (or "duty students") of students at the Emergency Ward of the Clinical Hospital Centre in order to enable them to work with experienced medical specialists and all other members of the team, and thus gain confidence in working with patients, especially those life threatened.

The study of **Dental Medicine** is also delivered through all forms of instruction - lectures, seminars, laboratory and fieldwork. The aim is to increase the number of workstations for the implementation of practical and field instruction in teaching bases. Students are given the opportunity to visit factories of dental materials and equipment under the guidance of teachers and assistants in the study of Dental Medicine. Moreover, once a year they are taken to a fair of dental medicine. Thanks to cooperation with private surgeries, students are also introduced to new, cutting edge technology. In the last 5 years, new forms of teaching as well as e-courses have been introduced. Classrooms have Internet access so students can view the recorded course materials from other universities. Part of the course units are presented in the form of a video.

In the study of **Sanitary Engineering**, field work is carried out in the food industry plants (production of dairy, meat or fish products, olive oil, pasta, bakery products, beer) or in the facilities of collective nutrition (student canteens, hotel or hospital kitchens). On the basis of precise instructions and division of tasks, students are organized into groups (three to four members) and collect fieldwork information through direct conversations with employees in plants and observation of the production process. They present the results of fieldwork in oral reports in the final seminar. Fieldwork in food industry plants or in facilities of collective nutrition allows students to learn standard techniques, procedures and equipment used in the production and distribution of food, gain experience in the supervision of the production process, and gain experience in applying the principles of good hygiene and good manufacturing practice.

Classes in the **professional studies** are held in all forms: lectures, seminars, exercises, and field work. Great attention is paid to practical training, especially in studies that generate regulated professions (Nursing and Midwifery), where students are divided into small groups so that everyone has a chance to practice the skills of the intended curriculum. Clinical practice is given at the CHC Rijeka with hospitalised patients, or in laboratories and at the Clinic for Radiology. We are currently working on equipping the skills lab for health care, needed for the professional study of Nursing, and the Physiotherapy and Biomechanics cabinets, where students will have the opportunity to acquaint themselves with the latest advancements in their profession.

Classes in the **graduate university studies** are also conducted through lectures, seminars and exercises. The goal of the programme is to enable graduate students to be independent in research and in making conclusions. Classes are based on the principle of problem-based learning, which is given great attention.

Classes in **postgraduate specialist studies** are given as part of the programme of specialisation, so that modern knowledge and skills acquired in the study represent an indivisible whole with the system of acquiring knowledge and skills during the programme specialisation of medical doctors.

Generally speaking, adequate enrolment policy makes it possible to organise all study courses in groups, which provides for optimal work with students. The size of study groups for lectures, seminars and exercises is tailored to the specific requirements of each and the form of exercises (laboratory, clinical, surgical) in order to achieve the optimum student-teacher/assistant ratios and ensure a better quality of the teaching process. Students have had no major objections to the size of the study groups. Considering that, in line with the Regulations on study (2008), students' presence and activity in all forms of teaching is

evaluated, it is important to maintain the optimum size of training groups in order to apply fully and properly the ECTS credit system.

f) Describe and assess the quality of teaching in workplaces outside your institution (workshops, farms, internship and other). Explain the system of monitoring internship implementation. In particular, reflect on problems and possible improvements.

In the **Integrated undergraduate and graduate study of Medicine**, preclinical courses take place on the premises of the main building of the Faculty of Medicine and in our teaching bases: the Clinical Hospital Centre (CHC) Rijeka, the Health Centre of the Primorsko-Goranska County, the Teaching Institute for Public Health of the Primorsko-Goranska County, the Orthopaedic Clinic Lovran, the Special Hospital for the Rehabilitation of Heart, Lungs and Rheumatism Thalassotherapia in Opatija, the Institute of Emergency Medicine of the Primorsko-Goranska County, the Polyclinic Medico, and the Psychiatric Hospital Rab. The teaching bases are used exclusively for teaching clinical subjects and students acquire practical competences of their study programme through work with patients. Moreover, in our largest teaching base, the CHC Rijeka, in its Emergency Wards students learn also through "clinical rotations" or "duty students" as part of the curriculum for the courses Emergencies in Medicine I and Emergencies in Medicine II. As well, teaching of first aid is carried out in the skills lab, in which also the course on Simulation of Clinical Skills (in the sixth year of the study of Medicine by the new programme) is to be delivered. Some clinical departments have their own simulation models for training, but our goal is to better equip a common clinical skills lab which would give students the opportunity to practice certain procedures, especially those that cannot be performed on patients.

The courses of the **Integrated undergraduate and graduate study of Dental Medicine** are held to a lesser degree in preschool facilities and primary schools of the City of Rijeka, the Health Centre Rijeka, in Rident private clinic and some other private surgeries with which a cooperation agreement has been signed. This form of teaching is always delivered in the presence of an assistant or short-term contract assistant. This kind of teaching requires permission of the owner of the institution, written parental consent, and special preparation of students. All participants in these activities showed a great desire for further cooperation and we believe that this form of teaching should continue and the number of contracting workstations extended.

Professional studies: Clinical or professional practice is part of the programme of the professional studies of Nursing, Physiotherapy, Medical Laboratory Diagnostics, and Radiological Technology. It is performed in the Clinical Hospital Centre during the academic year or at the end of the academic year, depending on the study. Students are divided into small groups (three to five students per group), each group of students has their mentor who controls and monitors the work of individual students. For the duration of the work placement students are required to keep a diary of practice, which is at the end examined by the mentor who approves the completed practice with his signature. The problem of professional practice is that students are periodically unattended and left to themselves, so they do not have full benefit of such work. Therefore, more attention should be paid to their monitoring and on giving students independent tasks to allow them greater autonomy within the legal framework.

We emphasize that all our teaching bases and institutions outside our Faculty in which part of the teaching content is delivered provide a satisfactory level of quality (in terms of spatial and human resources), which contributes to the amelioration of teaching and gives students a more complete picture of the health system and its organization. It is particularly important to note that most students learn through practical teaching, and getting an insight into all segments of work with patients in different institutions definitely contributes in this. Naturally, there is always room for improvement and desire to expand the spatial capacity. We have partly achieved this goal by having a new building allocated to the Faculty of Health Studies, and will be able to fully realise it after construction of a new building for our Faculty within the University Campus, close to the current hospital complex and the envisaged new university hospital building.

g) Assess the availability and quality of the content of your study programmes offered online.

Before the start of an academic year, after coordination of the timetables of all study programmes at the meeting of Year Councils (held in May), the following information is put on the Faculty's website (under "Studies": <http://www.medri.uniri.hr/studies/index.htm>): curricula for the next academic year, timetables of classes and exam dates for the entire year, timetables of elective courses, a list of mentors for

certain studies, and detailed implementing plans (DINP) for each course in the study programme that include: data on the course (a short description of the course, general information, where and in what form classes are organised, the required accessories, instructions for attending and preparing for classes, student requirements, etc.); a list of compulsory and elective exam literature; the curriculum: a list of lectures, seminars and exercises (with titles, explanations and learning outcomes); obligations of students; exam (form of exams, description of written/oral/practical exams, scoring, grading criteria); dates of tests in classes; possibility or instruction in a foreign language; other notes (related to the course) important for students; as well as the timetable of classes.

Furthermore, each department has its own website (under "Structure", e.g., <http://www.medri.uniri.hr/katedre/Fiziologija/index.htm>) which provides information directly related to the work and teaching at the department (a list of courses by study, a list of teachers and associates with their e-mail addresses for communication with students), as well as a place where important news related to courses held at the Department can be advertised (distribution of students by groups, detailed instructions on the course, notification about the timetable of elective courses, exam schedules for all students, exam results). Results of partial or final exams can also be found on the website of the department, and students have the possibility of writing their comments on the implementation of the exam or on the exam results.

Announcements of exam dates are made through the national Information System of Higher Education Institutions (InSVU system), although the programme that we used previously (the Studis programme) is still in use for full-time students in their final year of the study of Medicine for repeaters of lower years. All exam dates are agreed at meetings of the Year Councils of each study, attended by course coordinators for the respective year of study and student representatives, and are finally approved by the Vice Dean for the study programme. The exam dates are entered in the computer systems at the start of the academic year so that students could plan their exams in the best possible way. Students access these IT programmes with a password.

Moreover, some departments have links to lectures and teaching texts required for exam preparation. The course content should be displayed on the website and/or share portals, especially for those courses for which there is no prescribed literature in printed form or none that fits the programme of study. Teachers and coordinators of individual courses are stimulated to present their authorized texts/lectures (of the course content approved by the Commission for Education, Commission for Publishing and the Faculty Council) on websites, but we still have not achieved a satisfactory level of response to such requests.

Some departments also have their internal portals (e.g., the Share-portal of the Department of Physiology and Immunology) which students can access with a password while they are registered for a given course and thus view the course content and communicate with teachers, which proved to be extremely useful and well received by students. There are other ways of interactive communication between teachers and students (either by email or through the MudRi system).

h) Comment on all study programmes offered in your institution and present possible plans for amendments in the near future, giving your reasons for them.

The study programmes that we offer can be divided into university (integrated, undergraduate, graduate, postgraduate university and postgraduate specialist), and professional (undergraduate professional). In the last five years, the need was felt to develop new graduate studies which will provide continuing education to professional bachelors who have completed our undergraduate professional studies, which is in line with European standards (especially in the field of regulated professions) and the Strategy of the University of Rijeka. This, in turn, has created the need to find new spatial solutions and ultimately resulted in the decision of the Faculty Council to separate the professional study programmes into a new constituent of the University of Rijeka - the Faculty of Health Studies (for which the MSES issued the license on 10/01/2014, Class 602-04 / 14-04 / 1; Reg. No. 533-20-140003-1). This new HEI will be offering all professional study programmes (which have so far been offered at the Faculty of Medicine), but also all graduate university studies, which represent a higher level of education for all health professions of the existing professional studies (Graduate university studies of Physiotherapy, Nursing - Mental Health Promotion and Care, and Medical Laboratory Diagnostics). The process of separating these study programmes and organizing the implementation of all segments within the Faculty of Health Studies is currently under way.

In future, the Faculty of Medicine in Rijeka will be offering all integrated study programmes (the Integrated undergraduate and graduate university study of Medicine, Integrated undergraduate and graduate university study of Dental Medicine), undergraduate and graduate studies for students of Sanitary Engineering (the Undergraduate university study of Sanitary engineering, the Graduate university study of Sanitary Engineering), as well as all the studies that are a continuation of the university study programmes (Postgraduate university study of Biomedicine, Postgraduate university study of Health and Environmental Engineering, as well as all postgraduate specialist studies). The current teaching staff of the Faculty of Medicine is sufficient to ensure smooth running of all study programmes at the new Faculty of Health Studies during this period of transition, namely, separation of the two HEI. In the near future, however, the plan is for the newly established Faculty to ensure its research-teaching staff from the ranks of professional masters who will finish the above-cited graduate studies.

Such process of gradual staffing independence of the Faculty of Health Studies in the near future and will also provide the Faculty of Medicine with better conditions for raising the quality of teaching in all university studies which it will continue to offer (better quality work in smaller teaching groups, mentoring approach, etc.) or enable it to increase the enrolment capacity of the existing study programmes for occupations in short supply (primarily Medicine and Dental Medicine) and develop new study programmes (e.g. the study of Medicine in English) that will attract also foreign citizens and contribute to the internationalization of the Faculty. The existing study programmes offered at the Faculty of Medicine must continually undergo processes of improvement of the quality of programme implementation, and one of the most important goals is to fully align the learning outcomes in similar studies in the Republic of Croatia in accordance with the Croatian Qualifications Framework (harmonization of all four faculties of medicine is currently under way). Also, the new Faculty of Health Studies plans to revise the learning outcomes in the programmes of studies of Physiotherapy, Medical Laboratory Diagnostics and Radiological Technology and align them with the sixth level of the Croatian Qualifications Framework and the official taxonomy.

The study programme of Sanitary Engineering is aligned with the needs of the market, as evidenced by the high rate of employment. However, aware of the importance of health prevention and care in the darting changes in the environment in which we live, including the recent phenomenon of greenhouse gases, climate change, genetically modified foods, imminent epidemics of new pathogens, as well as of the new technological solutions offered by the growing industry the impact of which on human health yet has to be established, we are in a continuous process of re-evaluation of the existing programmes and introduction of new content in the study programmes.

Indicators that point to the poor state of oral health in the Republic of Croatia (pathological changes related to oral health are present in almost 95% of the population) prompted the introduction of a new undergraduate professional study of dental hygiene which would educate professionals with expertise in the planning, implementation and control of prevention programmes aimed at improving the state of oral health, which in turn would contribute to solving the problem of lack of highly trained professionals in dental medicine. Dental hygienists would conduct general and specific preventive programmes in local communities, kindergartens, schools, retirement homes and other institutions in the community. This study is planned to be introduced as of the academic year 2016-2017 at the Faculty of Health Studies.

Postgraduate university (doctoral) studies of "Biomedicine" and "Health and Environmental Engineering" will soon undergo significant changes in the programme, especially in terms of a clear definition of measurable criteria of excellence for selection of mentors, establishment of a system of education and monitoring of the work and success of mentors, the adjustments of the number of doctoral candidates to the real scientific research capacity of the institution, ensuring quality selection of doctoral candidates, ensuring objective and continuous monitoring of work on a doctoral thesis during studies, reduction of the course load and modernisation of teaching, which must be scientifically oriented. Furthermore, we plan to fully train students in generic skills, such as presentation of scientific work, critical review of scientific works, planning and writing projects, communication with other scientists, intellectual property protection, and entrepreneurship in medicine. The changes will also ensure the international character of the doctoral school, enable flexibility and interdisciplinarity in teaching, enhance the quality of doctoral work and establish a system of monitoring the careers of doctoral students after completion of studies. Reasons for initiating the significant changes in the study programme comprise insufficient compliance with similar programmes of higher education institutions in the region, particularly in the European Union, and the need for full implementation of the standards for doctoral education (ORPHEUS, AMSE, WFME) for which we aspire.

As regards the development of postgraduate specialist studies at the Faculty of Medicine, the programmes that do not have generic subjects must be amended due to increased need of modern doctors to possess general competencies. It is also necessary to re-evaluate the student workload in the study programmes in which the existing student workload does not match the ECTS credits assigned to a given course. Finally, postgraduate specialist study programmes, especially in the medical field, need constantly to be refreshed with new content and adapted to new knowledge and skills in this rapidly developing field. Furthermore, plans of our Faculty are focused on creation of new postgraduate specialist studies that will be an integral part of the programmes of specialization of medical doctors that are currently conducted at our clinics as teaching bases of the Faculty, in order to attract a growing number of young residents to our community. All this implies starting accreditation procedures for new study programmes in line with European standards, but also adjustment of the existing programmes in accordance with the requirements of modern educational trends in the field of biomedicine.

i) Specify lifelong learning programmes carried out at your institution and give a tabular presentation of the number of programmes with and without ECTS credits and their duration.

1. Programme for the acquisition of missing knowledge, skills and competencies for achieving an academic title

The programme makes it possible to fulfil the conditions necessary for acquiring the title of Professional Bachelor of Midwifery. It is intended for graduates of secondary midwifery school who subsequently acquired the title of Bachelor of Nursing. EU Directive 2005/36/EC demands that midwives be highly independent and the stipulated minimum level of education for them is the Bachelor of Midwifery. Given the requirements of the Directive and of the Law on Regulated Professions, it was necessary to run a programme that would allow additional training of midwives already working in that profession to enable them to obtain, in addition to the existing title of Bachelor of Nursing, also the title of Bachelor of Midwifery, since the study of Nursing does not provide enough knowledge and skills required by the EU Directive for the profession of midwifery. To meet the demands that are placed before this profession and enable midwives to gain a degree in midwifery, we decided to launch a differential programme that will provide midwives formal acquisition of knowledge and skills for the profession they perform. The programme is designed for bachelors of nursing graduates who work as midwives, a position which requires an appropriate degree.

2. Programme for the acquisition of missing knowledge, skills and competencies for enrolment in the University graduate study of Physiotherapy, Nursing and Midwifery

Graduate students of professional studies lack appropriate knowledge and skills primarily related to scientific research necessary for understanding and mastering the programme of a university graduate study. The knowledge and skills imparted include independent historical research, research by surveys or questionnaires, and meta-analyses/systematic review. In addition, this programme will teach participants the programmatic approach to health promotion, which is an essential skill in the workplace. Upon completion of this programme, students will fulfil the necessary conditions for admission to the university graduate studies of Physiotherapy, Nursing and Midwifery.

3. Other lifelong learning programmes (Supplement to Table 2.7.)

In the observed five years, our Faculty independently organized or participated in the organization of a total of 286 courses and other forms of lifelong learning. These include the forms of lifelong learning that have been implemented in full organization of organizational units of the Faculty of Medicine (institutes, clinical departments) or where the employees of the Faculty participated in their capacity as co-leaders or co-organizers. We wish to emphasize the good cooperation with the Croatian Medical Association - Rijeka branch, which, in collaboration with our staff, organized 79 professional lectures that were scored for continuing medical education of doctors. In addition to the said specialist level, we also organized programmes of lifelong learning of scientific nature, which are of great importance in the implementation of the programme of doctoral studies, since in this way students are able to earn ECTS credits in elective activities. The total number of registered participants of all forms of lifelong learning through five years amounts to almost 12,000, with the size of groups ranging from small groups of six participants to those of

over 300. In order to facilitate comparisons and a summary review, all programmes of lifelong learning were assigned a certain number of ECTS credits according to the criteria used for elective activities in the Doctoral studies of Biomedicine and of Health and Environmental Engineering. A total of 157 programmes were rated, offering the participants a total of 170 ECTS credits. Depending on their scope, duration and complexity, the programmes were assigned from 0.3 to 30 ECTS credits. Accreditation and scoring of the programmes at professional level was mainly conducted by the Croatian Medical Association - Rijeka branch, while the programmes of scientific character, which were evaluated as optional activities on the doctoral studies of Biomedicine and Health and Environmental Engineering, were assessed by the Commission for Postgraduate Studies and Continuing Medical Education of the University of Rijeka Faculty of Medicine. Of all organized courses, 31 were of the first category, four of the second, and one of the third category.

j) Explain the system of recognition of previously acquired competencies (informal and non-formal education). Explain the system for recognition of foreign higher education qualifications (academic recognition).

The University of Rijeka adopted the draft Ordinance on the recognition of non-formal and informal learning, but given that current legislation does not yet recognize this way of acquiring ECTS credits, the Ordinance has not yet been approved by the Senate, so that our Faculty has not yet been able to implement it.

The system of recognition of foreign higher education qualifications (academic recognition) is based on the provisions of the Law on Recognition of Foreign Qualifications (OG 158/03, 198/03, 124/09 and 45/11). The procedure applied by our Faculty is as follows: a student who wants to transfer to our Faculty from another HEI outside the Republic of Croatia, submits a request to the University of Rijeka (according to our Decision on transfer from other HEI, the deadline for submission of applications is 15 September) and encloses all the necessary documents related to the recognition of the period of studies for the purpose of continuing education in our equivalent studies. The Office for Academic Recognition of Foreign Higher Education Qualifications and Study Periods of the University of Rijeka carries out the verification process of the relevant foreign institution from and issues its decision, and then refers to us the entire documentation. The Vice Dean in charge of the respective study, with the help of the legal service of the Faculty, first checks whether the student meets the formal requirements of our Faculty (pursuant to the Decision on suspension and transfer of studies from other faculties), which, among other things, include ban on transfers in the first or the last year of studies, and fulfilment of the requirements for enrolment in the successive year at home institution. If these prerequisites are met, the process of recognition of the period of studies begins, which is carried out by comparing the study programme of the institution from which the student is coming (attached in the documentation) with our programme of study. If the objectives, content, learning outcomes and the total number of hours of instruction, as well as the number of ECTS assigned to the original courses are similar or the same as those of our courses, the Vice Dean recognises the exams passed. Furthermore, the student needs to register for and pass the exams in all courses that were not included in the curriculum of their original studies (differential requirements). Finally, a decision is issued, which may ultimately be positive or negative, depending on the number of requests for transfer in the same academic year, which is directly related to the capacity of the relevant study to recruit new students. The final decision is issued by the University of Rijeka.

Link to the Decision on suspension and transfer of studies from other faculties: <http://www.medri.uniri.hr/dokumenti/assets/Odluka%20o%20mirovanju%20studentskih%20obveza%20i%20prijelazu%20sa%20drugih%20visokih%20ucilista.pdf>.

Recognition of foreign professional qualifications and assessment of competences acquired in foreign educational programmes is the responsibility of competent chambers (Croatian Medical Chamber, Croatian Dental Chamber, Croatian Chamber of Health Professionals). Thus, on 12 December 2013, at the Croatian Chamber of Health Professionals - Council of Professional Department for Sanitary Engineering, the Commission for Recognition of Foreign Professional Qualifications was formed, the task of which is to establish a system of assessment and verification of competencies acquired within foreign educational programmes, and their comparison with the programmes of the three studies in the field of sanitary engineering offered at our Faculty of Medicine.

k) Specify and describe formal mechanisms for approval, review and monitoring of your programmes and qualifications.

The procedure of application for and approval of a study programme at the Faculty of Medicine is well defined and has the following steps. All relevant facts of and justification of the study programme should be described in detail in the appropriate official forms of the University of Rijeka (there are special forms for, respectfully, initial accreditation and for amendments to the programme). They should include: the reasons for the introduction or modification of the programme; assessment of the rationale with respect to the needs of the labour market in public and private sectors; comparability of the study programme with similar programmes of accredited HEI in the Republic of Croatia and the EU; openness of the study for horizontal and vertical mobility of students in national and international higher education; compliance with the mission and strategy of the University of Rijeka; connectedness with the institutional development strategy of study programmes (compliance with the mission and strategic goals of the institution); duration of the study programme (indicate whether there is a possibility of part-time study, study at a distance); requirements for admission to the study and the selection process (required educational level for enrolment in the study). The procedure of application is carried out by the Vice Dean in charge of the given study or the study coordinator.

Description of each course must comprise the following: the status of the course (compulsory or elective); ECTS credits; number of classes (and the forms of instruction); course objectives; conditions for enrolment; the expected learning outcomes for the course; course content; forms of teaching; student requirements; monitoring of students' performance; assessment and evaluation of students' work in classes and in the final exam; required literature (at the time of application for the programme of study); recommended reading (at the time of application for the programme of study); quality assurance methods that ensure acquisition of the output knowledge, skills and competencies. The course description is compiled and explained by the course coordinator and their future colleagues, and approved by the Vice Dean for the study or the study coordinator.

Next procedure comprises evaluation by competent commissions, and the study programme is presented to all members of the Faculty Council, who approve further steps. The overall programme, with accompanying documents (list of spatial and personnel conditions for delivery of the study programme, list and workload of teachers employed at the HEI involved in the delivery of the study programme, list and workload of external associates who participate in the implementation of the study programme, list and qualifications and collaborators from teaching, research and professional bases (workstations), the form of financial analysis of the HEI, the form of quality assurance and monitoring the performance of a study programme) is sent to the Commission for Accreditation of the University of Rijeka, which analyzes the personnel and spatial resources to be used to perform the new study programmes and then refers the programme to reviewers (three for initial accreditation, and one or two for lesser modifications). Upon reception of positive reviews, the programme is referred to the University of Rijeka Senate for approval. In addition, official forms of the Agency for Science and Higher Education (ASHE) should be completed, including the feasibility study for the proposed programme of study that describes in detail all the criteria specified in the document of the Network of higher education institutions and study programmes in Croatia.

Verification and monitoring of programmes and qualifications are provided by the mechanisms of the quality assurance system implemented by the Quality Assurance and Improvement Committee and the Office for Quality Assurance. In addition to the existing mechanisms, we are continuously working on devising new mechanisms for monitoring the quality (the Peer review system is currently being introduced).

l) If your institution has the possibility of self-accreditation of study programmes, explain the procedure and criteria applied when proposing new programmes.

The Faculty of Medicine in Rijeka does not have the possibility of self-accreditation of study programmes.

m) Specify to what extent you are satisfied with the current situation and propose possible improvements.

The Faculty of Medicine in Rijeka has a long tradition as a scientific and educational institution within the University of Rijeka, so that any changes related to its spatial and personnel resources, organization of teaching, amending the existing or introducing new study programmes, investment in scientific research and international recognisability are aimed at development of this institution as a centre of excellence, both in teaching and in research. In this endeavour, we naturally do encounter some problems, which are presented in some segments of the self-evaluation report, mainly related to the harmonisation of the social need to increase the enrolment quotas of the existing study programmes for professions in short supply (primarily studies of Medicine and Dental Medicine), to open new study programmes that provide all levels of instruction to specific health professions, and to train different types of experts in health care with the staff and spatial resources of our Faculty of Medicine and the new Faculty of Health Studies. We do not see the current spatial capacities as an important limiting factor for development (given that they have been significantly increased with the allocation of a whole new building to the newly established Faculty of Health Studies), but we do find that the current restrictions for opening new jobs are a major obstacle to the development of new study programmes and, in general, of the whole institution because the continuity of development is based on young, new and fresh staff.

As well, we must emphasize that we are very pleased to have received a favourable opinion of the MSES regarding compliance of all study programmes in the field of regulated professions (Medicine, Dental Medicine, Nursing, Midwifery) with the guidelines of the European Commission and European standards, and we have actively taken the initiative to have another of our university studies - Sanitary Engineering - listed among the regulated professions. Training of highly educated staff of this profession is of vital importance to all countries, developed and developing, because problems associated with sanitary engineering are almost equally present in all countries despite some specific differences. Although this programme of study is highly challenging, being based on the most recent professional knowledge and scientific achievements, the pass rates and the level of employment of our students are very high. This is a good motive to continue offering this study, and follow it through continuous self-evaluation and introduction of all necessary changes as needed. The study, which started in the academic year 1990-1991, has developed over the years through reinforcements at all levels, including recognition of its graduates in the labour market and the recent recognition of the Ministry of Health of the Republic of Croatia in 2013, whereby the graduates of this study, namely, masters of sanitary engineering, were included in the list of healthcare professionals. We are completely satisfied with the existing situation, the more so because at the moment we are the only HEI offering such study programme in the Republic of Croatia, and also because we have received a certificate of comparability of this study programme from the International Federation for Environmental Health (IFEH). Finally, we plan to improve international visibility of our graduates, holders of the titles of Master or Bachelor of Sanitary Engineering, and of our doctorands in Health and Environmental Engineering. Together with the Croatian Chamber of Health Professionals and the Croatian Association for Sanitary Engineering, we are launching the initiative for inclusion of the profession of sanitary engineers on the European list of regulated professions.

3. Students

Tables 3.1. to 3.3. (in the attached document)

a) Comment on the quality and structure of the students (Table 2.1) who applied and students who enrolled in undergraduate, graduate and integrated undergraduate and graduate study programmes, as well as in professional and specialist study programmes (if any). Based on your experience, comment on the consistency and adequacy of their prior knowledge.

The structure of applicants and enrolled students at Faculty of Medicine in Rijeka by study programmes during the past academic years (from 2010-2011 to 2014-2015) is shown in Table 2.1. The analysis included all academic years in which the new registration system based on the results achieved at the state graduation exam was applied for enrolment in the first year of studies (undergraduate, integrated and professional).

Information on the students' pass rates and success (expressed in the number of ECTS credits) in the first year of studies for students enrolled in the same academic years (from 2010-2011 onwards) is shown in Table 2.2.A.

The parameters of evaluation for enrolment in our **university** (undergraduate and integrated) study programmes are based on the results in high school (25%, or 250 points of the total 1000) and on those achieved in the state graduation exam (75%) in Biology, Chemistry, Physics (for the study of Medicine, Dental Medicine and Sanitary Engineering) and Mathematics (for the study of Sanitary Engineering). The basic prerequisite for application to our university studies is also taking Biology, Chemistry and Physics for at least two years during secondary school. For the study of Dental Medicine, applicants must also pass an additional test of manual dexterity (which is worth 15%). Through this selection procedure, in the current academic year we enrolled students who achieved a very high score in the final rankings (Medicine: 728.1-963.4; Dental Medicine: 704-807; Sanitary Engineering: 426.9-703.9), which indicates the quality of enrolled students who had achieved high results in the state graduation exam. As well, the set classification threshold (40%, or 400 points of the total 1000), below which no applicants are admitted, proved to be a good entry criterion. The results also show that in the last five years our university studies have enrolled mainly students who graduated from a grammar school (Medicine: 77.27-95.5%; Dental Medicine: 76.66-90%; Sanitary Engineering: 53.33 – 85.18%) and a minor part coming from vocational schools (Medicine: 4.48-22.72%; Dental Medicine 10 – 23.33%; Sanitary Engineering: 14.8-46.66%). Moreover, students who have completed grammar school had the highest GPA, excellent, (Medicine 4.52-4.62; Dental Medicine: 4.46 to 4.60) or second highest, very good, (Sanitary Engineering: 3.74 to 4.18), while students graduated from a vocational or other schools had a wider range of GPA (Medicine: 4.00-4.77; Dental Medicine: 3.64-4.97; Sanitary Engineering: 3.72 – 4.38). The relatively high or satisfactory pass rate in the first year of studies of all enrolled generation since the introduction of the state graduation exam as a mechanism of enrolment in higher education shows that the parameters of enrolment have been well designed and are a good selection criterion, because we enrolled in our university study programmes secondary school students with inclination for natural sciences and a high level of knowledge of scientific subjects. However, mastering the subjects in the first year of university studies that are demanding in scope and content still seems to be a challenge, as can be concluded from the somewhat lower pass grades in some university studies (Medicine 61.06%-81.20%; Dental Medicine 80-96.66%; Sanitary Engineering 70.37-83.33%) in comparison with professional studies.

The parameters of evaluation for admission to undergraduate **professional studies** are somewhat different and include: the GPA from secondary school (30-40%), the secondary school GPA in individual subjects (in Health Care for the study of Nursing and Midwifery - 20%; in Anatomy with Physiology for the study of Physiotherapy -10%), the grades achieved in the state graduation exam in compulsory subjects (0-10%: Croatian, Mathematics, foreign language) and in elective subjects (Biology, Chemistry or Physics). Taking the elective subject of Physics is mandatory for the study of Radiological Technology. Elective subjects are not mandatory for other professional studies, but if taken, the distribution of points awarded for them is done so that the one in which the best grade is achieved carries 20%, and the one with a lesser grade 10%. Prerequisites exist also for the study of Radiological Technology (taking Physics for at least two years in secondary school) and for all part-time studies (proof of employment in the position of nurse or lab technician and a minimum of one year service in the profession). The classification threshold of 40% has been set also for full-time professional studies, below which enrolment is not possible. Our data

show that in recent years professional studies generally enrolled mainly students from vocational schools, although in the last two or three years, a majority of students who enrolled in some professional studies (Radiological Technology or Medical Laboratory Diagnostics) were actually grammar school graduates. The GPA of secondary school students enrolled in the professional studies show a wide range (3.61-4.75 for full-time, and 3.19-4.47 for part-time students) and reflect various levels of prior knowledge (good to excellent) acquired in secondary school, and thus the quality of enrolled applicants. In the last four years, the pass rates in the first year of studies were as follows: 84.62-100% in Nursing, full-time study, and 93.33-100% in Nursing, part-time study in Rijeka; 80-93.75% in Physiotherapy; 80-93.75% in Medical Laboratory Diagnostics, full-time study, and 84.62-94.12% in Medical Laboratory Diagnostics, part-time study; 73.33-88.24% in Radiological Technology; and 86.66-100% in Midwifery. Overall results for professional studies show that the pass rates of the last four generations have been very high, ranging from 73.33 to 100%, indicating that prior knowledge is sufficient for successful completion of the study programmes.

The prerequisites for enrolment in the **graduate university studies** are as follows. For the Graduate university study of Sanitary Engineering, they include a minimum of 180 ECTS points earned in equivalent undergraduate university study (Bachelors of Sanitary Engineering) or another undergraduate university study at specifically designated related faculties or studies (Faculty of Food Technology and Biotechnology, Faculty of Science, Faculty of Chemical Engineering and Technology, Faculty of Food Technology, Undergraduate university study of Agroecology at the Faculty of Agriculture). The ranking is done on the basis of GPA achieved in the above-cited undergraduate studies.

For the Graduate university study of Nursing - Mental Health Promotion and Care, Graduate university study of Physiotherapy and Graduate university study of Medical Laboratory Diagnostics, similar prerequisites apply, so bachelors of appropriate undergraduate professional studies are eligible (bachelors of Nursing, Physiotherapy, or Medical Laboratory Diagnostics). Transfer from the appropriate professional study to the university study is contingent upon passing differential exams from an accredited programme of lifelong learning (Methodology of Writing Scientific and Professional Papers, Impact of Environmental Factors on Health, Resuscitation and Health Promotion). Candidates are ranked on the basis of: the GPA in the undergraduate professional study (0-25 points), the number of papers published in a journal or presented at a professional conference or meeting (0-25 points), the number of years of service in the position of a nurse, physiotherapist, or in activities of medical laboratory diagnostics (5-25 points). The undergraduate level GPA of students enrolled in graduate university studies are, respectively, 3.61-3.87 (Sanitary Engineering), 3.95-4.03 (Nursing - Mental Health Promotion and Care), 3.75-3.95 (Physiotherapy), and 3.70-3.93 (Medical Laboratory Diagnostics). The passing rate of the first year of graduate studies in the last five years (100%) shows that prior knowledge is more than sufficient for successful completion of the programme of graduate studies.

b) Comment on the pass rates data (Table 2.2.C.) during studies considering the enrolment quotas, students' motivation and organisation of courses.

Table 2.2.C. shows data by study programmes on the number of total ECTS credits earned by full-time students of the second Bologna generation, i.e., the number of students who graduated within the prescribed period of time, and the GPA of all enrolled students and graduates.

The Regulations on Studies applicable to generations who enrolled in our study programmes in the academic years 2006-2007 and 2007-2008 stipulate that students are entitled to enrol in the next year of studies if they have duly fulfilled all the requirements and passed all exams in their study programme by the deadline for registration. When repeating a year, students could register for certain courses in the higher year of study if they have earned at least 30 ECTS credits in the previous year. By decision of the Faculty Council, students were entitled to register for courses of the higher year that carry up to 40 ECTS credits in total. As of the academic year 2008-2009, new Regulations on Studies of the University of Rijeka apply. The Regulations introduced the ECTS credit system, which includes the obligation of continuous in-class assessment of the acquired knowledge and skills, which earns students up to 70% of the grade, and the final exam (which is mandatory), which carries up to 30% of the final grade. Also, a new system of grading according to undergraduate and graduate criteria was introduced and grading by percentage. Full-time students who have not earned the ECTS credits in courses they registered for in the academic

year have to re-register for these courses in the new academic year and, depending on the study programme, some other courses carrying to 60 ECTS credits in all (the allowed during studies being up to 5% of the minimum number of credits on the respective study programme).

The data for the six-year study of **Medicine** show that 64.96% of the students who enrolled 8 years ago have graduated, 60.31% of those who enrolled 7 years ago, and 52.94% of those who enrolled 6 years ago, with additional 11.02% who have earned more than 2/3 of the ECTS credits. The GPA of all Medicine graduates ranges from 4.124-4.352.

As regards the five-year study of **Dental Medicine** (the six-year programme enrolled the first generation only in 2010-2011), the data show that 86.66% of the students who enrolled 8 years ago have graduated; 83.33% of those who enrolled 7 years ago, 66.66%, of those who enrolled 6 years ago, and 33.33% of those who enrolled 5 years ago, with additional 42.42% who have earned more than 2/3 of the ECTS credits. The GPA of all Dental Medicine graduates ranges from 3.691-4.418.

The data for the three-year **Undergraduate university study of Sanitary Engineering** show that 81.25% of the students who enrolled 8 years ago have graduated; 62.5% of those who enrolled 7 years ago, 81.81% of those who enrolled 6 years ago, and 80% of those who enrolled 5 years ago, with additional 42.42% who have earned more than 2/3 of the ECTS credits. The GPA of all graduates of the Undergraduate university study of Sanitary Engineering ranges from 3.691-4.418. The pass rate of students of the two-year **Graduate university study of Sanitary Engineering** was 100% in the observed five year period (the GPA of the graduates ranging from 4.439-4.527).

The pass rates of the observed generations of students (who enrolled as of 2006-2007 on) in professional studies are as follows: **Medical Laboratory Diagnostics** - 56.25-86.66% (GPA 3.39-3.82); **Radiological Technology** - 81.25-84.61% (GPA 3.505-3.885); **Physiotherapy** - 78.04-100% (GPA 3.722-4.378); **Nursing** - 84.05-91.78% (GPA 3.78-3.95); **Midwifery** -84.21-100% (GPA 3.76-3.79).

In conclusion, the pass rates in some university study programmes are lower than expected, and the information on the number of students who do not complete the study within the prescribed period does not satisfy us. We are applying all available institutional mechanisms in order to increase them, taking care to maintain the quality system and evaluation criteria. By maintaining an optimal ratio between teachers and students, comprehensive work on the quality of the teaching process through the institutional quality assurance system, questioning the usefulness of introduction of new organizational units for teaching (trimesters, one-course blocks, clinical teaching blocks) or by enabling work in small groups of students, we continuously try to increase students' pass to a higher year of study. Moreover, we use the assessment system to encourage them to work continuously and also apply various forms of support to students during their study. However, we cannot yet say that we have achieved a satisfactory pass rates and a still significant number of students do not finish the study within the prescribed period.

c) Specify how you inform the potential students about your HEI and the study programmes that are offered (qualifications, competencies, possibilities of further education and employment) - information packages, web pages, brochures, leaflets, etc.

In the academic year 2013-2014, the University of Rijeka created the so-called online overview of the University on the link: <http://smotra.uniri.hr/>. Information packages for all study programmes Faculty of Medicine in Rijeka include the following information:

1. Details of the Faculty of Medicine in Rijeka: The details include a brief historical overview, an overview of the level of studies offered, vision and mission of the Faculty, the development objectives of the institution. Applicants are also referred to the Faculty's website (www.medri.uniri.hr), where also two short promotional films about the Faculty can be viewed: (www.uniri.hr/index.php?option=com_content&view=article&id=15&lang=hr) and (<https://www.youtube.com/watch?v=4bb-dq7yrNw&feature=youtu.be>)

2. Titles of study programmes and enrolments quotas

3. Data on the study programmes and data on the learning outcomes and employability: separate documents for each study are given in the annex

4. Information on the conditions of enrolment in a particular study programme: a separate document with enrolment criteria is given in the annex

5. Information about the possibilities of mobility of students and/or international activities related to the study programme: The information includes the possibility of cooperation with a number of other medical schools, such as the Faculty of Medicine of the University of Hyogo (Japan), School of Medicine at the Institute of Technology in Rochester (USA), medical schools in Sweden, France, Austria, Italy, Slovenia, Bosnia and Herzegovina, Macedonia, Montenegro, etc., as well as programmes through which students can achieve mobility, e.g., EU Erasmus programmes in the form of study visits or professional practice. Furthermore, applicants are referred to the website where such invitations for applications advertised: the website of the Faculty (www.medri.uniri.hr) and of the University of Rijeka (www.uniri.hr).

6. Information on a typical course in the study programme and obligations (information on a typical course in each study programme – course description and curriculum are given in the annex)

7. Information about the existence of student and other services at the University of Rijeka Faculty of Medicine: The information includes important student activities (related to humanitarian actions, tuition for younger colleagues and high school students, international exchange, activities of the Student Union, publication of the student magazine, organization of student congresses, etc.), as well as other student associations (with links) that operate at the Faculty:

- University Students Committee – www.foss.hr
- Student Union of the University of Rijeka Faculty of Medicine
- Croatian Medical Students' International Committee – www.cromsic.hr
- CroADS
- University Sports Committee

8. Details of some specific features of the Faculty of Medicine in Rijeka: The details include some important scientific activities carried out at the Faculty, as well as the importance of the Faculty in the development of science and introduction of new technology (monoclonal antibodies, targeted gene mutations, etc.), which together with the procurement of sophisticated equipment and quality work, has resulted in internationally acclaimed results and projects by several research groups. Special reference is made to strategically important projects, such as the project of development of translational medical research (TransMedRi), which aims to strengthen cooperation between basic and clinical research, and to achieve new breakthroughs in the development of the Faculty (link: <http://transmedri.uniri.hr/>).

9. The email address and phone number where interested parties can get answers to all questions:

All important information regarding enrolment in the Faculty of Medicine in Rijeka can be found on website www.medri.uniri.hr (under "Enrolment" - "Enrolment in the academic year 2014-2015"). Candidates are introduced to the type of information and notifications regarding enrolment that they should follow (e.g., the parameters of evaluation, enrolment quotas, the latest date for application for all studies, the deadline for applications for additional verification of knowledge, schedule of additional checks, and the deadline for sending the documents on work experience, an excerpt from the call for applications of the University of Rijeka with data related to enrolment in the Faculty of Medicine, the results of additional tests, a definitive list of enrolled students, the number of available places for the autumn period, etc.), as well as a link to the publication "Application for state graduation exams 2013-2014 and applications for the study programmes" (MSES, ASHE and NCEEE, CARNet), which contains all the necessary information on how to apply in the system "Become a Student". All phone numbers Service for Student Affairs of the Faculty of Medicine at which detailed information can be obtained are also listed.

10. Links to galleries of pictures, photos or illustrations: These are links to our websites with a photo gallery by which we want to familiarise our future students with the premises and employees of our Faculty.

d) Give reasons that guided you in the choice of the method of assessment of learning outcomes (Table 2.3). Specify measures which assure objectivity and fairness during exams.

Table 2.3. shows in which way the learning outcomes are verified in all study programmes. In particular, we analyzed the structure of the final exam.

According to the Regulations on Studies of 2008, students' work is evaluated and assessed in class and in the final exam. Students are graded by application of the European Credit Transfer and Accumulation System (ECTS) and the numerical system. Students are monitored and assessed in each subject in class and in the final exam as follows: the total percentage of students' assessment in class (attendance at lectures, partial exams, preliminary exams and other activities in class defined by the study programme) carries up to 70% of grade points and the total percentage of students' success in the final exam up to 30% of grade points. The students' achievement in each subject is expressed in the ECTS grading scale as a percentage of 0 to 100 grade points, with a pass grade of a minimum 40% on undergraduate studies, and 50% on graduate university studies. The exam threshold in the final exam cannot be less than 50% of successfully solved problems. The final grade is the sum of the percentages achieved in class and those achieved on the final exam. According to the Regulations, the exam can be taken as a written exam, oral exam or practical work, or any combination of these forms.

Various forms of knowledge assessment, either oral or written, are a reliable way of objective assessment and verification of final knowledge and competencies. The large volume and complexity of the content of some courses require constant encouragement for continuous work during classes. This is achieved through short tests after each seminar, partial exams after each chapter of the course content, or by encouraging student work and research through seminar papers or presentations, and encouraging students' activity in discussions during seminars and classes, and particularly through exercises in practical skills. The most important changes brought by the new Regulations on Studies are linked precisely to encouragement of students for continuous work during classes and evaluation of their work through gradually collected ECTS credits during classes (which make up a maximum of 70% of the grade) and in the final examination (up to 30% of the grade). This system aims to shift the "responsibility" from the final exam to teaching and direct work with students, which definitely has numerous benefits and contributes to increasing pass rates. If a student fails to collect the minimum number of ECTS credits prescribed by the Regulations during classes, they cannot take the final exam. A particularly important point in assessment of students' knowledge is the need to harmonise the teaching contents, and the required and optional literature, but also precisely define learning outcomes for each subject, which is what we are working on intensively.

Most courses in our study programmes use a combination of written and oral verification of the achieved learning outcomes on the final examination, while clinical courses use a combination of all three forms of testing. The ways of testing the learning outcomes defined in individual courses are adapted to the course content and goals. In clinical courses, special attention is paid to the specific nature of their learning outcomes which are based on adoption of practical skills. The combination of all forms of assessment of the learning outcomes and the system of gradual collection of grade points already during classes contribute to greater objectivity and impartiality in the exams.

e) Give students' opinions about the relationship between students and teachers expressed in questionnaires or collected by some other means, and comment on any problems and procedures for their resolution and on the methods of informing the students about the measures that you have undertaken.

The Faculty of Medicine applies procedures of continuous monitoring of the quality of teaching carried out by the Quality Assurance and Improvement Committee, in cooperation with the Quality Assurance Committee of the University of Rijeka. The Committee of the Faculty organizes, coordinates and implements evaluation procedures and develops internal mechanisms for assuring and improving quality. We have established an administrative and technical support system for improving the quality of work through the Office for Quality Assurance, the work which is carried out also by ten students, representatives of different years of studies, who are involved in the implementation of the survey and in the work of the Committee. The completed questionnaires are processed uniformly for all faculties at the

Centre for Quality Improvement of the University of Rijeka, which submits to us yearly the results for the previous academic year.

As of the academic year 2005-2006, standardized student surveys are continuously implemented to evaluate the quality of teaching and of the teachers who participated in the delivery of more than 30% of the course. The questionnaires are distributed immediately after completion of the course, before its final examination, so that the exam results do not affect the students' opinion about the classes conducted. Such evaluation procedures are systematically implemented for all our study programmes in undergraduate, integrated undergraduate and graduate, and graduate studies. A survey is not necessarily carried out every year for each teacher, but rather upon the need for them expressed by the course coordinator or head of department. Upon completion of each cycle of evaluation, the results for individual teachers or a specific course are submitted in full to the Chairman of the Committee, the Vice Dean, and the Dean. Each head of department receives only the results for teachers working in their department. The heads must first examine them and then submit them to each teacher individually, so the teachers themselves can see their respective ratings and comments made in the questionnaire. In the event that a teacher is poorly evaluated in one segment of their work or relationship to the students, the head is obliged to talk to them, to explain the problem, advise them, and together with them find the best way to address the problem or improper approach to work, and then conduct another survey to check the progress. Also, according to the Regulations on Conditions and Procedure of Election into Titles and Corresponding Positions (http://www.medri.uniri.hr/dokumenti/assets/Pravilnik_o_uvjetima_postupku_izbora.pdf) (IV.1. Article 9.), candidates for election must have the Committee' and students' positive evaluation of their teaching in a course for the first election or election into a higher position. The certificate of positive evaluation received by students in the institutional survey is issued to the teachers by the Office for Quality Assurance, positive being considered a score of 3.0 and above. Furthermore, the Chairman of the Committee submits an annual report on the Committee's activities in a thematic session of the Faculty Council, stating which departments conducted a survey in the past academic year and how many teachers failed to meet the criteria for a positive assessment.

The survey assesses the attitude of teachers towards teaching and students through questions that evaluate:

- regularity of classes,
- information available to students about the aims of teaching and assignments,
- the ability of teachers to link the content of lectures with exercises
- the ability of teachers to link the content of the course with profession as a whole
- manner and clarity of presenting the course material
- use of practical examples to illustrate new concepts
- the ability of the teacher to promote independent work and critical thinking
- the ability of the teacher to motivate students for learning and mastering the course programme
- ratio between the teacher and students
- the teacher's availability and openness for communication
- the teacher's ability to encourage interaction and collaboration among students
- the existence of useful feedback on the student's work
- the existence of regular monitoring and evaluation of student work
- usefulness of attendance of the course

The purpose of the student survey is multifold and refers to:

- monitoring the quality of teaching and teachers involved in it
- conducting discussions on the success of implementation of a particular course
- developing methods to improve the teaching process and thereby contribute to higher pass rates and better success in studying
- organization of workshops in which teachers can be informed about new and modern teaching methods and assessment of knowledge
- the procedure of re-election or election into a higher position (under the terms of the Rectors' Conference), which requires evidence of positive assessment in a student survey

In addition to the student survey, students can express their observations through student representatives directly to the Vice Dean for the relevant study or to the Vice Dean for Academic Affairs. The student organization also has a student Commission for Academic Affairs, and the representative for academic issues consolidates all observations and presents them to the Vice Dean for Academic Affairs.

In addition, each meeting of the Faculty Council has a regular item on the agenda called Student questions, so that students can directly express a problem felt with regard to teaching or examinations. A representative of students of all years (at the moment it is the President of the Students' Union of our Faculty) also regularly attends the meetings of the Dean's Collegium and resolves current student issues directly with the members of the Management there. Students are also members of other permanent commissions of the Faculty, so they directly contribute to their work. Students regularly participate in meetings of Year Councils (meetings of all course coordinators of a given year of a study at which course timetables and exam dates are harmonised). We must emphasize that the presence of students who have already passed all the exams in the relevant year and students who are about to register for these courses significantly contributes to a better organization of teaching and reduces subsequent student comments on teaching to a minimum. Also, the Committee organised a Student Forum related to the implementation and importance of the institutional student survey. The aim of this forum was to establish direct communication between the Committee and all students, rather than communicate only through student representatives, which proved to be very useful so the Committee took the position that such discussions should be held regularly.

The most common students' questions refer to the possibility of holding remedial or partials exams, which would enable them to take the final exam. Sometimes the problems are linked to the organization of classes in a particular course, since the timetables of several study programmes have to be very precisely harmonised. Such problems can be expected to occur occasionally given that study programmes are conducted in different organizational units. Such objections are addressed by the responsible vice dean or study coordinator in consultation with the course coordinators, the issue being brought also to the attention of the heads of departments. Sometimes the objections are due to the lack of clarity in the application of rules related to teaching and implementation of exams which are determined by the Regulations on Studying. Over the reference period, all complaints related to teaching were successfully resolved, so we can say that the multiple mechanisms applied for addressing student issues were effective. Nevertheless, we have to continue work on raising the quality of teaching and strive for better organization with a common goal of improving the student pass rates and overall success of studying, but also student satisfaction with the teaching and teachers of the Faculty.

A new Manual on Teaching Quality Assurance of our Faculty is currently in the process of preparation; it should introduce some changes in student surveys, giving students the possibility of to initiate a survey for assessment of individual teachers (either to express their dissatisfaction with a teacher or department, or to commend their work). So far, the implementation of the survey has been initiated only by the course coordinator, periodically for individual teachers who participated in the delivery of more than 30% of the course. Student initiative proved to be justified in a number of concrete examples, so that the Committee has included this possibility in the new Manual, which will, hopefully, add a new quality to the system of teaching. Despite some initiatives for public disclosure of the results of student surveys, members of the Board (teachers, associates, students, an external member and a lawyer) have agreed that for the time being the results should be shown summarily by departments at thematic sessions of the Faculty Council, and that the teachers who do not meet the minimum quality requirements should be held up in their further work with students through mechanisms preventing election into a higher research-teaching or teaching positions. It is the position of the Committee that the mechanisms available to the heads of department or the dean are much more effective in terms of stimulating improvement in the teachers who have not received a positive evaluation than a potential public disclosure of results of anonymous student surveys.

f) Give your opinion on the accommodation and meals of your HEI students. Specify and comment on any extra-curricular activities that you organise for students (various courses, sports, recreation, etc). Comment on the student standard offered at your HEI (according to data in Table 3.2.) and assess the degree of their use. If you are not satisfied with the existing situation, identify the reasons and propose possible solutions.

I. Students' accommodation

In terms of accommodation, students have the option of private accommodation or student dormitories. The former depends on a student's financial capabilities, so they can choose between renting a studio, sharing a flat with other students, or renting just a room. Every year the Ministry announces a competition

for subsidies for private accommodation, which are not too high but no doubt help students in their budget.

A minority of students have the possibility of accommodation in a dormitory, and they can really be said to be in a privileged position. For the price of mere HRK 360, the dormitory offers students a fairly comfortable life as it, along with accommodation, provides hot water, heating, free internet, learning rooms, and its own cafeteria which is always available to students. In addition to a university dormitory, part of students can also find accommodation in secondary school dormitories if they are not fully occupied. Regulations of secondary school dormitories are somewhat more rigorous, given that they are intended for a younger population, and include mandatory 10 p.m. curfews and regular checks. However, due to the high price of private accommodation, part of the students do not find it a problem to comply and opt for this form of accommodation.

Given that dormitories are available to only a relatively small number of students, to mere 1000 out of 15,000 thousand of them studying in Rijeka, securing new facilities is a priority issue. We expect that a new university dormitory will soon be opened on the University campus at Trsat, which will provide a larger number of students easier and better conditions of study.

II. Students' meals:

Students have access to three student canteen facilities: the Index canteen (about ten minutes' walk from the Faculty), the *Medicinar* cafeteria within the Faculty, and the *Kampus* canteen in the immediate vicinity of the CHC Rijeka - Locality Sušak. Students are entitled to subsidized meals through their student card in all three facilities. The *Medicinar* cafeteria is a specificity of our Faculty, as we are the only constituent of our University to have a student cafeteria. Since the academic year 2014-2015, the student cafeteria offers a wider range of food so, in addition to standard sandwiches, it includes croissants, pies, hot dogs, chocolate milk and squeezed juices. A preliminary draft proposal for extension of the canteen is currently being prepared so in future, probably from the next academic year, students will also be offered three cooked meals a day.

III. Extracurricular activities organised between 2009 and 2014:

Organisation of extracurricular activities

A number of student activities at our Faculty are organised by the Student Union, with continuous and strong support of the Faculty management and staff, as well as by student associations that operate at the Faculty: the FOSS MedRi (University Students Committee at the Faculty of Medicine in Rijeka), CroMSIC (Croatian Medical Students' International Committee), EMSA (European Medical Students' Association), CroADS (Croatian Association of Dental Students), student groups and individual students. It is important to note that the FOSS MedRi has been operating within the Faculty of Medicine almost since the founding of the Faculty and is the oldest student organization at the University of Rijeka.

In the last five years, the organization of extracurricular activities has been focused on the implementation of international exchange, participation in and organization of international and domestic students' scientific conferences, raising the quality and standards of studying, popularization and involvement of students in scientific research, organization of public health, medical-promotional and humanitarian projects, cultural and sports activities and other student extracurricular initiatives.

International exchange of medical students is organized by the CroMSIC student association; every year, about fifty medical students are given the opportunity to participate in clinical practice at various clinics and medical schools around the world over a period of one month, and through student exchange an equal number of students from all over the world have their clinical practice at the Clinical Hospital Centre Rijeka in summer. In addition, three students a year participate in a bilateral exchange with the Hyogo College of Medicine in Japan, and four students go to the University of Rochester in the United States. Besides these professional and scientific exchanges, students actively and passively participate in many international scientific congresses and conferences, and meetings of international student associations of which they are members (IFMSA, EMSA, IADS). Since 2010, every year the Faculty organizes the Nutrition and Clinical Dietotherapy student congress with international participation, and since 2011 also the annual NeuRi International Student Congress of Neuroscience.

The quality and standard of studying are the particular responsibility of the Student Union and the Commission for Teaching (/NOSS/), whose members, student representatives, actively participate in the work of the Faculty Council and other committees of the Faculty, thus being involved at all levels in the decision-making and adoption of measures relating to continuous improvement of conditions for studying. In this sense, digital support is also provided through regular updating of the foss.hr and perpetuum-lab.com.hr internet portals, with online guidance for the first year students and pre-graduates, and with a large amount of free teaching, scientific and professional content. In student rooms, students have unrestricted use of four computers with Internet access, as well as of the LAN wireless network.

For five consecutive years already, our students have been organising their traditional Charity Concert of Croatian Medical Students, a unique cultural and artistic event. Likewise, students gathered in the *Artnatomija* initiative, organised in 2013 an art exhibition of medical students' and doctors' work, and the Faculty also has a Commissioner for Students of the Croatian National Theatre Ivan pl. Zajc. Student newsletter *Speculum* has been regularly published for many years already, the Charity Ball of Medical Students and Doctors has become a tradition, and in 2014 students have also launched the initiative to establish a mixed choir of the students of the Faculty of Medicine.

Involvement of students in various forms of the scientific research process and popularization of science through project activities, implemented through the activities of the Commission for Science (/ZOSS/), which affirms scientific research, continuously organizes popular science lectures, discussions and workshops on scientific methodology. Dozens of students are directly involved in different stages of scientific research on various clinics and institutes, and students are members of the editorial boards of professional and scientific journals issued by the Faculty (*Acta Medico-Historica Adriatica*, and *Medicina Fluminensis*), and of the organizational committees of conferences that are (co-)organized by the Faculty, primarily providing technical and logistical support.

In addition to regular classes of Physical Education, students are involved in many sporting activities, tournaments and competitions at the university local, national and international level as members of the Rijeka University Sports Federation and the SOSS Students' Sports Association. Every year, they also participate in the *Humanijada*, a regional sports competition for students of (bio)medical faculties, which they also hosted in 2014.

Finally, being medical students, who are already strongly oriented towards the prevention of disease and promotion of health by their professional calling, our students have also organized a number of public health, medical-promotional and humanitarian projects. Throughout the year, they organise very successful preventive activities aimed at the general population in which several hundred Faculty student and staff volunteers participate. Some of these activities are: Drops of Life (FOSS), Health Days (FOSS), Brain Week (FOSS), Stand by Me - a campaign to destigmatise mental illness (SU), Nursing Day (FOSS), Clean Little Hands (FOSS), Healthy Islands and Healthy Mountains (FOSS), Adolescence (EMSA), panel discussions on addictions and sexually transmitted diseases (CroMSIC and EMSA), debate tournaments (FOSS), and apposite celebrations of the World Health Day (EMSA), World Mental Health Day (SU), Course in surgical suture (CroMSIC), the World Cancer Day and the World AIDS Day (CroMSIC), the Tooth Fairies (CroADS), Teddy Bear Hospital (EMSA), etc. Unavoidable are numerous programmes and entertainment (*Krvavica* Party, Freshman Party, participation in the Rijeka International Carnival, FOSS and CroMSIC parties).

In conclusion, during their studies, the students of the Faculty of Medicine have the opportunity to participate in numerous extracurricular activities organized, under the motto Students for Students, by the Student Union and student organizations at the Faculty. Evidence in support of this is also the three Rector's Award for Student Activism and Volunteerism (established in 2011) received. Inclusion of students in some projects, initiatives or events increases the quality and standard of studying and produces better trained future professionals in the field of biomedicine and health.

Taking into account all aspects of our student's standard, we can say that it is at a satisfactory level, although there is definitely room for improvement. The Faculty is well equipped with teaching accessories and we find that the only aspects in need of improvement, considering the number of students, are the learning space and the availability of IT equipment for learning. Some food is provided within the Faculty, although as yet no hot meals, and as regards accommodation, we see it rather as a problem of the entire University (which will be resolved soon with the construction of a new dormitory at the Campus). The sports grounds on the Faculty compound do not meet the needs of students for practicing sport, but the

Faculty subsidises membership fees in some fitness centres, which partly compensates for that. Students have the opportunity to engage in numerous extracurricular activities, namely, student projects, events or social events, which are coordinated primarily by student organizations, for which they enjoy the support of the Faculty management. Various student conferences have been organised, students assisted in a number of voluntary blood donations and informed their younger colleagues about the current issues in health care and life in general. Also, senior students are actively involved in helping students of lower years in their studies (mentoring, student demonstrators, help with registration in the first year and higher years, etc.). Students traditionally take part in many sporting events (within the Unisport League), in which they have achieved very notable success and have earned the Faculty "the title" of the most successful sporting Faculty of the University in Rijeka.

g) Specify possible special measures your HEI introduced in order to motivate students to greater commitment and learning (awards, recognitions, etc.) and comment on the effectiveness of such measures.

As of the academic year 2008-2009, the new Regulations on Studies apply according to which the final grade of a subject is the sum of grade points collected during classes and in the final exam, which constitute up to, respectfully, 70% and 30% of the final grade. This way of assessment stimulates students to continuous learning and commitment, and thus makes it easier for them to master the content of the subject, at the same time evaluating also the students' activity and knowledge gained during teaching, thereby rewarding the students' time and effort invested. In most courses a similar grading policy was already applied in previous years, but this is now regulated by the new Regulations.

As regards motivating students to learn through a reward system, we can say that each year, at the solemn session of the Faculty Council held on the occasion of the Faculty Day, the Dean presents prizes and awards to the best students of university and professional studies, selected according to the Regulations on Student Rewards. The ranking list of nominees is formed uniformly on the basis of the best average grades during the academic year. The criteria for the nominees for the award include success in all exams from the previous year and enrolment in the next year of studies, no previous repetition of a year, the lowest average grade from all exams passed previously 4.00 and a minimum of 4.5 in the year for which they are being awarded. The criteria for candidates for the award for the entire duration of studies include a minimum average grade of 4.5 in all the years of studies and in the diploma or final paper, account being taken also of the duration of studies. Students are also awarded by the criteria of the average grade in clinical subjects, which should not be less than 4.5. The awards are presented in the form of a diploma or commendation with a symbolic gift, and the best student is usually presented by the Clinical Hospital Centre with a laptop or a grant for the postgraduate study.

This kind of assessment, which evaluates the student's effort during the study, and the awards and commendation presented to the best students are a very good way to motivate students to learn and should definitely be maintained.

h) Specify measures of support to students provided by the HEI (mentorships, career counselling, study aid, aid for students with special needs and for international students, legal and financial support, etc.).

For several years already, the Faculty of Medicine in Rijeka has been applying a mentoring system in which first-year students are assigned a mentor from among the teachers (teacher-mentor) who follows their progress throughout their studies and provides them with any form of assistance. Also, the students themselves have organised a system of mentors from among students of senior years (student-mentor), which is even more effective in achieving its objectives. In this academic year, the Faculty is also officially involved in the implementation of the project of the University of Rijeka titled Organized peer and teacher support through study (the student-mentor and teacher-mentor system) within the Project to increase student success in technical, biomedical, biotechnology and life sciences, in the information and communication field, and in interdisciplinary studies related to these areas. We have designated one coordinator from among the teacher-mentors and one from among student-mentors who are in charge of coordinating the implementation of this project at the Faculty. This comprises conducting workshops for future mentors (from the ranks of both teachers and students) to inform them about the objectives to be

achieved through this system, the methodology of work, dynamics of progress monitoring, dynamics of joint meetings and other mentor tasks; conducting workshops for students enrolled in the first year (freshmen) of individual studies in order to inform them about this system; continuously promoting this system in order to raise the motivation of teachers and higher-year students to work with students through the mentoring system (through occasional thematic agenda items at the Faculty Council meetings; assisting mentors in their tasks and coordinating their activities; giving information about the mentor system through official Faculty website).

The possibility of consultations with teachers or teaching assistants involved in teaching a particular subject can also be considered as a form of assistance in learning. As well, most departments have students demonstrators, selected from among higher year students, who also help younger students learn and master the course content (in previous academic year, demonstrators took part in 6343 hours of practical training). Furthermore, students with a high degree of disability (over 60%) can enrol outside the regular quotas if they pass the classification threshold of 40%. Given that we facilitate their enrolment in this way, we also take further steps to make studying easier for them. At the beginning of the academic year, the Vice Deans for the relevant studies, study coordinators and course coordinators are informed on the need to adapt the form of teaching or testing methodology, and we have also designated a coordinator at the Faculty for issues related to students with disabilities. Furthermore, we should mention the University Counselling Centre which comprises the services of Psychological Counselling, Legal Counselling, and the Office for Students with Disabilities. Students can turn to their experts for help or join their educational workshops. One of the latest workshops was titled "Specific learning disabilities - dyslexia and ADHD" and was carried out within the project "Improving the quality of study for disadvantaged groups of students through student counselling services". An initiative was taken to hold workshops to help students learn and pass exams, which will be held at our Faculty.

Furthermore, although the Faculty does not have special funds to finance low-income students, we advise them to apply for University grants, which are intended primarily for this category of students (such as the grant within the "Solidarity" programme of the Alexander Abramov fund, the Competition for grants to cover the participation in the costs of study, Competition for improvement of the social dimension). The enrolled students with a 60% or higher disability, regardless of the success achieved in the academic year, do not pay the participation in the costs of study (which are determined by the decisions of the University according to the criteria of excellence), whereby we stimulate them for further study. Apart from that, all students who have to participate in the costs of studies by the decisions of the Senate can pay for that in several instalments.

International students who come on exchange, whether through student organizations or through an institutional exchange, are taken care of by the Vice Dean for International Cooperation and the Office for International Cooperation, but also our students of all years of studies take additional care of them, and in this way they create great friendships and gain experience, and are excellent promoters of our institution.

Help to students in the resolution of any legal issue is provided by the Faculty's Legal Department, while issues related to teaching are addressed through the vice dean for individual study, the Vice Dean for Academic Affairs and the entire management. Students also have their student ombudsman.

i) Attach documents regulating the protection of student rights (appeal procedures, student ombudsman, etc.).

Appeals procedures are prescribed by the Regulations on Studies of the University of Rijeka (2008). Students have the right to appeal an exam result within 24 hours of notification of the exam results in a written and reasoned objection which they submit to the Dean, who, if he deems it appropriate, convenes a tripartite commission within 24 hours of receiving the complaint. The teacher who gave the student the grade at issue cannot be chairman of the commission. The written exam or the written part of the exam is not repeated but is only re-evaluated by the commission. If the exam was oral or consists of an oral part, the Dean sets the date of the exam, which should be held as early as possible, and no later than three days after the complaint. The commission decide by majority vote.

Furthermore, in addition to formal ways of making complaints, students can always write a written complaint, but it has to be reasoned and signed. A signed appeal or complaint is also any such document

signed by the official student representative of a study year or the students' appointed ombudsman of our Faculty. At the level of University, there is also the University Student Ombudsman, who represents the interests of students of all university constituents.

The link to the University of Rijeka Regulations on Studies (consolidated text and last amendments):
Consolidated text: http://www.uniri.hr/files/staticki_dio/propisi_i_dokumenti/Pravilnik_o_studies_-_procisceni_tekst.pdf

Amendments – April 2014:

http://www.uniri.hr/files/staticki_dio/propisi_i_dokumenti/Pravilnik%20o%20izmjenama%20i%20dopunama%20Pravilnika%20o%20studies_%20Sveucilista%20u%20Rijeci.pdf

j) Specify in which way you follow your alumni and how you collect data on their employment, as well as other information relevant for improvements of your study programmes.

The Association of Alumni of the Faculty of Medicine in Rijeka - Alumni MedRi - was founded in 2007. In the first years, its activity was based primarily on organising informal meetings of past generations of students, mostly rather randomly and infrequently.

Since 2012, when a more ambitious work plan was adopted, the Association's activity has been more active, however. The Statute of the Association was amended providing for all new graduates to become members (the membership application forms being offered at a graduation ceremony) and abolishing the membership fee. Assemblies are now held regularly and alumni of our Faculty who are not members are being invited to join (mainly through personal contacts, but soon invitations will be advertised in *Medical Gazette*, on their own webpage, through the address book of the Croatian Medical Chamber - Rijeka branch, and in other ways). So far, the membership application forms have been filled also by at least two dozen former Rijeka alumni with very successful careers outside it (e.g., the Dean of Faculty of Medicine in Osijek, managers of hospitals in Bihać and Mostar, experts from Austria, the Netherlands, the United States, former Croatian Ambassador to China, former Minister of Science, Education and Sports, etc.). Every year, they organize (or co-host with other institutions and organizations) several panel discussions on topics aimed to stimulate the students' interest in science and in the academic career, strengthen the sense of belonging to the Faculty of Medicine and Rijeka, and promote models of success. In the past year, a meeting was held with Rijeka-born former citizens who have become the world's top scientists, Enrico Mihich (Harvard) and Giorgio Lenz (University of Bologna); an evening was dedicated to the former Dean of the Faculty of Medicine, Ante Simonić; a panel discussions was devoted to women in science (the guests including the former rector of the University of Rijeka), etc. Once the Association's interface is created, it will be easier to share information with the entire body of former students and advertise their visits and guest lectures in Rijeka.

The first contacts have been established also with the Croatian Employment Service - Regional Office Rijeka in order to systematically collect data on employment of graduates of various study programmes of our Faculty. These data will be used for an ongoing analysis of the employability of the staff generated by our Faculty and, hopefully, for developing activities that would help graduates find employment.

k) Specify to what extent you are satisfied with the current situation and propose possible improvements.

The beginning of one's university studies is for most students a very sensitive period in life which coincides with their becoming mature and independent persons who can deal with the complex demands of student life. This period can prove to be quite stressful for a number of students because neither their previous education or educational experience nor their family environment have sufficiently prepared them for such a great challenge. The academic environment expects from students mature and critical thinking, independence, self-awareness, self-control and great devotion to demanding student obligations. Also, one should not ignore the fact that the beginning of studies coincides with a multitude of other competing development needs and that the majority of students need the support of their environment in the achievement of certain personal and professional goals. The most common problems related to academic obligations refer to time management, test anxiety, public presentations before colleagues and

teachers, fear of failure, problems with concentration and difficulties in connection with the motivation for learning. If students face academic failure at the beginning of their studies, they often lose their self-confidence and motivation for studying, so they neglect learning and give up their studies. Our Faculty has nearly 2,000 students, and our management, professional services, course coordinators, all teachers, administrative staff, students of senior years of study, student representatives, mentors, and all others are continuously at their disposal, either in the professional sense or for support to their studies. Students are not only left to fulfilling the imposed requirements, but also take a very active part in making various decisions related to student issues at all levels (from the work of Faculty commissions, through the Faculty Council, to the Dean's Collegium). We are aware that we have not been equally successful in all our activities and tasks and that there is definitely ample room for improvement.

4. Teachers

Tables 4.1. to 4.5. (in the attached document)

a) Comment on the structure of teachers and associates presented in Table 4.1. Evaluate the strong and weak points in the ratio of your HEI permanent staff and external associates. Analyse the problems encountered in your staffing policy.

Table 4.1. (and Tables 4.1.A-E) shows the structure of the staff employed at the Faculty of Medicine in Rijeka as per 30/09/2014

Our Faculty has a permanent staff of 554, of whom:

- a) 387 (69.85%) in research-teaching, teaching and associate positions
- b) 167 (30.14%) lab technicians, technical teaching assistant, administrative and technical, and support staff

Of the total number of 387 permanent staff in research-teaching, teaching and associate positions:

- a) 220 (56.84 %) are in research-teaching positions
- b) 19 (4.90 %) are in teaching positions
- c) 148 (38.24 %) are in associate positions

However, as of the total number (387) of employees in research-teaching, teaching and associate positions 42.63% are in cumulative employment (50% in the Faculty of Medicine, and 50% in the CHC Rijeka, Orthopaedic Clinic Lovran or other teaching bases), we can talk about **the converted value of those employed in these positions full-time** (equivalent of the number of full-time staff), which was 313 (170.5 in research-teaching; 15.5 in teaching; 127 in associate positions) in the observed period. All teachers in the research-teaching and teaching positions are permanent contract staff, and only those employed in associate positions are employed under a fixed-term contract.

Table 4.1. A) Structure of the staff in research-teaching positions:

Research-teaching title	Full-time employment	Part-time employment	Total permanent academic staff	Converted value of full-time staff
Full professor	57	22	79	68
Associate professor	33	31	64	48.5
Assistant professor	31	46	77	54
TOTAL	121	99	220	170.5

Table 4.1. B) Structure of the staff in teaching positions:

Teaching title	Full-time employment	Part-time employment	Total permanent academic staff	Converted value of full-time staff
Senior lecturer	5	5	10	7.5
Lecturer	7	2	9	8
TOTAL	12	7	19	15.5

Table 4.1. C) Structure of the staff in associate positions:

Associate titles	Full-time employment	Part-time employment	Total permanent associate staff	Converted value of full-time staff
Senior assistant (postdoctorand)	13	34	47	30
Assistant	31	25	56	47.5
Research assistant	45		45	45
TOTAL	89	59	148	127

Table 4.1.D) Structure of the staff in other jobs:

	Total permanent staff
Senior lab technician / lab technician	60
Technical teaching assistant	10
Administrative and technical staff	65
Support staff	32
TOTAL	167

Due to the big number of study programmes that are performed at our Faculty, and thus a large teaching load, and in particular due to the implementation of some of interdisciplinary studies and the specific nature of the programmes of professional studies, it was necessary to employ a larger number of staff (249 in 2013-2014) on contract for external collaboration. Table 4.1. shows how the number of external associates working at the Faculty of Medicine in Rijeka in 2013-2014 and the structure of their positions (Table 4.1.E shows the percentage of the positions occupied by all external associates).

Of the total number (249) of external associates:

- a) 90 (36.14%) are in contract research-teaching, teaching and associate positions
- b) 159 (63.85%) are lab technicians, technical teaching assistant, administrative and /technical, and support staff

4.1.E) Structure of the engaged external associates:

EXTERNAL ASSOCIATES	Number	Percentage
Research-teaching positions	8	3.21%
Teaching positions	43	17.26%
Associate positions	39	15.66%
Other jobs	159	63.85%

Table 4.2.A) Teaching load of external associates by study programme (expressed in percentages)

Study programme	Faculty teachers (%)	External associates (%)
Integrated undergraduate and graduate university study of Medicine	97.87	2.13
Integrated undergraduate and graduate university study of Dental Medicine	92.08	7.91
Undergraduate university study of Sanitary Engineering	85.51	14.48
Graduate university study of Sanitary Engineering	85.32	14.67
Graduate university study of Nursing - Mental Health Promotion and Care	80.47	19.52
Graduate university study of Physiotherapy	73.74	26.25
Graduate university study of Medical Laboratory Diagnostics	94.00	5.99
Professional study of Nursing (full-time study)	21.06	78.93
Professional study of Nursing (part-time study-Rijeka)	17.52	82.47
Professional study of Nursing (part-time study-Karlovac)	62.37	37.62

Professional study of Physiotherapy	73.58	26.41
Professional study of Medical Laboratory Diagnostics(full-time study)	74.78	25.21
Professional study of Medical Laboratory Diagnostics(part-time study)	83.16	16.13
Professional study of Radiological Technology	56.29	43.70
Professional study of Midwifery	19.14	80.85
Postgraduate university study of Biomedicine	71.02	28.97
Postgraduate university study of Health and Environmental Engineering	38.26	61.64
Postgraduate specialist study of Internal Medicine	100	0
Postgraduate specialist study of Family Medicine	100	0
Postgraduate specialist study of Biomedicine of Developmental Age	95	5
Postgraduate specialist study of Orthopaedics	98.48	1.51
Postgraduate specialist study of Gynaecology and Obstetrics	89.34	10.65
Postgraduate specialist study of Psychiatry	93.96	6.13
Postgraduate specialist study of Health Promotion and Addiction Prevention	52.35	47.64

The need for outsourcing for the integrated studies is negligible (Medicine - 2.13%; Dental Medicine - 7.91%), and arises from the need for specific personnel of certain specialties to teach clinical subjects at higher years of studies. In the study of Medicine, these are primarily specialists in family medicine who participate in practical forms of teaching in Family Medicine (sixth year of the study). In the study of Sanitary Engineering (undergraduate and graduate), the need for external associates stems from the interdisciplinary nature of this programme, part of which is delivered by associates from the University of Rijeka and the University of Zagreb, and from the Ruđer Bošković Institute (<15%). These are distinguished experts who, in addition to teaching students, also help "raise offspring" expected to start teaching the relevant subjects in the near future. Likewise, the interdisciplinary nature of the study programmes of the Postgraduate study of Health and Environmental Engineering is the reason for engagement of a large number of external associates (61%). As regards graduate studies, the greatest need for external staff is seen in the Graduate university study of Physiotherapy (26%).

However, the largest number of external associates is required in the professional studies of Nursing and Midwifery, primarily for practical training in the field of nursing and midwifery care. Nursing and midwifery belong to regulated professions, and education in the field of regulated professions in the health care is prescribed by the EU Directive, which stipulates the minimum qualification requirements for the education of nurses and midwives. Thus, their training must last at least three years or 4,600 hours of theoretical and clinical training, the theoretical instruction taking 1/3 and clinical practice 1/2 of the total duration of the study programme, which significantly increases the number of hours of practical classes. Since the Directive requires, among other things, that professionals train professionals, a large number of professional courses in the professional studies of Nursing and Midwifery are entrusted to higher education experts in the fields of health care, who will surely maintain and raise the quality of education of nurses and orderlies, and midwives. Also, a large number of hours of practical training are carried out by external associates, Bachelors of Nursing and Midwifery, which are taught in small groups (4-8 students per group, depending on the course). Preclinical and clinical instruction in these studies is performed mainly by teachers of our Faculty of Medicine in permanent employment.

b) Specify and comment on the teacher-student ratio and its trend in the last 5 years.

Academic year	Total number of students (undergraduate, graduate and integrated)	Converted value of full-time teachers	Student-teacher ratio
2013-2014	1915	303.5	6.31
2012-2013	1859	309	6.02
2011-2012	1837	314.5	5.84
2010-2011	1891	316.5	5.97
2009-2010	1716	308.5	5.56

The Faculty of Medicine in Rijeka has a very good ratio of students per teacher, although it has slightly increased in the last five years (from 5.56 to 6.31). The reasons for this can be found in part in the new study programmes which increased the total number of students, and partly in the reduced number of teaching staff expressed in the converted value of full-time staff. Justification for opening new graduate university studies can be found in the need to ensure continuation of training for professional bachelors in the field of health (Professional Bachelors of Physiotherapy, Nursing and Medical Laboratory Diagnostics) in a higher, graduate level of education. Moreover, the reduced number of employed teachers is not a reflection of a wrong personnel policy of the Faculty, but rather reflects the state policy of limiting the number of new jobs regardless of the justification for the creation of new studies, as well as the need to increase the enrolment quotas for professions in short supply (e.g., doctors of medicine). However, this increase in the number of students per teacher did not affect the quality of work with students.

c) Comment on the volume of teaching workload of the academic staff (according to data in Table 4.2).

In the academic year 2013-2014, the total number of our teachers (in research-teaching, teaching or associate position) with permanent employment is 387, of whom 165 are in cumulative employment perform a specific part of their teaching obligations, and the other 222 have full teaching norms. The teaching norm for each position was determined by the former Regulations on Financing Higher Education in public HEI of 1996, which became void after entry into force of the new Science and Higher Education Act in 2013. According to these Regulations, the teaching norms for research-teaching, teaching and associate (senior assistant, assistant, research assistant) positions were, respectively, 300, 450 and 300 norm hours. However, under the Collective Agreement (which is currently not effective), the prescribed study norms were 225 for senior assistants, 150 for assistants and 150 for research assistants. Given that at the moment there is no valid regulation in place to determine the teaching norms of teachers and associates, we are applying the rules that have so far been prescribed so as not to jeopardize the system of fair teaching loads, by which we have prevented individual teachers being over- or underloaded with teaching obligations

The overall workload obtained on the basis of respective workloads in all study programmes (undergraduate, integrated undergraduate and graduate, postgraduate university and postgraduate specialist) performed in the previous academic year, in line with approved curricula, calculated according to the number of individual seminar and training groups (which vary depending on the type of exercise - clinical, preclinical, laboratory) exceeds the workload of permanently employed teachers (full-time or cumulative) defined in the Collective Agreement. For this reason, but also because of the interdisciplinary

character of some study programmes and in particular due to the specifics of individual courses in professional studies, it was necessary to engage external associates. However, we have tried to reduce the relatively big number of external associates by electing professionals into fixed-term contract research-teaching titles (with the obligation of a given number of teaching hours pursuant to the Dean's decision), and in the past period of five years we have also offered these external collaborators cumulative employment if they satisfied the requirements for election into associate or teaching positions. Nevertheless, the ban on new job openings by the responsible Ministry has significantly obstructed the development of human resources in all HEI, so that the only possibility of hiring new teachers is contingent on retirement of older teachers. Given that this system precludes the possibility of planned development of the Faculty's human resources, and in particular the election of research assistants into research-teaching positions, we can only express our deep dissatisfaction with this decision by the MSES because, of course, we are bound to abide by it.

Still, we must admit that the teachers' workload varies to a certain degree from department to department due to the manner of employment of research assistants (they are also assistants in these departments and have a teaching obligation). In fact, their employment was determined by the Criteria of the National Council for Science to be applied by scientific institutions in the preparation of rating lists of applications to the Ministry of Science, Education and Sports for engaging research assistants in scientific projects (adopted at the 28th session of the National Council for Science held on 27. February 2007). Actually, they concerned primarily the scientific curriculum of the leader of the project for which the application for the research assistant was being submitted, so the ranking list for application to the MSES was made on the basis of project leaders, not taking into account the teaching obligations of the departments in which the teaching assistants were to be engaged. It is this way of employment of research assistants that has resulted in the current highly worrying situation that their employment (in research-teaching and associate positions) is now highly questionable even though most of them have fulfilled all their obligations in terms of completion of the postgraduate university study..

d) Specify formal procedures for employment of external associates at your institution and the engagement of your teachers in other institutions.

The process of approving engagement of external experts in the teaching processes of our Faculty involves heads of individual departments who have to submit a reasoned request for their engagement to before the beginning of the academic year. The Vice Dean for the relevant study programme grants such requests if they are justified. The final proposal for engagement of all external experts is then approved by the Faculty Senate and sent to the University of Rijeka for further approval. After completion of their teaching, external associates submit a report on the classes held to the Personnel Department. The heads of the department submit an annual report on the total workload of full-time teachers and associates in their department, with a detailed analysis of the number of hours of teaching in each course. The report on all classes held at the Faculty in the previous academic year is sent to the University of Rijeka and the MSES.

Participation of our teachers in delivery of courses at other HEI is contingent upon approval of the Dean for each individual teacher in a particular academic year, which, in turn, is granted further to a reasoned request submitted by the relevant head of department or course coordinator. Another prerequisite for approval of such requests is the existence of an inter-institutional agreement between the two institutions of higher education or the two universities concerned.

e) Specify the size of student groups for lectures, seminars, exercises and other forms of teaching, and evaluate the efficiency of teaching in these groups. Comment on the student opinions about this issue given in questionnaires.

Integrated undergraduate and graduate university study of Medicine: The lectures of this study programme are attended by all students of a given year of study, whose number varies depending on the respective year of studies and the number of repeaters (100-135). The seminar groups have a maximum of 30 students, while their number in practice groups depends on the type of exercise (laboratory exercise, practicum, clinical exercise, etc.): laboratory training groups (practicums) having 10-15, clinical

groups up to six, and surgical groups four students per teacher or assistant. Students have no objections to the size of their study groups.

Integrated undergraduate and graduate university study of Dental Medicine: The study of Dental Medicine annually enrolls up to 30 students, the average number of students in a year being 25-30. This is a relatively small study group which is not divided for lectures; it is divided for seminars into two subgroups, for preclinical exercises into three subgroups because of a total of ten dental workstations, while for clinical exercises, students are divided into groups of four. We find that such divisions are optimal.

Undergraduate study of Sanitary Engineering: Given the enrolment quota of 30 students, all enrolled students of a given year make a single study group in lectures and seminars, but are divided into 2-3 groups (of 10-15 students) for exercises. Students have no objections to the size of the study groups.

In **professional studies** classes are held in all forms: lectures, seminars, exercises and professional practice. Great attention is attached to practical training, especially in studies that generate regulated professions (nursing and midwifery), where students are divided into small groups so that everyone has a chance to practice the skills of their respective profession defined in the curriculum. Clinical practice takes place in the CHC Rijeka, either with patients or in laboratories, and at the Department of Radiology. Projects are underway to equip the skills lab for health care for the professional study of Nursing as well as that for Physiotherapy and Biomechanics, where the students could get acquainted with all the latest advancements of their profession.

In the **graduate university studies** classes are also conducted through lectures, seminars and exercises. The goal of the programme is to teach graduate students to be independent in both research and in reaching conclusions. Classes are based on problem based learning, which we find to be very important.

Generally, the appropriate enrolment policy allows students of all study groups to be trained in groups, which ensures optimal work with them. The sizes of study groups for lectures, seminars and exercises are adapted to the specific requirements of each subject and the type of exercise (laboratory, clinical, surgical) in order to achieve the optimum ratio of the number of students per teacher or assistant and ensure a better quality of teaching. Students have no major objections to the size of the study groups. This division of students into groups is necessary also due to stipulations of the Regulations on Studies, which lay stress on the acquisition of ECTS credits through continuous assessment of knowledge and activity during classes (70%), which would not be possible in large exercise groups.

f) Specify indicators for assessing competences of your teachers and external associates teaching in your study programmes. Comment on the comparability of those indicators in Croatian and international contexts. Give the students' opinions given in questionnaires and their effects.

At the Faculty of Medicine in Rijeka, competence of teachers and assistants who teach in the study programmes are continuously checked in several ways.

The teachers' and associates' general competencies and their attitude towards teaching and students is assessed through the results of anonymous student surveys, which can point to any shortcomings in regularity of classes, lack of organization of classes, incorrect approach to students, teachers' inability to motivate students to learn or to encourage interaction and collaboration among students, teachers' inability to link the course content with the profession as a whole, and the like.

However, a teacher's specific competencies, especially their expertise and ability to transfer knowledge and skills, cannot be estimated from the student surveys because students are not competent for such assessment of their teachers. Such competencies are assessed at their first election into a research-teaching title, when candidates must receive a positive assessment of their inaugural lecture in the presence of teachers and students in accordance with the decision of the Rectors' Conference. On the occasion, a three-member Commission for Assessment of the Inaugural Lecture, with the mandatory presence of five members of the Faculty Council in the research-teaching position, assess the competencies and manner of implementation of the inaugural lecture. The teacher's competencies are also evaluated through other conditions for election into a higher research-teaching or teaching titles, either teaching (authorship of textbooks, creation of new courses, mentorship in final and diploma papers, participation and exams passes courses on mastering teaching skills, innovations introduced in the teaching content, placing teaching materials on the Faculty website, ...) or scientific aimed at raising the quality of teaching (the number of

scientific papers, leadership of scientific projects, mentoring, additional training in other institutions, etc.). The conditions set by the Rectors' Conference and additional requirements of the Faculty of Medicine have been consolidated in the Regulations on Conditions and Procedure of Election into Titles and Corresponding Positions (23/11/2011: http://www.medri.uniri.hr/dokumenti/assets/Pravilnik_o_uvjetima_postupku_izbora.pdf).

Although all these methods of assessment of teachers' or assistants' competencies can be good indicators, objective figures on the expertise of individual teachers could be created only on the basis of assessment of external, independent experts from other institutions. It is in furtherance of the strategic goals of the signed three-year programme contract between the University of Rijeka and the MSES that implementation of a project to improve the quality of teaching by introducing peer review in the educational process of all members of the university is currently being prepared, of which we expect major qualitative shifts.

All these ways of verifying the teachers' competencies are in accordance with the existing methods of teacher assessment in the country and internationally. The opinions of students listed in surveys give us a credible picture of the work of a teacher, but also of the entire department. In addition to the answers to the questions in the survey, a very important segment of assessment are also written comments, often commendations, sometimes well-meaning suggestions for improvement, but sometimes also negative comments on teachers' behaviour, lack of interest or incorrect treatment of students. As the completed questionnaires, after automatic processing at the University in Rijeka, are submitted to the heads of departments, they are obliged to analyze them and then show the results to respective teachers. Furthermore, the heads have to bring to the attention of each individual teacher the written suggestions or poor assessment received in the survey, and find a way to correct the teacher's competencies before their next engagement in the classroom. In the event that the head and the teacher are unable to find a solution, the Dean for Academic Affairs or the Dean have to meet with the teacher to this effect.

g) Specify the methods of professional support to your teachers and external associates in the field of training and improving teaching competencies. Specify the methods of professional training of your teachers and external associates at other Croatian and foreign HEI and assess the scope and achievements of this process. Compare your HEI with other HEI.

The Faculty of Medicine in Rijeka entered a programme titled Teacher Competencies in Higher Education: Learning and Teaching, which is accredited at our University as a programme of lifelong learning, and is carried out within the project "Accreditation and Implementation of Teacher Training Programmes at the Centre for Teacher Training at the Faculty of Humanities and Social Sciences in Rijeka, realized in the framework of the teaching programme agreement between the University of Rijeka and the MSES. The programme is intended for professional training of university teachers for work in higher education. It lasts 30 hours and is worth 10 ECTS credits. It is primarily intended for teachers at the beginning of their academic career (senior assistants, assistant professors), who were not previously involved in a programme of teacher training for work in higher education. The fact that the costs of the course are covered by the programme contract is no doubt the reason behind the growing interest in the application for this way of education, in which participants also gain knowledge of how to create e-courses. In the past, courses entitled "The Art of Medical Training", conducted by teachers of pedagogy, used to be offered and their attendance was mandatory for election into a higher title, but they were eliminated from the list of compulsory prerequisites for advancement for financial reasons. We find that this type of training, especially of young teachers, is extremely useful but should be made available to everyone. This is also why we find this initiative on the part of the University to be very useful and we hope it will continue to be implemented regardless of the duration of the programme contract with the MSES.

Furthermore, through the Erasmus programme, the University of Rijeka offers the possibility for teachers to go to other domestic or higher education institutions. In 2007, the University of Rijeka adopted a strategic document titled "Strategy of the University of Rijeka for the Period 2007- 2013", which states that at least 3% of teachers and 3% of students should be involved in exchange and mobility programmes with European universities. The University adopted a new strategy in 2014 (for the period 2014-2020), one of the tasks of which is to increase the number of students, teachers and administrative/technical staff in the system of incoming and outgoing mobility to 5% of their respective total numbers. At the level of the University, in the last five years the number of outgoing teachers and administrative/technical staff was, respectively, 7 (2009-2010), 11 (2010-2011 and 2011-2012), 19 (2012-2013), and 28 (2013 -2014). Despite this increasing trend in the mobility of teachers, it is still at a low level throughout the University.

The Strategy of the University of Rijeka Faculty of Medicine for 2010-2015 (Task 4.4.) aims to increase international cooperation and exchange of students and teachers by 25% (minimum 5% increase yearly). In the last five years, only six of our teachers have been on such training through the Erasmus programme, which is far too little. The fact that our teachers have extensive teaching load during the academic year, and teachers and clinicians in cumulative employment an even greater load together with their professional work at clinics, can partly justify such low mobility, but we definitely need to find ways to stimulate our outgoing mobility and thus raise the level of our teachers' competencies.

In addition to these ways of improving the teaching competencies, we can say that already during doctoral training (doctoral study), our doctoral students (assistants) have to spend a minimum of four months in another research institution before acquiring their PhD degree, which is also built into the Statute of the University of Rijeka. Also, it is common practice for candidates who have defended their PhD thesis to go on postdoctoral training abroad (mainly to Germany or the United States), normally for one or two years, after which they generally return to the Faculty. A majority of our younger teachers have so far been on this type of training before being elected into an academic title. During their teaching career, our teachers often go on shorter visits (from one week to several months) to foreign and domestic institutions, but rarely stay there longer (one or two years).

Although the mobility of teachers through formal competitions that provide an opportunity for professional development of teachers' competencies is not satisfactory, we must emphasize that over time our teachers have been engaged in teaching activities of other related faculties in the country and abroad. In addition to the Faculty of Medicine in Osijek and Split, our teachers teach in Mostar (Bosnia and Herzegovina), Ljubljana and Maribor (Slovenia), as well as at universities in Novi Sad (Serbia) and Umea (Sweden). Also, a number of teachers from local and foreign faculties teach at our Faculty: in the professional studies, we regularly have teachers from Zagreb and Maribor (Higher Medical School); in the University study of Sanitary Engineering, some teachers from the Faculty of Pharmaceutical and Biochemical Sciences in Zagreb. We have a relatively long tradition and positive experience with visiting teachers in our postgraduate studies, and in particular in the Doctoral study of Biomedicine - teachers from the Ruđer Bošković Institute, the GSK Research Centre, Faculties of Medicine in Zagreb and Split, as well as from international institutions such as the University of Oslo (Norway), Ohio State University (USA), Ludwig-Maximilians-University (Germany) and the University of Lyon (France). Most of these lectures were very well received by our doctoral students who stress that they should be organized more often. We think that in the future we should work more to intensify the exchange of scientists and teachers, especially with foreign universities, not only for the transfer of new knowledge and technologies from advanced scientific environments, but also as an opportunity for professional development of teachers' competencies.

h) Specify any special measures introduced by your HE institution to encourage better motivation and self-improvement of teachers (awards, recognitions, etc.) and comment on the effectiveness of such measures.

The Faculty of Medicine in Rijeka evaluates teaching as one of the segments of activity of our teachers (in addition to research or professional ones) so that some forms of teaching activities are included in the additional requirements for election into a higher research-teaching, teaching or associate titles. For election into the title of associate professor, for example, the additional requirements include teaching an elective course, participation in teaching courses in permanent medical training, teaching in postgraduate studies, etc. For the first election into the associate title, we use the Table for evaluation of teaching activities, which includes segments of graduate classes (completion of all prescribed classes, quality of teaching and relationship with students based on student surveys, contribution to preparation and implementation of exams, teaching texts, elective courses), of postgraduate classes (course leadership or participation in a course in doctoral or postgraduate studies, leadership or participation in postgraduate courses of the first category of permanent medical training, or other courses) and mentoring (for graduate, doctoral or specialist studies, or specialisation programmes for doctors of medicine).

An additional way to motivate teachers for greater engagement and learning is the award for the best teacher in the previous academic year, presented by the students themselves at a formal session of the Faculty Council. This award is a great recognition for the work of a teacher and, being presented by students, has a special value because teaching is indeed intended for students, and thus the purpose of the teaching is truly achieved.

i) Briefly describe and rate the type and quality of teaching material prepared by your teachers and specify selected handbooks published by your teachers in the last five years. Give your opinion on the coverage of your curriculum by appropriate literature.

The mission and vision of the Faculty's publishing activities is to contribute to, promote and develop teaching, scientific, educational and additional capacities and competencies of all activities of the Faculty, and to encourage the creation of research-teaching and associate staff.

The entire publishing faculty is carried out in accordance with the Regulations on Publishing Activities of the Faculty of Medicine, which is in compliance with the Regulations on Publishing Activities of the University of Rijeka. (http://www.uniri.hr/files/staticki_dio/amasa/7_Pravilnik%20o%20izdava%C4%8Dkoj%20djelatnosti_SuRi.pdf)

The Faculty's publishing activity includes publishing of books, translations of important books, textbooks, brochures, mimeographed course notes, authorized lectures, monographs of teachers-authors, as well as publications disseminated through computer networks and other electronic means of transmission (floppy disks, CDs) - digital collections, in accordance with the Regulations on Publishing Activities.

In the previous period (more precisely, up to January 2014), for each subsequent calendar year a plan of publishing activities for the period up to 31 December of the current year was adopted. The proposed plan of publishing activities was prepared by the Commission for Publishing at the proposal of the Faculty departments. The annual plan of the Commission for Publishing included: a plan of publication of new or reedition of the existing textbooks, a plan of publishing other publications (monographs, proceedings, official publications and other publications), and potential plans for publishing periodicals. The request for publication or reprint of textbooks had to include the textbook title, the name and title (research-teaching, teaching) of the author, the course title, or the scientific area and the field of the textbook, the number of students enrolled in the relevant course in the academic year, a statement of the Faculty's Commission for Teaching on the coverage of the curriculum by the textbook, a reviewers' statement on similarities of this textbook with other textbooks published in Croatia, and a note stating whether the textbook was being published for the first time or was a revised and expanded edition. The request for publishing or reedition of textbooks submitted to the Commission for publishing had to be accompanied by at least two positive reviews for the revised and expanded edition, and one copy of prepared and edited copy of the text of the textbook. Each proposed textbook had to have at least two positive reviews. The reviewers had to be chosen from among prominent scientists or research-teaching staff in the relevant scientific area, scientific field and branch of science, and at least one of them had to be employed outside the Faculty proposing the publication or a foreign scientist. The reviewers were proposed by the Faculty Council

The new Regulations on Publishing Activities of the University of Rijeka introduced some changes which have contributed to improving the quality and high standards that apply to all editions of the Faculty as of February 2014.

The procedure for issuing teaching texts is the responsibility of the Commission for Publishing and Commission for Teaching of the Faculty of Medicine, which assess the quality of the content and check the final form and standards prescribed by the Decision on Adoption of Publishing Standards of the University of Rijeka

(http://www.uniri.hr/files/staticki_dio/propisi_i_dokumenti/Odluka%20o%20usvajanju%20izdavackog%20standarda%20Sveucilista%20u%20Rijeci%20-%20prosinac%202013_.pdf) and the Decision on Adoption of Standards for Publication of Electronic Textbooks of the University of Rijeka (http://www.uniri.hr/files/staticki_dio/propisi_i_dokumenti/Odluka%20o%20usvajanju%20standarda%20za%20izrada%20e-udzbenika%20Sveucilista%20u%20Rijeci%20-%20prosinac%202013_.pdf).

The author submits to the Commission for Teaching a reasoned request for the publication, accompanied with an edited copy of the teaching text. The application must contain the following information: the title of the work, the type of the work (categorized according to the Regulations on Publishing Activities of the University of Rijeka and the Decision on Adoption of Standards for Publication of Electronic Textbooks of the University of Rijeka), the name and title of the author (research-teaching or teaching, or academic or professional), the type of authorship (author of the text, translator, editor, etc.), the course, or scientific or

artistic field to which the work relates, an abstract of the work of 250-300 words, the number of author's sheets, the author's statement (for a work without individual authors or an anonymous work, the statement is given by the editor) about whether the work is published for the first time, is an unchanged edition or a reprint of the existing work, i.e., refers to printing of additional copies from the existing page makeup with a modified year of publication and information on additional edition. Except for the first edition, it must also include the serial number and/or description of the edition, which that will be printed on the publication (revised, new, shortened, etc.), a copy of the work prepared for print (final version) in digital format (on CD), text editor's statement on compliance of the text with the norms of the Croatian language and spelling, and with the publishing standards of the University of Rijeka, the subject (course) for which the text is designed (course of study, year of study, semester of study, indicating the total number of teaching hours for the subject), total teaching hours of the thematic unit for which the text is intended (expressed as a percentage of coverage of the whole course content), judgment of the actual need for the teaching text at issue (purpose of its publication), the opinion or approval of the head of the department, proposal by four reviewers (two from the University of Rijeka, two from another university) with compulsory indication of their research-teaching titles, institutions of employment, addresses and e-mail addresses.

In order to meet high standards for publication of teaching texts, clear instructions for potential authors and staff is available on the Faculty's website

(<http://www.medri.uniri.hr/dokumenti/assets/FV-25.02.2014.-upute%20za%20prijavu%20udzbenika.pdf>).

After reviewing the material received, the Commission for Teaching assents the need to publish the teaching text and issues a written statement on the percentage of the curriculum covered by the textbook, and designates two reviewers (of the four proposed) to whom copies will be submitted for review. For the purpose of objectivity and transparency, each reviewer has to submit a written review on a pre-prepared, standardized form which can be found on the Faculty's website (under Review form - <http://www.medri.uniri.hr/dokumenti/index.htm>). Further procedure is taken over by the Commission for Publishing, which, upon receipt of two positive reviews by mail (with original signatures of the reviewers), proceeds to determine whether all formal requirements and qualitative criteria have been met, and then proposes to the Faculty Council to approve further proceedings (to the Commission for Publishing of the University of Rijeka).

Following the approval of the Faculty Council, the author fills in an online form found on the University share-portal (<https://spp.uniri.hr>), encloses the work prepared for printing (in pdf format). With all the aforementioned data, the author also proposes the circulation for the next publication (except for editions in the original electronic format; the circulation of textbooks should be three times the number of students annually enrolling in the course, but not inferior to 100 copies), the financial plan for publication listing the total planned revenues by source and a specification of total planned expenditures by purpose. If the co-financing from joint University funds applies, it is necessary to calculate the amount claimed from the University in accordance with this criterion. Further procedure is carried out by the Commission for Publishing of the University of Rijeka.

Co-financing of new publications or reprints of textbooks is carried out for the budget of allocated funds of the University, because the Faculty does not have funds directly dedicated for it.

The coverage of the teaching programmes implemented at the Faculty by professional and educational literature is quite satisfactory; part of the literature is by authors from the Faculty, and part published by other relevant domestic or foreign publishers and authors.

In recent years, the Faculty has particularly encouraged publishing textbooks for professional studies, which can be seen from the attached list, since it was estimated that the teaching literature available on the market was insufficient and poorly adapted to new requirements and programmes of professional studies. Publication of author's lectures and electronic manuals, brochures or mimeographed course notes are particularly encouraged, as is publication on the Faculty's website for the relevant course.

It should be noted that the main obstacle to the publication of textbooks is the complex system of co-financing and financing, which forces the authors-teachers to invest their own funds with an uncertain and often insufficient refund. However, the option of electronic publications and their standardization has

facilitated the publication of teaching reading of proven quality, which certainly improves the overall publishing activity of the Faculty and the University.

Below is a list of University publications published in the last five years (teaching texts that are compulsory or additional literature in our study programmes, and which have undergone the prescribed procedure for approval and publication). A large number of publications which are the results of research activities of teachers and associates of the Faculty of Medicine in Rijeka, but which do not have the status of a university publication will be shown in section 5 of this self-evaluation report.

PUBLICATIONS IN 2014

1. Textbook **KVALITETA, SIGURNOST I KONZERVIRANJE HRANE** (FOOD QUALITY, SAFETY AND PRESERVATION), author: prof. dr. sc. Olivera Koprivnjak
 2. Manual **RADNA BILJEŽNICA IZ PSYCHIATRY** (WORKBOOK IN PSYCHIATRY), authors: Tanja Frančišković, Jasna Grković, Ana Kaštelan, Tanja Grahovac, Mirjana Graovac, Sanja Katalinić, Rajna Knez, Marina Letica-Crepulja, Ivana Ljubičić-Bistrović, Daniela Petrić, Eduard Pavlović, Ika Rončević Gržeta, Gordana Rubeša, Klementina Ružić, Tatjana Ružić, Vesna Šendula-Jengi, Marija Vučić-Peitol
 3. Textbook **OSNOVE ORGANSKE KEMIJE** (BASICS OF ORGANIC CHEMISTRY), 7th ed., translation, editors: prof. dr. sc. Čedomila Milin and prof. dr. sc. Gordana Čanadi Jurešić
 4. Manual **PRIRUČNIK IZ ANESTEZIOLOGIJE, REANIMATOLOGIJE I INTENZIVNE MEDICINE ZA STUDENTE UNDERGRADUATE, GRADUATE AND PROFESSIONAL STUDIES** (MANUAL IN ANESTHESIOLOGY IN BIOMEDICINE AND MEDICINE FOR STUDENTS OF UNDERGRADUATE, GRADUATE AND PROFESSIONAL STUDIES), authors: Josip Ažman, Mirna Bobinac, Sandra Baković, Josip Brusić, Tatjana Brusich, Natali Cicvarić, Boban Dangubić, Denis Dobrovac, Kristian Deša, Vedran Frković, Vesna Golubović, Biserka Grbčić-Mikulčić, Vesna Grubješić, Daniela Hlača KLučan, Helga Komen, Mladen Ivanovski, Miljenko Križmanić, Janja Kuharić, Marijana Maljković, Irena Merlak Radojčić, Vlasta Orić Karbić, Lukrecija Poropat, Alen Protić, Indira Radin Mačukat, Marijana Reljić, Jadranko Sokolić, Vlatka Sotošek Tokmadžić, Rade Štampalija, Alan Šustić, Maša Vico, Josip Žunić, Željko Župan
 5. Manual **MEDICINSKA MIKROBIOLOGIJA I PARAZITOLOGIJA** (MEDICAL MICROBIOLOGY AND PARASITOLOGY), authors: prof. dr. sc. Maja Abram, doc. dr. sc. Marina Bubonja Šonje, prof. dr. sc. Brigita Tićac, prof. dr. sc. Darinka Vučković
 6. Manual **MIKROBIOLOGIJA HRANE I VODE** (MICROBIOLOGY OF FOOD AND WATER), authors: prof. dr. sc. Marina Šantić, doc. dr. sc. Ivana Gobin, Mateja Ožanić, V. Marečić
 7. Textbook **GNATOLOGIJA** (GNATHOLOGY), authors: doc. dr. sc. Vlatka Lajnert and prof. dr. sc. Renata Gržić
 8. Textbook **ENGLISH IN RADIOLOGICAL TECHNOLOGY**, author: prof. dr. sc. Arijana Krišković
 9. Textbook **DIJETOTERAPIJA I KLINIČKA PREHRANA** (DIETOTHERAPY AND CLINICAL NUTRITION), authors: prof. dr. sc. Davor Štimac, prof. dr. sc., Željko Krznarić, dr. sc. Darija Vranešić Bender, Maja Glišić Obrovac
 10. Textbook **ENGLISH IN MEDICINE**, author: prof. dr. sc. Anamarija Gjuran Cocha
 11. Textbook **PREVENCIJA BOLESTI U DJEČJOJ DOBI** (PREVENTION OF DISEASE IN CHILDHOOD), author: doc. dr. sc. Irena Bralić
 12. Textbook **PSIHOTERAPIJSKI PRAVCI** (PSYCHOTHERAPEUTIC SCHOOLS), authors: prof. dr. sc. Tanja Frančišković and prof. dr. sc. Dragica Kozarić Kovačić
 13. Textbook **SMJERNICE ZA PROPISIVANJE ANTIMIKROBNIH LIJEKOVA U PRIMARNOJ ZDRAVSTVENOJ ZAŠTITI** (GUIDELINES FOR ANTIMICROBIAL DRUG PRESCRIPTION IN PRIMARY HEALTH CARE), authors: prof. dr. sc. Vera Vlahović-Palčevski and prof. dr. sc. Maja Abram*
- * In the process of application

PUBLICATIONS IN 2013

1. Manual **PRIRUČNIK ZA VJEŽBE IZ OPĆE I ANORGANSKE KEMIJE** (MANUAL FOR EXERCISES IN GENERAL AND INORGANIC CHEMISTRY), authors: prof. dr. sc. Branka Blagović and Bruno Mayer,
2. Textbook **PET/CT – KLINIČKA PRIMJENA** (PET/CT - CLINICAL USE), authors: mr. sc. Antonija Balenović, prof. dr. sc. Mirko Šamija, prof. dr. sc. Renata Dobrila-Dintinjana and prof. dr. sc. Svjetlana Grbac-Ivanković
3. Mimeographed course notes **SOCIJALNA MEDICINA** (SOCIAL MEDICINE), authors: Henrietta Benčević Striehl, Lovorka Bilajac, Elizabeta Dadić Hero, Suzana Janković, Milena Kabalin, Tomislav Rukavina, Morana Tomljenović, Vanja Vasiljev Marchesi

4. Authorised lecture **POSTELJICA - UVODNO PREDAVANJE** (PLACENTA - INTRODUCTORY LECTURE), author: doc. dr. sc. Sanja Štifter
5. Authorised lecture **INTERNA MEDICINA ZA STRUČNI STUDIJ RADIOLOŠKE TEHNOLOGIJE** (INTERNAL MEDICINE FOR THE PROFESSIONAL STUDY RADIOLOGICAL TECHNOLOGY), authors: prof. dr. sc. Renata Dobrila Dintinjana and prof. dr. sc. Svjetlana Grbac Ivanković
6. Textbook **FIZIKA ZA MEDICINARE** (PHYSICS FOR MEDICAL STUDENTS), authors: prof. dr. sc. Franjo Šolić and prof. dr. sc. Gordana Žauhar
7. Textbook **PRIRUČNIK ZA VJEŽBE IZ IMUNOLOGIJE** (MANUAL FOR EXERCISES IN IMMUNOLOGY), authors: Hana Mahmutefendić, Gordana Blagojević-Zagorac, Marin Dominović, Tamara Gulić, Hrvoje Jakovac, Maja Ilić-Tomaš, Pero Lučin, Tamara Nikolić, Vlatka Sotošek Tokmadžić, Zlatko Trobonjača
8. Textbook **UROLOGIJA I and UROLOGIJA II** (UROLOGY I AND UROLOGY II), authors: prof. dr. sc. Željko Fučkar and doc. dr. sc. Josip Španjol
9. Authorised lecture **OBVEZNO ZDRAVSTVENO OSIGURANJE** (COMPULSORY HEALTH INSURANCE), author doc. dr. sc. Vesne Štefanec-Nadarević
10. Textbook **KLINIČKA PATOFIZIOLOGIJA - ETIOPATOGENETSKI ČVORovi** (CLINICAL PATHOPHYSIOLOGY - ETIOPATHOGENIC NODES), editor: prof. dr. sc. Zdenka Kovača; co-authors from Faculty of Medicine in Rijeka: prof. dr. sc. Biserka Mulac-Jeričević, prof. dr. sc. Biserka Radošević-Stašić, prof. dr. sc. Gordana Laškarin, doc. dr. sc. Hrvoje Jakovac, prof. dr. sc. Ines Mrakovčić-Šutić, prof. dr. sc. Jagoda Ravlić-Gulan, prof. dr. sc. Natalia Kučić, prof. dr. sc. Zlatko Trobonjača
11. Textbook **OSNOVE PREVENCIJE KARIJESA I PARADONTALNIH BOLESTI** (FUNDAMENTALS OF PREVENTION OF DENTAL CARIES AND PERIODONTAL DISEASES), editors: doc. dr. sc. Danko Bakarčić and doc. dr. sc. Nataša Ivančić-Jokić; co-authors: prof. dr. sc. Andrija Petar Bošnjak, doc. dr. sc. Miranda Muhvić Urek, doc. dr. sc. Irena Glažar, doc. dr. sc. Alen Braut, dr. sc. Jelena Prpić, Sandra Hrvatin, MD, and Ivan Šćiran, MD.
12. Textbook **KLINIČKA FARMAKOLOGIJA** (CLINICAL PHARMACOLOGY), second expanded and updated edition, editors: prof. dr. sc. Igor Francetić and prof. dr. sc. Dinko Vitezić
13. Textbook **PALIJATIVNA MEDICINA: TEMELJNA NAČELA I ORGANIZACIJA; KLINIČKI PRISTUP TERMINALNOM BOLESNIKU; MEDICINSKA ETIKA** (PALLIATIVE MEDICINE: BASIC PRINCIPLES AND ORGANIZATION; CLINICAL APPROACH TO THE PATIENT TERMINAL; MEDICAL ETHICS), editors: dr. sc. Morana Brkljačić, prof. dr. sc. Mirko Šamija, dr. sc. Borislav Belev, prof. dr. sc. Marija Strnad and Tomislav Čengić, dr. med.; authors of chapters: prof. dr. sc. Igor Prpić, prof. dr. sc. Jelena Roganović, prof. dr. sc. Dinko Vitezić, dr. sc. Stanislav Sotošek and doc. dr. sc. Iva Sorta Bilajac
14. Textbook (e-edition) **ORALNO ZDRAVLJE - UVJET ZA OPĆE ZDRAVLJE** (ORAL HEALTH - CONDITION FOR GENERAL HEALTH), authors: doc. dr. sc. Robert Antoniće, prof. dr. sc. Ivana Brekalo Pršo, doc. dr. sc. Irena Glažar, doc. dr. sc. Snježana Glavičić, doc. dr. sc. Nataša Ivančić-Jokić, mr. sc. Davor Kuiša, doc. dr. sc. Miranda Muhvić Urek, prof. dr. sc. Sonja Pezelj Ribarić and doc. dr. sc. Marica Šimunović-Šoškić
15. Authorised lecture **ETIOPATOGENEZA REUMATOIDNOG ARTRITISA** (ETIOPATHOGENESIS OF RHEUMATOID ARTHRITIS), author: prof. dr. sc. Jagoda Ravlić-Gulan
16. Authorised lecture **DOBNO UVJETOVANE PROMJENE U STRUKTURI I FUNKCIJI SKELETNIH MIŠIĆA** (AGE-RELATED CHANGES IN THE STRUCTURE AND FUNCTION OF SKELETAL MUSCLES), author: doc. dr. sc. Marina Nikolić
17. Textbook **UVOD U BIOTEHNOLOŠKO CAD/CAM MODELIRANJE** (INTRODUCTION TO CAD/CAM MODELLING IN BIOTECHNOLOGY), authors: dr. sc. Sven Maričić, prof. dr. sc. Mladen Perinić and prof. dr. sc. Daniela Kovačević Pavičić (published by the Faculty of Engineering, the decision of the Faculty Council [in the files](#))

PUBLICATIONS IN 2012

1. Textbook **KLINIČKA ONKOLOGIJA** (CLINICAL ONCOLOGY), authors: prof. dr. sc. Eduard Vrdoljak, prof. dr. sc. Mirko Šamij, prof. dr. sc. Zvonko Kusić, prof. dr. sc. Marija Petković, prof. dr. sc. Damir Gugić and prof. dr. sc. Zdenko Krajina
2. Authorised lecture **RADIOAKTIVNOST I MEDICINSKA PRIMJENA RADIONUKLIDA** (RADIOACTIVITY AND MEDICAL APPLICATION OF RADIONUCLIDES), author: Branka Dresto-Alač, BS (Phys)
3. Manual **MJERENJE OPSEGA POKRETA I ANTROPOMETRIJSKO MJERENJE** (MEASUREMENT OF THE RANGE OF MOTION AND ANTHROPOMETRIC MEASUREMENTS), authors: Miljenka Zulle, BS, mr. sc. Ariana Fužinac-Smojver and Jasna Lulić-Drenjak, BS
4. Authorised lecture **IZBOR I POSTAVA ZUBA KOD POTPUNE BEZUBOSTI** (CHOICE AND POSITIONING OF TEETH IN TOTAL EDENTULISM), author: prof. dr. sc. Daniela Kovačević Pavičić

5. Textbook **STOMATOLOŠKO LIJEČENJE MEDICINSKI KOMPROMITIRANIH PACIJENATA** (DENTAL TREATMENT OF MEDICALLY COMPROMISED PATIENTS), authors: prof. dr. sc. Renata Gržić, doc. dr. sc. Danko Bakarčić, doc. dr. sc. Nataša Ivančić-Jokić, doc. dr. sc. Miranda Muhvić Urek, doc. dr. sc. Amila Zukanović, doc. dr. sc. Zoran Kovač, doc. dr. sc. Sadeta Šečić and prof. dr. sc. Samir Prohić
6. Textbook **ORTODONTSKI PRIRUČNIK** (ORTHODONTIC MANUAL), authors: doc. dr. sc. Stjepan Špalj, mr. sc. Andrej Katalinić, dr. sc. Suzana Varga and mr. sc. Nataša Radica
7. Authorised lecture **REKONSTRUKCIJA PREDNJEG KRIŽNOG LEGAMENTA - KOME, KAKO I ZAŠTO?** (ACL RECONSTRUCTION – FOR WHOM, HOW AND WHY?), author: prof. dr. sc. Gordan Gulan
8. Authorised lecture **POTPUNE KRUNICE-OSNOVE BRUŠENJA** (FULL CROWNS - BASIS OF GRINDING), author: prof. dr. sc. Ivone Uhač
9. Authorised lecture **ESTETSKE FIKSNOPROTETSKE REKONSTRUKCIJE-KLINIČKI I LABORATORIJSKI PRISTUP** (ESTHETIC FIXED PROSTHODONTIC RESTORATIONS - CLINICAL AND LABORATORY APPROACH), author: prof. dr. sc. Ivone Uhač
10. Authorised lecture **LAPAROSKOPIJA U ABDOMINALNOJ KIRURGIJI** (LAPAROSCOPY IN ABDOMINAL SURGERY), author: prof. dr. sc. Harry Grbas
11. Authorised lecture **KLINIČKE ETIČKE KONZULTACIJE** (CLINICAL ETHICS CONSULTATIONS), author: doc. dr. sc. Iva Sorta-Bilajac
12. Textbook **DJEČJA ORTOPEDIJA** (CHILDREN ORTHOPEDICS), authors: doc. dr. sc. Anton Tudor, prof. dr. sc. Branko Šestan et al.
13. Textbook **EPIDEMIOLOGIJA** (EPIDEMIOLOGY), authors: doc. dr. sc. Ivana Kolčić and prof. dr. sc. Ariana Vorko-Jović et al.

PUBLICATIONS IN 2011

1. Authorised lecture **PREVENCIJA SPORTSKIH OZLJEDA I OŠTEĆENJA SUSTAVA ORGANA ZA POKRETANJE** (PREVENTION OF SPORTS INJURIES AND IMPAIRMENTS OF THE MOTOR SYSTEM), author: doc. dr. sc. Anton Tudor
2. Manual **SMJERNICE ZA BOLNIČKU PRIMJENU ANTIMIKROBNIH LIJEKOVA 2011/2012** (GUIDELINES FOR HOSPITAL USE OF ANTIMICROBIAL DRUGS 2011-2012), authors: prof. dr. sc. Vera Vlahović-Palčevski, prof. dr. sc. Maja Abram et al.
3. Textbook **NEUROLOGIJA - UDŽBENIK ZA STRUČNE STUDIJE** (NEUROLOGY - TEXTBOOK FOR PROFESSIONAL STUDIES), authors: doc. dr. sc. Mira Bučuk and doc. dr. sc. Lidija Tuškan-Mohar
4. Manual **MENADŽMENT U ZDRAVSTVU** (HEALTH CARE MANAGEMENT), authors: prof. dr. sc. Sanja Balen, doc. dr. sc. Alen Ružić.
5. Authorised lecture **MAKSILOFACIJALNA KIRURGIJA I STOMATOLOGIJA** (MAXILLOFACIAL SURGERY AND DENTISTRY), author: prof. dr. sc. Mirna Juretić
6. Authorised lecture **DIFERENCIJALNA DIJAGNOZA OROFACIJALNE BOLI** (DIFFERENTIAL DIAGNOSIS OF OROFACIAL PAIN), author: prof. dr. sc. Mirna Juretić
7. Authorised lecture **KARCINOMI KOŽE GLAVE I VRATA: KIRURŠKO LIJEČENJE** (SKIN CANCER OF THE HEAD AND NECK: SURGICAL TREATMENT), author: prof. dr. sc. Mirna Juretić
8. Authorised lecture **NORMALAN HOD** (NORMAL GAIT), author: Hrvoje Vlahović, BSc (Reh)
9. Translation of textbook **ANATOMSKI ATLAS S LATINSKOM NOMENKLATUROM** (ANATOMICAL ATLAS WITH LATIN NOMENCLATURE), authors: Anne M. Gilroy et al.; editors of the Croatian edition: prof. dr. sc. Vedran Katavić, prof. dr. sc. Ivana Marić and prof. dr. sc. Katarina Vilović
10. Authorised lecture **OSNOVE GLAVNOG SUSTAVA TKIVNE SNOŠLJIVOSTI U ČOVJEKA** (FUNDAMENTALS OF THE MAIN HISTOCOMPATIBILITY SYSTEM IN MAN), author: doc. dr. sc. Marija Crnić-Martinović
11. Textbook **FARMAKOTERAPIJA U GERIJATRIJI - POSEBNOSTI PRIMJENE LIJEKOVA U STARIJOJ DOBI** (PHARMACOTHERAPY IN GERIATRICS - SPECIAL FEATURES OF DRUG THERAPY IN THE ELDERLY), by editor Zijad Duraković and co-author prof. dr. sc. Dinko Vitezić
12. Manual **RANO OTKRIVANJE I LIJEČENJE KARCINOMA PROSTATE** (EARLY DETECTION AND TREATMENT OF PROSTATE CANCER), authors: doc. dr. sc. Josip Španjol, prof. dr. sc. Anton Maričić, doc. dr. sc. Maksim Valenčić and dr. sc. Dean Markić
13. Mimeographed course notes **GRAĐA EKSTREMITETA** (STRUCTURE OF THE LIMBS), authors: prof. dr. sc. Dragica Bobinac, prof. dr. sc. Sanja Zoričić-Cvek and doc. dr. sc. Tamara Šoić-Vranić
14. Translation of textbook **BASIC AND CLINICAL PHARMACOLOGY** (TEMELJNA I KLINIČKA FARMAKOLOGIJA), by author Bertram G. et al. ; Croatian editors: doc. dr. sc. Vladimir Trkulja, prof. dr. sc. Marijan Klarica, prof. dr. sc. Melita Šalković-Petrišić
15. Authorised lecture **OPĆENITO O PRIJELOMIMA** (GENERAL INFORMATION ABOUT FRACTURES), author: doc. dr. sc. Hrvoje Štalekar

PUBLICATIONS IN 2010

1. Textbook **HEMATOLOGIJA ZA BACHELORE MEDICINSKO-LABORATORIJSKE DIJAGNOSTIKE** (HAEMATOLOGY FOR BACHELORS OF MEDICAL LABORATORY DIAGNOSTICS), authors: doc. dr. sc. Antica Duletić-Načinović, doc. dr. sc. Toni Valković and prof. dr. sc. Štefica Dvornik
2. Textbook **DEPRESIJA I DUHOVNOST** (DEPRESSION AND SPIRITUALITY), authors: prof. dr. sc. Đulijano Ljubičić et al.
3. Translation of textbook **BONDED PORCELAIN RESTORATIONS IN THE ANTERIOR DENTITION: A BIOMIMETIC APPROACH** (ADHEZIVNO CEMENTIRANI KERAMIČKI NADOMJESCI U PREDNJOJ DENTICIJI, BIOMIMETSKI PRISTUP), by prof. dr. sc. P. Magne and prof. dr. sc. U. Belser; editor of the Croatian edition: prof. dr. sc. Ivone Uhač
4. Translation of textbook **CLINICAL PERIODONTOLOGY AND IMPLANT DENTISTRY** (KLINIČKA PARADONTOLOGIJA I DENTALNA IMPLANTOLOGIJA), by editors J. Lindhe, N.P. Lang, T. Karring et al.; Croatian editor: prof. dr. sc. Andrija Bošnjak
5. Textbook **MEDICINA RADA** (OCCUPATIONAL MEDICINE), author: prof. dr. sc. Hrvoje Lalić
6. Authorised lecture **OZLJEDE KRALJEŠNICE** (SPINAL INJURIES), author: doc. dr. sc. Goran Bajek
7. Authorised lecture **ZNAČAJ I ULOGA MENISKA U FUNKCIJI KOLJENA** (IMPORTANCE AND ROLE OF THE MENISCUS IN THE FUNCTION OF THE KNEE), author: prof. dr. sc. Gordan Gulan
8. Textbook **SUICID I DUHOVNOST** (SUICIDE AND SPIRITUALITY), authors: prof. dr. sc. Đulijano Ljubičić and mr. sc. Anđela Jeličić
9. Textbook **OSNOVE KINEZILOGIJE: ANALIZA POKRETA I STAVOVA LJUDSKOG TIJELA** (BASICS OF KINESIOLOGY: ANALYSIS OF THE MOVEMENT AND POSTURES OF THE HUMAN BODY), author: prof. dr. sc. Dragica Bobinac
10. Textbook **OSNOVE TRANSFUZIJSKE MEDICINE** (BASICS OF TRANSFUSION MEDICINE), author: prof. dr. sc. Sanja Balen
11. Textbook **HITNA STANJA U PEDIJATRIJI** (EMERGENCY IN PAEDIATRICS), author: doc. dr. sc. Julije Meštrović
12. Manual **PRIRUČNIK ZA VJEŽBE IZ BIOKEMIJE ZA STUDIJ DENTALNE MEDICINE** (MANUAL FOR EXERCISES IN BIOCHEMISTRY FOR THE STUDY OF DENTAL MEDICINE), authors: dr. sc. Dijana Detel, prof. dr. sc. Jadranka Varljen, doc. dr. sc. Marin Tota, mr. sc. Jelena Marinić, prof. dr. sc. Robert Domitrović, prof. dr. sc. Jasminka Rupčić and prof. dr. sc. Čedomila Milin
13. Manual **PRIRUČNIK ZA SEMINARE I VJEŽBE IZ BIOKEMIJE ZA STUDENTE PREDDIPLOMSKOG STUDIJA SANITARNOG INŽENJERSTVA** (MANUAL FOR SEMINARS AND EXERCISES IN biochemistry FOR STUDENTS OF UNDERGRADUATE STUDIES OF SANITARY ENGINEERING), authors: prof. dr. sc. Čedomila Milin, prof. dr. sc. Jasminka Rupčić, prof. dr. sc. Robert Domitrović, doc. dr. sc. Marin Tota, Josip Laginja, dipl.ing., prof. dr. sc. Jadranka Varljen and Sunčica Ostojić, BSE.
14. Manual **PRIRUČNIK ZA PREDAVANJE I VJEŽBE IZ LABORATORIJSKE DIJAGNOSTIKE ZA STUDENTE STRUČNOG STUDIJA RADIOLOŠKE TEHNOLOGIJE** (MANUAL FOR LECTURES AND EXERCISE IN LABORATORY DIAGNOSTICS FOR STUDENTS OF THE PROFESSIONAL STUDY OF RADIOLOGICAL TECHNOLOGY), authors: prof. dr. sc. Robert Domitrović, prof. dr. sc. Čedomila Milin, dr. sc. Marin Tota, Josip Laginja, BS, prof. dr. sc. Jadranka Varljen and prof. dr. sc. Jasminka Rupčić.

PUBLICATIONS IS 2009

1. Manual **SMJERNICE ZA PROPISIVANJE ANTIMIKROBNIH LIJEKOVA U PRIMARNOJ ZDRAVSTVENOJ ZAŠTITI 2009/2010"**, (GUIDELINES FOR ANTIMICROBIAL DRUG PRESCRIPTION IN PRIMARY HEALTH CARE 2009-2010), authors: prof. dr. sc. Vera Vlahović-Palčevski, prof. dr. sc. Maja Abram et al.
2. Textbook **GLUHI I ZNAKOVNO MEDICINSKO NAZIVLJE - KAKO KOMUNICIRATI S GLUHIM PACIJENTOM?** (THE DEAF AND MEDICAL SIGN LANGUAGE - HOW TO COMMUNICATE WITH DEAF PATIENTS?), editor prof. dr. sc. Ivan Šegota et al.
3. Manual **PRIRUČNIK ZA VJEŽBE IZ BIOKEMIJE ZA ZA STRUČNI STUDIJ MEDICAL LABORATORY DIAGNOSTICS** (MANUAL FOR EXERCISES IN BIOCHEMISTRY FOR THE PROFESSIONAL STUDY OF MEDICAL LABORATORY DIAGNOSTICS), authors: dr. sc. Gordana Čanadi Jurešić, prof. dr. sc. Jadranka Varljen, prof. dr. sc. Čedomila Milin, prof. dr. sc. Robert Domitrović, dr. sc. Marin Tota and prof. dr. sc. Jasminka Rupčić
4. Textbook **WALDEYEROVA ANATOMIJA ČOVJEKA** (WALDEYER HUMAN ANATOMY), authors: J. Fanghanel, F. Anderhuber and R. Nitsch; editor of the Croatian edition prof. dr. sc. Dragica Bobinac
5. Textbook **STOMATOLOŠKA PROPEDEUTIKA I DIJAGNOSTIKA** (DENTAL PROPEDEUTICS AND DIAGNOSIS), authors: prof. dr. sc. Sonja Pezelj- Ribarić et al.

6. Textbook **INFEKCIJE USNE ŠUPLJINE** (INFECTIONS OF THE ORAL CAVITY), authors: prof. dr. sc. Miro Morović and prof. dr. sc. Biserka Trošelj-Vukić
7. Textbook **DENTALNA RADIOGRAFIJA I RADIOLOGIJA** (DENTAL RADIOGRAPHY AND RADIOLOGY), authors: prof. dr. sc. Damir Miletić and prof. dr. sc. Stipan Janković
8. Manual **ALOARTROPLASTIKA KOLJENA** (KNEE ALOARTHROPLASTY), authors: prof. dr. sc. Branko Šestan and prof. dr. sc. Gordan Gulan
9. Manual **VIETNAM WIVES**, author: prof. dr. sc. Tanja Frančišković
10. Textbook **DUHOVNOST I PSIHIJARIJA** (SPIRITUALITY AND PSYCHIATRY), author: prof. dr. sc. Đulijano Ljubičić
11. Textbook **ZBIRKA ZADATAKA IZ KEMIJE STUDENTE MEDICINSKO-LABORATORIJSKE DIJAGNOSTIKE** (CHEMISTRY EXERCISE BOOK FOR STUDENTS OF MEDICAL LABORATORY DIAGNOSTICS), author: prof. dr. sc. Jasminka Giacometti
12. Textbook **MEDICINSKA INFORMATIKA** (MEDICAL INFORMATICS), by a group of 42 authors, editors: prof. dr. sc. Mladen Petrovečki and prof. dr. sc. Josipa Kern
13. Textbook **ORALNO-KIRURŠKI PRIRUČNIK** (ORAL-SURGICAL MANUAL), author: prof. dr. sc. Tomislav Čabov

List of e-courses in 2014-2015 (situation on 31/10/2014)

Course title	Course coordinator	E-mail address	Study
Anorganic Chemistry	Branka Blagović	branka.blagovic@medri.uniri.hr	SE
Anthropometry	A. Buretić-Tomljanović	alenabt@uniri.hr	MED
Anthropometry and Cephalometry	Stjepan Špalj	stjepan.spalj@medri.uniri.hr	DM
Cell Biology with Genetics	A. Buretić-Tomljanović	alenabt@uniri.hr	DM
Dental Photography	Stjepan Špalj	stjepan.spalj@medri.uniri.hr	DM
Dental Public Health	Stjepan Špalj	stjepan.spalj@medri.uniri.hr	DM
Interdisciplinary Orthodontics	Stjepan Špalj	stjepan.spalj@medri.uniri.hr	DM
Physiology and Pathophysiology II	Gordana Blagojević	gordana.blagojevic@medri.uniri.hr	MED
Yeast as a Model Organism	Branka Blagović	branka.blagovic@medri.uniri.hr	SE
Mathematics CO	Denis Crnković Katica Jurasić	jurasic@riteh.hr.	SE
Mathematics MLD	Denis Crnković Katica Jurasić	jurasic@riteh.hr.	SE
Mathematics SE	Denis Crnković Katica Jurasić	jurasic@riteh.hr.	SE
Medical Cytogenetics in Practice	A. Buretić-Tomljanović	alenabt@uniri.hr	MED
Teeth Morphology with Dental Anthropology	Nataša Jokić Ivančić	natašaivancicjokic@gmail.com	DM
Advanced Computer Applications	Željko Jeričević	zeljko.jericevic@riteh.hr.	MED
General Chemistry	Branka Blagović	branka.blagovic@medri.uniri.hr	SE
Orthodontics	Stjepan Špalj	stjepan.spalj@medri.uniri.hr	DM
Introduction to Bioinformatics	Željko Jeričević	zeljko.jericevic@riteh.hr.	MED
Pathology	Sanja Štifter	sanja.stifter@medri.uniri.hr	MED
Introduction to Dental Medicine	Stjepan Špalj	stjepan.spalj@medri.uniri.hr	DM
Pre-Clinical Orthodontics	Stjepan Špalj	stjepan.spalj@medri.uniri.hr	DM
Life Under the Microscope	Ivana Gobin	ivana.gobin@uniri.hr	SE
Introduction to e-Learning	Lidija Bilić Zulle	lidija.bilic.zulle@medri.uniri.hr	MED

j) Specify to what extent you are satisfied with the current situation and propose possible improvements.

The Faculty of Medicine in Rijeka has a long tradition as a scientific and educational institution within the University of Rijeka, so that any changes related to the spatial and personnel resources, organisation of teaching, modifications of the existing or introduction of new study programmes, investment in scientific research and international recognisability are aimed to develop this institution as a centre of excellence both in teaching and research terms. In this endeavour, we have encountered some problems, which are presented in some parts of this self-evaluation, mainly related to the harmonization of the social need to increase the capacity of individual study programmes that are in short supply and to open new study programmes for training different types of experts in health care, and the personnel and physical capacity of our Faculty. What we find to be the greatest obstacle to reaching this goal are the limits on new job openings imposed by the responsible ministries, which directly stimulate brain-drain of young, skilled and trained personnel to other countries.

5. Scientific and professional activity

Tables 5.2. to 5.6. (in the attached document)

a) Describe the strategy of scientific activity over at least a five-year period concerning research in the scientific area for which your institution is registered in the Register of Scientific Organisations.

The strategic programme of scientific research, defined in the Strategy of the University of Rijeka Faculty of Medicine, is consistent with the purpose, content and mission of our institution, and its development opportunities are appropriate to the set goals and mission. The programmes of the institution are relatively attractive, and are expected to remain such in the coming five-year period, all of which puts us in a good competitive position. Moreover, the coverage of the programme carried out by similar institutions in the broad region is very high, so healthy competition is the fundamental philosophy underlying the Strategy of the University of Rijeka Faculty of Medicine for 2010- 2015.

The development of scientific research is directly associated with the first two strategic objectives of the institution. The first strategic goal is the creation of all necessary legal and other frameworks for the establishment of the University Hospital as a joint institution of ministries of health, science and higher education, including changing the existing model of the Clinical Hospital Centre. It should be emphasized that the model of the Clinical Hospital Centre that we have does not exist in Europe or other developed countries in the world. Hospitals in which, in addition to treatment of patients, different profiles of students are trained and scientific research is carried out are invariably managed together with a university or are its integral part. In such University hospitals human resources and costly material resources are used rationally, so they are at the same time available to patients, the educational process and to scientific research groups, thus multiply increasing their utilization. In contrast, the existing model of clinical medical centres which employ part of the so-called faculty and part of the so-called non-faculty staff is characterized by an absolutely irrational use of material and personnel resources, accompanied with a lack of systematic cooperation between clinical and preclinical activities. In addition, such dichotomy in which research, technology transfer and education are carried out in one and at the same time applied in another system, results in a conflict of academic standards and criteria in everyday routine and inevitably results in divisions.

The second strategic objective is to link institutionally basic and clinical research through the project of the Centre for Translational Medical Research titled "TransMedRi". Medical research has traditionally been divided into basic and clinical research, and this division makes it difficult, on the one hand, to implement basic science in clinical practice, and to search for answers to clinical problems in basic research on the other. The main task of translational medicine is to implement the achievements of basic medical sciences (e.g. molecular biology or experimental physiology and immunology) in clinical research, and integrate research on the principle of "from-bench-to-bedside" policy. The project of the Centre for Translational Medicine will inevitably lead to strengthening scientific cooperation and global competitiveness of research groups as the engines of development and staff renewal, and to encouraging the creation of academic spirit and creative atmosphere in preclinical and clinical practice.

The strategic programme of scientific research is also an integral part of the University of Rijeka Strategy for 2007-2013, one of the fundamental objectives of which (strategic goal 2) is development of a research university with an established research profile, centres of excellence, collaborative research, institutional care for development of research careers, and twice the current scientific production. The research and age structure of teachers, the large number of research assistants, and major investments in infrastructure enable expansion of research activities in basic research at the University. Organized basic research is the task of all constituents and teachers of the University. Increasing the research activities in basic research and expansion of the research base are prerequisites for development of applied and development research that will result in innovations and connecting with the local community and economy. The University of Rijeka wants to be present in the global market of knowledge with its research activities, actively participate in the European Research Area and, as a strong regional research centre, contribute to development of the region and Croatia as a whole. It is therefore necessary to develop productivity and quality of research outcomes, particularly scientific publications, taking into account the specificities of different scientific fields. The task is to double the number of full-time students in the doctoral studies, of whom at least ten percent would have scholarship fees funded by the University of Rijeka. Doctoral studies should be organized as programmes of the third cycle of higher education, according to the principles of the Bologna Process. Programmes of doctoral studies must be based on the principles of the European Charter

and Code, should make use of different funding sources and include different categories of students: students financed by the state, the University, various foundations and international projects. Establishing a University research profile allows better quality and better planned investment in infrastructure, equipment and people, and ultimately to the recognition of the University in the wider environment. Well-defined research profiles enable collaborative research and the formation of collaborative centres of excellence that will be competitive at the national level and in the European Research Area.

b) List 10 world-renowned scientific journals in which teachers of your HEI publish their works. Comment on the relevant impact factors. List several renowned cultural institution, museums and galleries in which teachers of your HEI present their work.

Journals in which the teachers of the University of Rijeka Faculty of Medicine published works in the analyzed period from 2009 to 2013 are sorted by the impact factor for each year of publication. Only one representative paper is listed for each journal, although in some journals our teachers published several papers over the period of five years.

SCIENCE 2011; 334(6060):1293-1297 **IF=31.201**
Strid J. Sobolev O. Zafirova B. Polic B. Hayday A. The Intraepithelial T Cell Response to NKG2D-Ligands Links Lymphoid Stress Surveillance to Atopy.

NATURE BIOTECHNOLOGY 2010; 28(7): 650-653 **IF= 31.090**
Bourbeillon J, Orchard S, Benhar I, et al. (Polic B). Minimum information about a protein affinity reagent (MIAPAR).

NATURE IMMUNOLOGY 2012; 13(9): 864-871 **IF= 26.199**
van Gisbergen KP, Klaas PJM, Kragten NA, Hertoghs KM, Wensveen NM, Jonjić S, et al. Mouse Hobit is a homolog of the transcriptional repressor Blimp-1 that regulates NKT cell effector differentiation.

NATURE MEDICINE 2012; 18(3) 422-NIL_184 **IF=24.302**
Zloza A, Kohlhapp FJ, Lyons GE, et al. (Zafirova B, Polic B) NKG2D signaling on CD8(+) T cells represses T-bet and rescues CD4-unhelped CD8(+) T cell memory recall but not effector responses

IMMUNITY 2009; 318(2): 270-282 **IF=20.589**
Zafirova B, Mandarić S, Antulov R, et al. Altered NK Cell Development and Enhanced NK Cell-Mediated Resistance to Mouse Cytomegalovirus in NKG2D-Deficient Mice.

NATURE CELL BIOLOGY 2013; 15(8): 967-NIL_196 **IF=20.058**
Velimezi G, Lontos M, Vougas K, et al. (Volarevic S). Functional interplay between the DNA-damage-response kinase ATM and ARF tumour suppressor protein in human cancer.

JOURNAL OF EXPERIMENTAL MEDICINE 2009; 206(3): 515-523 **IF=14.505**
Kielczewska A, Pyzik M, Sun T, et al. (Jonjić S) Ly49P recognition of cytomegalovirus-infected cells expressing H2-D(k) and CMV-encoded m04 correlates with the NK cell antiviral response

CELL HOST & MICROBE 2013; 13(5): 535-545 **IF=12.194**
Jordan, Stefan; Ruzsics, Zsolt; Mitrovic, Maja; et al. Natural Killer Cells Are Required for Extramedullary Hematopoiesis following Murine Cytomegalovirus Infection

HEPATOLOGY 2011; 53(4):1407. **IF= 11.665**
Awad T. Thorlund K. Hauser G. Stimac D. Mabrouk M. Glud C. "Real-Life" Comparison of Pegylated-Interferon 2a Versus 2b Combination Therapy of Chronic Hepatitis C Virus Reply.

ARCHIVES OF GENERAL PSYCHIATRY, 2010: 67(5): 518-528 **IF= 10.782**
Priebe S, Bogic M, Ajdukovic D, et al. (Franciskovic T) Mental Disorders Following War in the Balkans. A Study in 5 Countries.

The cited ten most renowned journals show that teachers of the Faculty of Medicine in Rijeka publish their scientific papers in prestigious scientific journals in the world. A significant part of the work is the result of collaborative participation in international studies with several centres of excellence, which demonstrates the competitiveness and recognition of individual research groups at our Faculty. It can also be noted that papers from the field of basic medical sciences were published in journals with higher impact factor (IF).

c) List ten most important scientific papers for your institution with explanation (for each scientific field of your institution) in the last five years. Specify and comment on citations of these papers in international citation databases (WOS, Scopus, Google Scholar). Compare the scope of your scientific achievements with comparable national and international HEI.

We show the scientific papers of the reference period (2009-2013) in two groups. Scientific papers of the first group (10) belong to basic medical research, and the papers of the other group (10) belong to clinical medical research. The selection criteria included the impact factor (IF) of the journal in which the paper was published, its citations, the rank of the journal in a particular category and the quartile of the journal in its category. All these paper were published in journals belonging to the first quartile and are very highly positioned in their respective categories.

Papers belonging to **basic medical sciences** are:

Minimum information about a protein affinity reagent (MIAPAR)

Bourbeillon, Julie; Orchard, Sandra; Benhar, Itai; et al. (Polic, Bojan)
NATURE BIOTECHNOLOGY Volume: 28 Issue: 7 Pages: 650-653 Published: JUL 2010

IF= 31.090

Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
BIOTECHNOLOGY & APPLIED MICROBIOLOGY	160	1	Q1

Host Proteasomal Degradation Generates Amino Acids Essential for Intracellular Bacterial Growth.

Price CTD. Al-Quadani T. Santic M. Rosenshine I. Abu Kwaik Y.
SCIENCE. 334(6062):1553-1557, 2011 Dec 16.

IF=31.201

Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
MULTIDISCIPLINARY SCIENCES	56	2	Q1

The Intraepithelial T Cell Response to NKG2D-Ligands Links Lymphoid Stress Surveillance to Atopy.

Strid J. Sobolev O. Zafirova B. Polic B. Hayday A.
SCIENCE. 334(6060):1293-1297, 2011 Dec 2.

IF=31.201

Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
MULTIDISCIPLINARY SCIENCES	56	2	Q1

Mouse Hobit is a homolog of the transcriptional repressor Blimp-1 that regulates NKT cell effector differentiation

van Gisbergen KP, Kragten NA, Hertoghs KM, Wensveen FM, Jonjić S, Hamann J, Nolte MA, van Lier RA.
NATURE IMMUNOLOGY Volume: 13 Issue: 9 Pages: 864-871 Published: SEP 2012

IF= 26.199

Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
IMMUNOLOGY	137	3	Q1

[**NKG2D signaling on CD8\(+\) T cells represses T-bet and rescues CD4-unhelped CD8\(+\) T cell memory recall but not effector responses**](#)

Zloza, Andrew; Kohlhapp, Frederick J.; Lyons, Gretchen E.; et al. (Zafirova, Biljana)
NATURE MEDICINE Volume: 18 Issue: 3 Pages: 422-NIL_184 Published: MAR 2012

IF=24.302

Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
BIOCHEMISTRY & MOLECULAR BIOLOGY	290	3	Q1
CELL BIOLOGY	185	5	Q1
MEDICINE, RESEARCH & EXPERIMENTAL	121	1	Q1

[**Resistance to Mousepox Virus: CD94 on a Special Mission.**](#)

Jonjić S. Trsan T.
Immunity. 34(4):458-460, 2011 Apr 22.

IF= 21.637

Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
IMMUNOLOGY	139	4	Q1

[**Functional interplay between the DNA-damage-response kinase ATM and ARF tumour suppressor protein in human cancer**](#)

Velimezi, Georgia; Liontos, Michalis; Vougas, Konstantinos; et al. (Volarevic, Sinisa)
NATURE CELL BIOLOGY Volume: 15 Issue: 8 Pages: 967-NIL_196 Published: AUG 2013

IF=20.058

Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
CELL BIOLOGY	185	7	Q1

[**Altered NK Cell Development and Enhanced NK Cell-Mediated Resistance to Mouse Cytomegalovirus in NKG2D-Deficient Mice**](#)

By: Zafirova, Biljana; Mandaric, Sanja; Antulov, Ronald; et al.
IMMUNITY Volume: 31 Issue: 2 Pages: 270-282 Published: AUG 21 2009

IF=20.589

Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
IMMUNOLOGY	128	4	Q1

[**ROR gamma t\(+\) Innate Lymphoid Cells Acquire a Proinflammatory Programme upon Engagement of the Activating Receptor NKp44**](#)

By: Glatzer, Timor; Killig, Monica; Meisig, Johannes; et al. (Babic, Marina)
IMMUNITY Volume: 38 Issue: 6 Pages: 1223-1235 Published: JUN 27 2013

IF=19.748

Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
IMMUNOLOGY	144	4	Q1

[**RAE-1 epsilon Ligand Expressed on Pancreatic Islets Recruits NKG2D Receptor-Expressing Cytotoxic T Cells Independent of T Cell Receptor Recognition**](#)

By: Markiewicz, Mary A.; Wise, Erica L.; Buchwald, Zachary S.; et al. (Polic, Bojan)
IMMUNITY Volume: 36 Issue: 1 Pages: 132-141 Published: JAN 27 2012

IF= 19.795

Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
IMMUNOLOGY	137	4	Q1

Of the papers belonging to **clinical medical sciences**, we also selected the following ten:

[Budesonide 9 mg Is at Least as Effective as Mesalamine 4.5 g in Patients With Mildly to Moderately Active Crohn's Disease.](#)

Tromm A. Bunganic I. Tomsova E., et al. (Štimac D)
Gastroenterology. 140(2):425-NIL_123, 2011 Feb.

IF= 11.675

Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
GASTROENTEROLOGY & HEPATOLOGY	74	1	Q1

["Real-Life" Comparison of Pegylated-Interferon 2a Versus 2b Combination Therapy of Chronic Hepatitis C Virus Reply.](#)

Awad T. Thorlund K. Hauser G. Štimac D. Mabrouk M. Gluud C.
Hepatology. 53(4):1407, 2011 Apr.

IF= 11.665

Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
GASTROENTEROLOGY & HEPATOLOGY	74	2	Q1

[Peginterferon alpha-2a Is Associated with Higher Sustained Virological Response than Peginterferon alfa-2b in Chronic Hepatitis C: Systematic Review of Randomized Trials](#)

Awad, Tahany; Thorlund, Kristian; Hauser, Goran; et al. (Štimac D)
HEPATOLOGY Volume: 51 Issue: 4 Pages: 1176-1184 Published: APR 2010

IF= 10.885

Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
GASTROENTEROLOGY & HEPATOLOGY	72	2	Q1

[Mental Disorders Following War in the Balkans A Study in 5 Countries](#)

Priebe, Stefan; Bogic, Marija; Ajdukovic, Dean; et al. (Franciskovic T)
ARCHIVES OF GENERAL PSYCHIATRY Volume: 67 Issue: 5 Pages: 518-528 Published: MAY 2010

IF= 10.782

Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
PSYCHIATRY	128	3	Q1

[Proceed With Caution Peginterferon Alpha-2a Versus Peginterferon Alfa-2b in Chronic Hepatitis C. A Systematic Review of Randomized Trials Reply](#)

Awad, Tahany; Thorlund, Kristian; Hauser, Goran; et al. (Štimac D)
HEPATOLOGY Volume: 52 Issue: 6 Pages: 2241-2242 Published: DEC 2010

IF= 10.885

Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
GASTROENTEROLOGY & HEPATOLOGY	72	2	Q1

[Causes and risk factors for death in systemic sclerosis: a study from the EULAR Scleroderma Trials and Research \(EUSTAR\) database](#)

Tyndall, Anthony J.; Bannert, Bettina; Vonk, Madelon; et al. (Novak S)
ANNALS OF THE RHEUMATIC DISEASES Volume: 69 Issue: 10 Pages: 1809-1815 Published: OCT 2010
IF= 9.082

Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
RHEUMATOLOGY	29	1	Q1

[Personalizing health care: feasibility and future implications](#)

Godman, Brian; Finlayson, Alexander E.; Cheema, Parneet K.; et al. (Vlahovic-Palcevski,V)
BMC MEDICINE Volume: 11 Pages: 179-179 Published: AUG 13 2013
IF=7.276

Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
MEDICINE, GENERAL & INTERNAL	156	9	Q1

[Factors associated with mental disorders in long-settled war refugees: refugees from the former Yugoslavia in Germany, Italy and the UK](#)

Bogic, Marija; Ajdukovic, Dean; Bremner, Stephen; et al. (Franciskovic T)
BRITISH JOURNAL OF PSYCHIATRY Volume: 200 Issue: 3 Pages: 216-223 Published: MAR 2012
IF= 6.606

Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
PSYCHIATRY	135	10	Q1

[Cardiac biomarkers predict outcome after hospitalisation for an acute exacerbation of chronic obstructive pulmonary disease](#)

Marcun, Robert; Sustic, Alan; Brguljan, Pika Mesko; et al.
INTERNATIONAL JOURNAL OF CARDIOLOGY Volume: 161 Issue: 3 Pages: 156-159 Published: NOV 29 2012
IF= 5.509

Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
CARDIAC & CARDIOVASCULAR SYSTEMS	124	16	Q1

[Flat-Footedness Is Not a Disadvantage for Athletic Performance in Children Aged 11 to 15 Years](#)

By: Tudor, Anton; Ruzic, Lana; Sestan, Branko; et al.
PEDIATRICS Volume: 123 Issue: 3 Pages: e386-e392 Published: MAR 2009
IF= 4.687

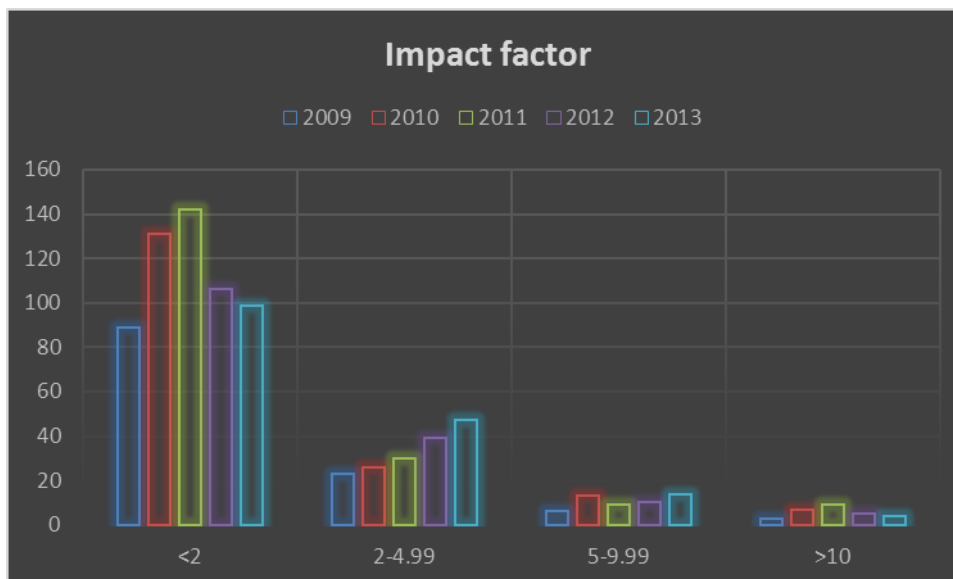
Category Name	Total Journals in Category	Journal Rank in Category	Quartile in Category
PEDIATRICS	94	3	Q1

These data clearly show that the papers in basic medical sciences were published in journals with a higher impact factor, but that the papers in clinical medical sciences fully follow the excellence of journals with regard to their category rank and quartile. Using the impact factor as the sole criterion would not adequately reflect the true scientific value of clinical research at our university.

Figure 1. Number of scientific publications (CC) by teachers and associates employed at the Faculty of Medicine in Rijeka in the relevant period.

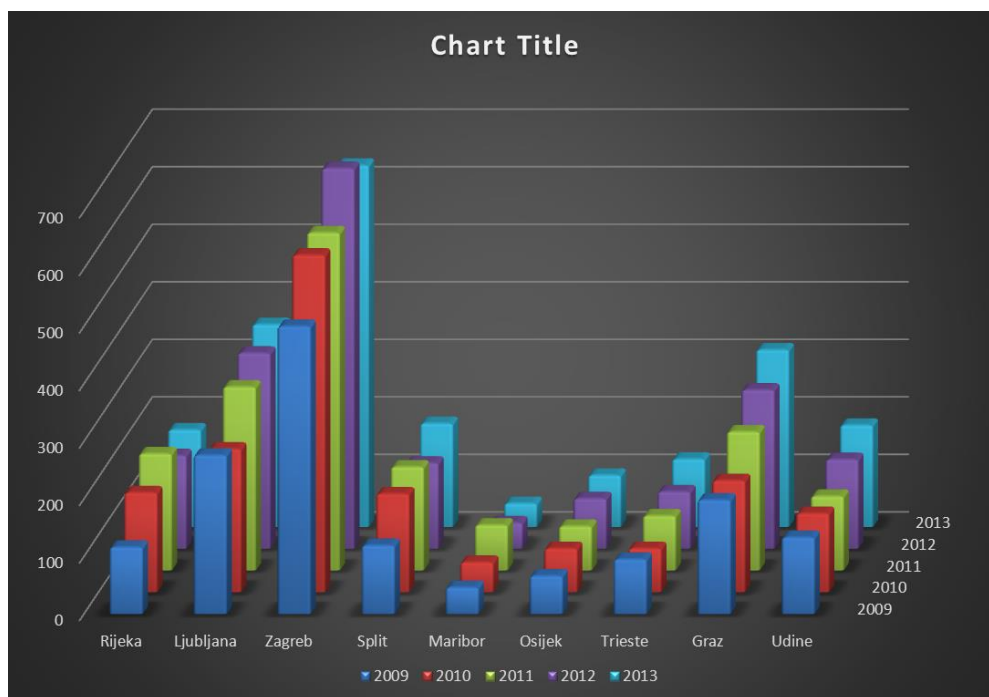


Figure 2. Distribution of published CC papers by teachers and associates employed at the Faculty of Medicine in Rijeka based on impact factor (IF) in the relevant period.



There has been a mild, relatively stable trend of increase in the number of scientific publications in the past five years (Figure 1), significant when compared to the previous five-year period. The quality of scientific papers has continuously increased over the five years (Figure 2), as can be seen from the number of publications with IF higher than 2 and lower than 5 in relation to publications with a lower IF, but no significant increase was observed in the number of publications with an IF over 5. The results obtained can be attributed to a higher inflow of funds for research, development of scientific infrastructure (education and training of personnel, introduction of new technologies, procurement opportunities for capital and other scientific equipment, etc.). The total scientific productivity is still at a relatively low, unsatisfactory level when compared to other domestic and foreign medical schools in the area (Figure 3).

Figure 3. Comparison of the quantity of scientific publications (CC) by teachers and associates, employees of the Faculty of Medicine in Rijeka, with that of comparable institutions in the broad region



By comparing the number of scientific publications of the Faculty of Medicine in Rijeka in the period 2009-2013 with medical schools in the Republic of Croatia and the neighbouring countries, it is evident that there is a significant lag in comparison with Zagreb, and to a lesser extent when compared with Ljubljana and Graz. The Faculty of Medicine in Rijeka is at the level of medical faculties in Split and Udine, slightly better than the faculty in Trieste, and significantly ahead of those in Maribor and Osijek. We must make further efforts to strengthen the scientific infrastructure (train scientific staff, introduce new technologies, invest in scientific equipment) in order to come closer in this respect to similar institutions in our immediate environment as soon as possible.

Table 4. Citation rates of individual scientists of the Faculty of Medicine in Rijeka in the period 2009-2013.

First and last name	Citations	First and last name	Citations
Stipan Jonjić	606	Nives Jonjić	166
Astrid Krmpotić	364	Biljana Zafirova	166
Davor Štimac	255	Robert Domitrović	159
Marina Šantić	230	Hrvoje Jakovac	151
Marina Babić	203	Tanja Frančišković	143
Siniša Volarević	184	Maja Mitrović-Arapović	127
Bojan Polić	177	Goran Hauser	123

Comparison with the previous period shows that the citation rates of individual scientists continued to be at a high level in the period of self-evaluation, which points to the continuity of their scientific activities and provides a solid basis for development of science. In the observed period, some scientists who had not been previously noted emerged with good citations, which is encouraging in terms of creating new scientific cores of the Faculty of Medicine in Rijeka.

Although in some of these areas solid results have been achieved, the scientific activity of the Faculty is still not sufficiently or evenly developed in all organizational units, which is particularly true of clinical branches. In the next five years we plan to encourage development of a higher number of research groups at our clinics (primarily through selection and training of young scientists, creating the necessary scientific environment, incentive measures by the Faculty management, better coordination with the

Clinical Hospital Centre as the main teaching base, etc.) and their cooperation with preclinical departments, which could provide some synergies and enhance their scientific productivity.

d) If other types of publications (books, conference proceedings, etc.) are more important to your HEI, list 10 most important publications of that type. Comment on the criteria for choosing them.

e) Specify the criteria for scientific productivity of mentors of doctoral dissertations at your doctoral study programmes and compare them with similar HEI in Croatia and abroad.

Mentors of doctoral dissertation in our doctoral studies are teachers elected into the research-teaching titles at the Faculty of Medicine in Rijeka or in another higher education institution of the same rank. In accordance with the Regulations on Conditions and Procedure of Election into Titles and Corresponding Positions of the University of Rijeka Faculty of Medicine, applicants for election into a research-teaching title must meet the general requirements of the Rectors' Conference and additional conditions of the Faculty of Medicine in Rijeka relating to participation in scientific projects, additional CC/SCIE papers on top of the minimum number required by the Act on Scientific Activity and Higher Education, and to participate in postgraduate teaching and mentoring in doctoral or master's degree dissertations (depending on the research-teaching title applied for).

In comparison to the prestigious foreign universities of the same rank, the criteria for selection of mentors at the Postgraduate (doctoral) university study of Biomedicine are not defined clearly enough, which results in insufficiently well defined criteria for admission to the study and unsatisfactory completion rate in this study. The proposed new doctoral school of Biomedicine and Health, which is under review, will make it possible to fully comply with the competitive higher education institutions in the EU.

f) Comment on your HEI policy regarding scientific development of young researchers.

Scientific development of young researchers is encouraged primarily through their involvement in scientific research groups, in which the young scientists who are involved in preclinical work are in a better position. Only a small number of clinical departments have managed so far to create the appropriate scientific environment that is stimulating for young scientists (who are also residents in certain clinical disciplines) through collaborative projects with foreign institutions of compatible scientific interest. Also only a lesser part of departments have established good cooperation with preclinical institutes and thus achieved synergy of clinical and basic medical research. We are aware that this system is still insufficiently developed to stimulate scientific and clinical growth of young scientists and envelop the whole institution, which is one of the fundamental objectives of our institution in the next period.

g) Comment on the number of scientific publications produced within international cooperation of your teachers and associates with foreign scientists and artists as co-authors. Compare those results with the practice of other similar HEI.

Most scientific groups have well-developed formal and informal cooperation with international research groups, so there is also a great number of papers in which foreign scientists are co-authors, especially in basic medical research. International cooperation and complementarity of research groups in the preparation of papers with the aim of increasing their quality is common and desirable in all universities worldwide. It contributes to the transfer of knowledge and technologies that is essential to our institution which wishes to accelerate its scientific development and catch up scientifically more developed environments.

h) Specify opinions of doctoral candidates about the availability of mentors of doctoral dissertations, i.e., the time allocated for their introduction into methods of scientific research.

A survey which includes the doctoral students' opinions of their mentors was conducted in October 2014. The survey was anonymous and voluntary, and included 52 doctoral students from about 90 enrolled in the doctoral study in the observed period. To the question referring to the availability of mentors, more than 84% of the doctoral students find that their mentors are often or permanently available, fewer than 10% of them feel that their mentors are available enough, and 6% that they are not available enough. With regard

to the time that their mentor devoted to explaining the methods of scientific research, the majority (about 69%) believe that their mentors invest much or very much time in this, and about 15% believe that this time is sufficient for the continuity of progress in the doctoral study. However, almost 12% of doctoral students find that mentors do not allocate sufficient time for work with doctoral students, and about 4% say that mentors hardly ever devote their time to teaching them. In conclusion, the survey revealed that the vast majority of mentors are available to their doctoral students, but that part of them do not devote enough of their time to introducing their doctoral candidates in the methods of scientific research.

Although the survey was not comprehensive to the desired extent, we believe that the sample was representative of the general satisfaction of doctoral students with their mentors. We expect that the implementation of the reformed study programme, which is under review, will provide a much higher quality, more frequent and systematic monitoring of the progress of doctoral students through their study, but also of the work of their mentors.

i) Describe the content and the character of ten most important scientific projects of your HEI in the last 3 years (numerical data in the Table 5.2). State your opinion on the quality of work and results.

Analyzing the five-year period (200-2013), we have selected projects by teachers of the Faculty of Medicine in Rijeka which were partly or fully conducted in this period and made great scientific contribution, sorted by their financial effect for our institution.

Title: Upgrading the capacities for research in translational medicine at the Faculty of Medicine (TransMedRi) University of Rijeka / 256686 – institutional project

Co-leaders: **M. Abram, N. Jonjić, S. Jonjić, A. Krmpotić, T. Rukavina, S. Volarević, G. Župan**

Coordinator: **B. Polić**, Vice Dean for Research

Source of funding: European Commission Capacities / FP7-REGPOT-2010-5

Approved funds: EUR 1,853,941

Duration: 01/07/2010 - 30/06/2013

TransMedRi is the acronym of the project titled *Upgrading the capacities for research in translational medicine at the University of Rijeka Faculty of Medicine*, an institutional project of the Faculty of Medicine in Rijeka. The fundamental objective of the project was to increase the research resources for translational medical research, particularly in the areas of immunology/infectious diseases and tumours by connecting recognizable preclinical and clinical research groups of the Faculty of Medicine in Rijeka.

Upon successful completion of the TransMedRi Project in mid-2013, the laboratories of the Faculty of Medicine were equipped with modern research equipment to the value of almost € 900,000 (excluding VAT), several new core facilities were established, including the Biobank, five experienced researchers from abroad were employed, about thirty young scientists completed their training in about 20 renowned foreign research institutions, our partners in the project, ten different workshops and three conferences on the topic of translational medical research were successfully organized, and we hosted more than fifty invited speakers, whose lectures and practical training aimed at providing insight into the latest developments, but also at conveying specific knowledge and skills in this area to members of the scientific research community in Rijeka.

The aim of further development is to further increase international cooperation, organise and intensify education of young researchers, and implement quality programmes of research, with an emphasis on translational research in oncology and infectious diseases. A further step in the TransMedRi project is to establish and construct the Centre for Translational Medical Research of the University of Rijeka, as a link for collaboration of researchers of the Faculty of Medicine, the CHC Rijeka (University Hospital), the Department of Biotechnology, the StepRi Science and Technology Park and other interested entities within the future Health Complex of the University of Rijeka. The preparation and drafting of documents for the construction of the Centre for Translational Medical Research has already received funds from the Structural Funds - Preparation of infrastructure projects pipeline for ERDF 2014- 2020 (project code: RC.2.2.07-004) in the amount of HRK 6,399,085.

Title: Strengthening adaptive immunity via innate immunity: enhancing the CD8 T cell response by using the NKG2D ligand expressed in a herpesvirus vector (StAdvInn)

Leader: **S. Jonjić**

Source of funding: European Commission - European Research Council Ideas / FP7 ERC-2012-AdG_20120314

Approved funds: EUR 1,754,897

Duration: 2013-2018

Project StAdvInn is focused on research into new vaccines which might offer better protection against various diseases, viruses and other pathogens. The project team, led by Professor Stipan Jonjić, developed a new, attenuated strain of herpesvirus (CMV), which acts as a vector for vaccination. This virus has been created so that it triggers a strong host immune response to infection despite its impairment. The importance of this study lies in the fact that the produced attenuated viruses can be used as vectors not only for herpesvirus infection, but also for a number of other infections and tumors that affect the world's population, for which no effective vaccine has yet been developed. The ERC funds only top scientists and their ideas across Europe, and this is the first project of this kind granted to a Croatian scientist who works in the Republic of Croatia.

Title: Platform for trans-Academic Cooperation in Innovation (PACINNO) / 1^{str}/0003

Leader/Coordinator: University of Trieste; seven partners from the Adriatic region/ **S. Jonjić** - co-leader

Source of funding: IPA Adriatic CBC Strategic project proposals

Approved funds for MEDRI: EUR 528,213.14

Duration: 01/11/2013 - 31/10/2016

The project aims to establish a common platform for the growth and spread of innovation in the countries of the Adriatic region. The project coordinator is the University of Trieste, in close collaboration with Slovenian partner COBIK - Centre of Excellence in Biosensors, Instrumentation and Process Control, as well as with other six universities and research institutes from Albania, Bosnia and Herzegovina, Montenegro, Greece, Serbia and Croatia. The objectives of the PACINNO project are realized in three areas: research of best practices, training of human resources, and knowledge transfer in the field of innovation. The first part involves extensive research of innovative enterprises and innovation policies in the Adriatic Basin, which will result in demonstration and transfer of best practices among the partners. The second phase is the implementation of MBA education programmes for scientists, organized by the Slovenian partner, to encourage development of their entrepreneurial ambitions and skills. The third stage refers to the practical activities of knowledge transfer: implementation of a pilot project for establishment of start-up companies based on new scientific and technological discoveries, establishment and strengthening of technology transfer offices and organisation of investment conferences. The MEDRI participates in all activities of the project, and is the leader of work package 6 (Analysis of Factors Affecting Innovation).

Title: INFLA CARE - Understanding inflammation-associated tumorigenesis for the rational design of novel anti-cancer therapeutic strategies - collaborative research project of 21 research groups from Europe and Israel

Leader/Coordinator: Aristides Eliopoulos Institute of Molecular Biology and Biotechnology, Heraklion, Grčka / **S. Volarević**

Source of funding: European Commission - FP7

Approved funds za MEDRI: EUR 480,960

Duration: 2009 -2013

The aim of the project was to discover the molecular mechanisms by which inflammation causes malignant tumors and to develop new diagnostic methods and therapeutic procedures for the treatment of malignant tumors associated with inflammation. The group led by Professor Volarević investigated the mechanisms that regulate the synthesis of ribosomes in inflammation-driven liver cancer in mice. In addition, they reduced the number of synthesized ribosomes in inflammation-driven liver cancer through genetic inactivation of one allele of ribosomal protein S6, which has resulted in a significant therapeutic effect. These results indicate the potential ability to treat liver cancer in people with drugs that partially inhibit the synthesis of ribosomes.

Title: Congenital CMV and CNS Infection Mechanisms of Protective Immunity / 1 R01 AI089956-01A1

Leader/Coordinator: WJ Britt, University of Alabama at Birmingham, USA / **S. Jonjić**

(<http://www.capri.com.hr/projects.html>)

Source of funding: National Institutes of Health (NIH)

Approved funds za MEDRI: USD 531,223

Duration: 13/05/2011 - 30/04/2016

Congenital infection with human cytomegalovirus (HCMV) is the most common infection in a developing fetus. Approximately 10% of congenitally infected children present with symptoms, most commonly due to damage to the central nervous system (CNS). The pathogenesis of CNS disease in congenitally infected children is still insufficiently investigated; it has so far been studied in animal models, which has not resulted in significant findings due to the limitations of such models. This project is based on a mouse model of evolving CNS infected by murine CMV (MCMV), because of its many similarities with the occurrence of the disease in humans, including progressive hearing loss. Using this model, researchers of the Faculty of Medicine in Rijeka investigate the immunological mechanisms that limit infection and damage to the CNS. The survey makes it possible to identify the strategy of development of targeted biological preparations, such as antibodies and attenuated replicating virus, which can provide immune-mediated protection from CNS infection and damage. Such strategies can then be applied in the development of biological preparations for use in humans.

Title: The role of viral immunoevasins in the pathogenesis of the cytomegalovirus infection

Leader/Coordinator: **A. Krmpotić**

Source of funding: Howard Hughes Medical Institute (HHMI)

Approved funds: USD 500,000

Duration: 2006 -2010

Natural killer (NK) cells are important in the early response of the immune system to a viral infection. Certain widely spread viruses, such as cytomegalovirus (CMV), have developed mechanisms to avoid viral control by NK cells. Such viruses can avoid NK cells using a group of proteins known as immunoevasins, which can interfere with the elimination of the virus-infected cells. The hypothesis of the research in this project is that viral immunoevasins, which negatively affect the expression of ligands for dominant activating NK cell receptor NKG2D, allow the virus to avoid recognition by the immune system not only during primary infection but also, perhaps dominantly, during the reactivation from latency. The project included a series of studies aimed at clarifying the role of CMV-immunoevasina in viral control by NK cells and CD8+ T cells in vivo. This research gave the answer to the question why the inhibition of NKG2D receptor is associated with the quality of the acquired immune response to CMV. This is the first HHMI project assigned to a researcher from Croatia.

Title: Becoming entrepreneurial: Knowledge transfer from the University of Rijeka Faculty of Medicine to the biotechnology business sector- IPA SIIF (2nd Call) / IPA2007/HR/16IPO/001-040517

Leader/Coordinator: **S. Jonjić**

Source of funding: Operativni programme za regionalnu konkurentnost, Fond za ulaganje u znanost i inovacije

Approved total funds: EUR 439,950.73

Duration: 20/04/2013 - 19/04/2015

The aim of this project is to increase the innovation capacity of the University of Rijeka Faculty of Medicine (MEDRI) through mobilization of its resources for applied research in accordance with the needs of the biotechnology industry. In cooperation with the partner institution, the Hannover Medical School in Germany, and eight partner institutions from the academic and business sectors in Croatia and the EU, MEDRI carried out two strategic projects that will serve as a springboard for activities of knowledge transfer and commercialization at this institution. The ultimate goal of the first strategic project is to develop a prototype of a vector vaccine platform based on live attenuated herpes virus as the vector. The importance of this project stems from the huge need for new and effective approaches in the design of vaccines for a variety of pathogens and tumors. Another strategic project should result in the acquisition of knowledge and skills necessary for the commercialization of the existing unique collection of antibodies and various services related to antibodies. Antibodies are indispensable research tools to the scientific community and the biotech industry, and have potential application in the field of diagnostics and therapeutics. The applied research within the project is carried out in parallel with workshops and visits

to collaborative institutions. At the same time, the project seeks to increase cooperation between the MEDRI and innovative biotech companies, and to strengthen the visibility of the institution through various activities of dissemination and networking directed to the scientific community and the general public. In the long term, both groups could significantly benefit from the developed products based on the vaccines platform, antibody collection and the related services.

Title: Viral Strategies of Immune Evasion / VH-VI-424-4, Virtual Institute- collaborative research project of seven research groups from the EU
Leader/Coordinator: L. Cicin-Sain, Helmholtz Centre for Infection Research/ **S. Jonjić** - co-leader
Source of funding: Helmholtz Association Helmholtz Virtual Institutes / 5th Call for Proposals
Approved funds: for the MEDRI; EUR 400,000
Duration: 01/10/2011 - 31/12/2016

The focus of the Virtual Institute VISTRIE is the view that development of effective drugs against infectious diseases requires a better understanding of the mechanisms and strategies of virus replication in the human body. The immune system can recognize infected cells or viruses and destroy them, and in this way prevent the propagation of the virus. However, through centuries of evolution viruses have developed mechanisms to defend themselves against the immune system and are thus able to block the communication of immune cells or prevent the destruction of infected cells. Scientists of the Virtual Institute want to understand how viruses (with a focus on CMV) manage to fool the immune system and multiply themselves, and based on these findings enable development of drugs and therapeutic strategies for combating not only CMV, but also other viral diseases. Scientists from the Faculty of Medicine in Rijeka participate in the project by investigating the modulation of NK cells and CD8 T cell responses through cytomegalovirus.

Title: Cytokines and cytolytic mechanisms during early pregnancy

Source of funding: Ministry of Science, Education and Sports
Leader: Academician Daniel Rukavina
Approved funds: HRK 270,000
Duration: 2007- 2014

From the immunological aspect, the maternal foetal (M-F) interface in mammals is a unique place where the mother's immune system comes into direct contact with the semi-allogeneic tissue of the foeto-placental (FP) unit. Maternal immunocompetent cells abundantly infiltrate the M-F interface and are able to express all forms of immune reactivity, most dominant among them being natural killer (NK) cells of a specific phenotype (CD56^{bright}CD16^{low}). We were the first to demonstrate that these cells are extremely rich in cytolytic-apoptotic mediators (perforin, granulysin), much richer than other NK cells, and can therefore potentially express strong effector potential. However, this potential is typically not emphasized and the FP unit thus has a privileged position from the immunological aspect. In this study we improved our knowledge of the mechanisms that allow initiation and orientation of the immune response towards a proinflammatory pattern or tolerance. We investigated the mechanisms that curb the effector potential, namely, can set it "free". The results also enable a better understanding of the mechanism by which perforin and granulysin cooperate in achieving the effector function towards eukaryotic cells. This project has partly contributed to our successful participation in the great European project "Embryo Implantation Control" (EMBIC) (2004-2008). EMBIC is a Network of Excellence under FP6 programme, which involved 20 research groups from 10 EU countries, and our group led by Professor Rukavina was the first to receive the FP6 project and the only one outside the EU. Our research was supported with EUR 420,000.

Title: Sorting of MHC class I molecules on the cell membrane and endocytic compartments

Source of funding: Ministry of Science, Education and Sports
Leader: Professor Pero Lučin
Approved funds: HRK 190,000
Duration: 2007- 2012

Endosomal transport of membrane proteins that are not dependent on clathrin is a relatively new and insufficiently explored area in cell physiology of endosomal trafficking. Therefore, the project focused on the introduction of six models to investigate endosomal trafficking in cells and endosomal transport of type MHC class I molecules (MHC-I), as a typical representative of membrane proteins independent of

clathrin. Methods of labelling and quantitative monitoring of MHC-I molecules by monoclonal antibodies in all phases of the endosomal transport were introduced using flow cytometry, confocal microscopy, Western blotting and immunoprecipitation, and mathematical modelling. The aim was to investigate and characterize the physiological endosomal pathway of all alleles of MHC-I molecules in mouse and human cells, including cells transfected with specific MHC-I genes. In addition, using the well-known fact that the MHC-I molecules present in two forms, completely conformed (full) and non-conformed (empty) MHC-I molecules, we sought to determine whether the conformed and non-conformed proteins sorted by special physiological mechanisms on the endosomal pathway, and whether the endosomal pathway has a mechanism for quality control, as is the case in the secretory pathway. In fact, this mechanism was first discovered and described precisely owing to full and empty MHC-I molecules. Our previous studies have shown that this mechanism does exist and separates conformed and non-conformed MHC-I molecules on the cell surface into separate membrane microdomains. Therefore, full and empty MHC-I molecules endocytose through separate pathways, independent of clathrin, enter into the same early endosomes like full MHC-I molecules, but do not enter recycling endosomal compartment and do not return to the cell surface, but move to late endosomes, where they mostly degrade. However, part of the empty molecule return from late endosomes to the cell surface, whereby, with the help of empty MHC-I molecules, a new endo-secretory pathway is revealed, which we are currently characterized. In addition to this very important physiological mechanism of quality control in the endosomal system that we discovered, our results give an answer to the fundamental questions of the biogenesis of empty MHC-I molecules and opens the door for finding the compartment in which MHC-I molecules are filled with peptides to the endosomal system, a mechanism that researchers have been trying to shed light on in the past two decades.

j) Describe the ways in which scientific activities contribute to: teaching; intellectual and technological transfer to the society and the economy; other institutional activities.

The results of basic and clinical research carried out in our institution contribute to the scientific content of teaching and thus to the overall quality of modern teaching which should encourage students to approach problems through critical thinking, apply medicine based on scientific evidence, accept new technologies and get involved in scientific work already during their studies. Results of research in the field of public health and health and environmental engineering are directly applicable in a wider social context and in the economy, especially bearing in mind the needs of sustainable development of the environmentally sensitive area of the Primorsko-Goranska County and the wider region, where the traditions of industrial development intertwine with development of tourism.

k) List your HEI journals and describe their importance (scientific/professional, composition of the editorial board, selection procedure, impact factor, etc.).

Under the auspices of the Faculty of Medicine in Rijeka, the following two journals are regularly published:

1. ***Medicina Fluminensis*** is the official scientific-professional journal of the Croatian Medical Association branch in Rijeka and of the University of Rijeka Faculty of Medicine. The journal was launched by the Croatian Medical Association branch in Rijeka in 1964 under the name of *Medicina*. In 2010, it changed its name to *Medicina Fluminensis* and started being co-published by the Croatian Medical Association branch in Rijeka and the University of Rijeka Faculty of Medicine.

The journal is peer-reviewed and published quarterly in print (1300 copies per issue) and electronic format (*Hrčak* - Portal of scientific journals of the Republic of Croatia), with open access to its articles. The journal publishes scientific papers from all areas of the biomedical sciences of man, including clinical and basic research, public health, history of medicine, dental medicine, medical bioethics and medical education, all in Croatian. It publishes the following types of articles: the editorial, original scientific papers, short communications, professional papers, review articles, short review articles, case report and letters to the editor. It encourages and supports basic and clinical medical research and promotes excellence in medical education.

The terms of publishing articles in *Medicina Fluminensis*, or instructions for authors, and the review

procedure are set according to standards set by the *International Committee of Medical Journal Editors (ICMJE)*. Ethical norms are set according to the standards of the *Committee on Publication Ethics (COPE)*.

The editorial staff consists of the Editor-in-Chief, the Executive Editor, the Executive Editor for the Online Edition, Executive Editors for Medical Ethics, and the Executive Editor for Statistics. The journal's Editorial Committee is made up of eminent figures from the fields of science and profession, and its Editorial Board now has a respectable 30 members from all areas of biomedicine, and from both Croatian and international scientific communities.

The Portal of Croatian Scientific Journals contains a list of 58 journals in the field of biomedicine and health; in which *Medicina Fluminensis* holds the 9th position by the number of downloaded articles in the period 2008-2014. In the past six years, there were more than 477,000 visits to the digital edition of our journal, with more than 311,000 downloads of articles on the users' computers, which indicates a significant interest and justifies the purpose of the journal and its digital form. This also shows that local research, which for the most part does not have a significant echo in international biomedical journals, has an important place in the medical community in which it is carried out.

2. *Jahr - European Journal of Bioethics* is an international scientific and professional journal published by the Department of Social Sciences and Humanities of the Faculty of Medicine in Rijeka. The journal was launched in May 2010 and has so far had nine issues (two per year). For the time being, it is not included in any base except Hrčak, so it has not been assigned any impact factor. Its Editorial Committee and Editorial Board include about 30 scientists from all over the world. It is the only bioethics journal in this part of Europe which publishes articles in Croatian and English (and exceptionally in German). Its circulation is 200 printed copies, all articles being available also on the Internet. Articles for publication are submitted through websites, and review is conducted through double-blind reviews involving at least two referees.

l) Specify the content and character of professional projects of your HEI in the last five years (figures in table 5.3). State your opinion on the quality of work and results.

A number of professional projects and expert services contracted with the city of Rijeka and the Primorsko-Goranska County are carried out at the Faculty of Medicine. They are primarily related to medical education and improvement of health services, medical diagnostics, forensic expertise, drafting and review of legislation, etc. Part of the professional projects deal with environmental protection, which is one of the fundamental strategic interests of our county and the wider region, and with rational use of medicines and medicinal herbs. An important issue is also evaluation of attitudes towards scientific integrity, copyrights and assessment of the frequency of unauthorized use of other people's information. Besides the Faculty teachers, our students are also very active, mainly through the FOSS MedRi (University Students Committee at the Faculty of Medicine in Rijeka) organisation and have organised implemented numerous health and humanitarian projects intended for educating the wider community. Each year they organise, now already traditional, preventive actions that involve hundreds of students and citizens: Drops of Life (FOSS), Adolescence (EMSA), panel discussions on addictions and sexually transmitted diseases (CroMSIC and EMSA), apposite celebrations of the World Health Day (EMSA the World Cancer Day and the World AIDS Day (CroMSIC). In 2007, students actively participated in numerous events related to the Brain Week. They also conduct several humanitarian and medical popularisation activities aimed at children: Teddy Bear Hospital, Let's Help Children (EMSA); or the needy: A Small Gift for a Great Cause (FOSS). Every year in November, current and former students of the Faculty of Medicine in Rijeka organize the traditional charity concert titled "To the Honour of Asclepius and Orpheus in Honour" in order to collect funds for associations of persons with mental disabilities. Involvement of students in various forms of scientific research process and popularization of science through project activities is implemented through the operation of the Commission for Science (ZOSS), which promotes scientific research, and continuously organizes popular science lectures, discussions and workshops on scientific methodology. Dozens of students are directly involved in the different stages of scientific research in clinics and institutes, and students are also members of the editorial boards of scientific journals issued by the Faculty (*Acta Medico-Historica Adriatica*, and *Medicina Fluminensis*), as well as members of the organizational committees of meetings that (co-)organized by the Faculty, primarily through technical and logistical support.

m) Specify the impact of the professional and developmental projects and services of your HEI on the development of Croatia's economy, service sector and state administration.

The activity of our teachers and students has met with a positive response of the public and has made a significant impact in terms of raising the people's awareness of the need to take care of their own health, and of public administration bodies on the need to develop the health system in the community, which has indirect effects also on the economic activity in the region.

n) Specify the ways in which you established a systematic policy of monitoring the volume and quality of scientific activity at your HEI, and describe its elements and methods of effective application.

Monitoring of the quality and volume of scientific work is still not at the desired level. The overall volume of scientific work of our Faculty is monitored through the scientific activity of basic organizational units – departments, and individual scientists. Once a year, the departments publicly present their research activities during the current year (papers, invited lectures, international projects and activities) at a scientific panel discussion during the Days of the Faculty (first half of December). This is a very well attended traditional event, which provides an overview of the most important scientific achievements in the current calendar year. In monitoring the scientific work of individual scientists, we use the CROSB (Croatian Scientific Bibliography) and other available databases (SCI, CC, etc.). Periodically, we carry out scientometric studies of the performance of scientists of our Faculty, which is then compared with the results of the neighbouring universities. Some of these studies have been published in scientific journals (CMJ, Periodicum Biologorum) or monographs of the Faculty of Medicine. However, we cannot yet speak of a systematic policy of monitoring the volume and quality of scientific work, which is something that we need to establish in the coming period. We have started reorganising the professional services that should monitor research activities and form the core infrastructure, and have increased the frequency of communication with the heads of departments on the importance of systematic monitoring of scientific activities. Consequently, we believe that in the coming period we will bring the monitoring of the quality and volume of scientific work to the desired level.

o) Describe your policy of providing incentives for and awarding publishing in highly ranked scientific journals (or those with renowned publishers, when books are concerned), namely, the support system for publishing in prestigious journals in your field (e.g., help in translation, internal peer-review, system of informing on submission deadlines for papers, etc.).

As part of the festivities on the occasion of the Days of the Faculty in December, awards are traditionally presented to the best young scientists in basic medical science and clinical medical sciences, including dental medicine, public health and health care. The Regulations on Presenting the Best Young Scientist Awards very clearly define the criteria of scoring scientific papers published in journals indexed in the SCI Expanded/CC, journals indexed by other relevant databases, papers in a book, and active participation in conferences and projects. Given that the criteria include the impact factor of a journal which is multiplied by the number of points, young scientists are encouraged to publish in high-ranking journals. Presentation of the best young scientists in front of the Faculty Senate and the participants of the formal session with media coverage are stimulating for young scientists in terms of competition in scientific achievements. However, the existing evaluation criteria of scientific work for election into a title take into account exclusively their quantity, which is demotivating for those who seek to publish in journals with a high impact factor.

The reorganization of professional services, which is currently being carried out, is intended to improve monitoring of scientific activities with the aim of creating a system that will encourage an increase in quality and not just the volume of scientific work.

p) Explain your methods of monitoring the research ethics and implementing European and global standards for employment of the best scientific staff (e.g., application of the European Charter for Researchers).

During their doctoral studies, students are encouraged to freely express their opinion while searching for the methods to be applied in solving a problem in accordance with recognized ethical principles and good

practice. Young researchers are also faced with constraints imposed by, for example, mentoring, supervision, or limited funds for research. Candidates should focus their research on the general well-being and expanding the frontiers of knowledge. Researchers are encouraged to develop professional liability, avoid plagiarism of any kind, and respect the intellectual property rights and equal sharing of results with colleagues in collaborative research. Researchers must be familiar with national and institutional regulations and seek the necessary approvals before they start their research. The methods of data collection and analysis and outcomes must be open to internal and external evaluation. Doctoral students are encouraged to disseminate and transfer the results and knowledge to other research groups and to present their own achievements to the public in an understandable way. They are informed about the selection criteria and procedure, and the number of available positions before the implementation of the selection procedure. However, the career prospects are not sufficiently clarified to them, mainly due to under-developed mechanisms of monitoring the scientific career of PhD students. Our doctoral students still do not have a stimulating research environment with the appropriate equipment, space and possibilities for cooperation with remote collaborative groups through research network, but we believe that this will improve with the implementation of the reformed studies which is the final stages of preparation.

r) Specify to what extent you are satisfied with the current situation and propose possible improvements.

Despite the evident increase in research activities, which is reflected in an increase in the number and quality of scientific publications, we still cannot be satisfied with the existing situation when we compare it with comparable institutions of similar size in our environment. We think that the Faculty of Medicine can achieve significantly better results even with its existing scientific resources. The reasons for this kind of inadequate efficiency are manifold: uneven development of scientific research in different organizational units, the lack of connection between research groups (especially clinical and preclinical), insufficient scientific knowledge, insufficient funding of some potentially good programmes, excessive workload of the scientific staff with routine work in clinics and teaching activities, insufficiently rigorous criteria for selection and evaluation of the work of scientists at national and university levels, lack of financial support to scientists who are just forming their own groups and defining their research, and the like. There are several solutions that could improve the situation, for example encourage connectivity and more efficient use of the existing resources, make a better selection for and enhance scientific education of young scientists, increase awareness of the importance of scientific research for the development of medicine among our students, introduce more rigorous excellence criteria in the selection of teachers and mentors for doctoral study, take the initiative to address state and local administration for reorganization of higher education in medicine and formation of the University Hospital on the model of other EU countries, and so on.

Table 5.1. Mentors

(Mentors for a scientific field)

Doctoral study	Number of mentors of defended doctoral dissertations in the last 5 years	Number of mentors' papers published in domestic peer-reviewed scientific journals in the last 5 years *	Number of mentors' papers published in foreign peer-reviewed scientific journals in the last 5 years *
Postgraduate scientific doctoral study of Biomedicine	103	423	878
Postgraduate scientific doctoral study of Health and Environmental Engineering	-	-	-

6. Mobility and International Cooperation

a) Specify how you support internal mobility of students (possibility of transfer for students who graduated from similar study programmes).

Although internal mobility can also result in some administrative adjustments (changing the size of individual groups of students or different planning of teaching space), these adjustments cannot and must not be an obstacle for students who decide to change their programme of study, and thus their career, due to a change in their own preferences and intellectual challenges, or just because they need to adjust to the current dynamics of the labour market. As a rule, such students sign in on the interface "Become a Student" and if they register in another comparable programme of study, the results of exams that they successfully passed in the original programme will be recognised in agreement with the relevant course leaders.

b) Describe the objectives that you wish to achieve through your HEI's international cooperation. List the forms of cooperation (European projects, bilateral contracts with foreign institutions, individual cooperation in research, long and short stays abroad, organization of international conferences in Croatia, participation in international conferences, other forms of cooperation) and estimate the scope and the efficiency of the current international cooperation of your institution.

In the world of biomedical science, it is not possible to set a limit to the range of ideas. On the contrary, international activities, testing hypotheses, cooperation with groups with similar interests and knowledge, and exchange of experience and results are imperative and the condition of survival. In biomedical sciences, to be isolated equals not exist scientifically and, therefore, be denied recognition and funding sources. The University of Rijeka Faculty of Medicine has been a strong regional and European scientific factor since its foundation, becoming over time also globally networked, receiving foreign experts and sending its own staff to be additionally trained abroad, establishing project collaboration with research groups in neighbouring countries, and exchanging students with many similar institutions, primarily from Europe, North America and Asia. The specific goals that we are trying to achieve are primarily the transfer of knowledge and technology through exchange and training of teachers and scientists with a view to expanding the opportunities for cooperation on larger projects and securing sources of funding from European and other funds; raising the standard of scientific production and the quality of teaching to the level of European and global models (aiming, among other things, to improve the ranking University of Rijeka); and, finally, enabling young professionals, especially doctoral students, to fulfil one of the conditions for completion of their doctoral studies - stay and study at another institution (which, in turn, is also motivated by our efforts to accustom young scientists to greater mobility and competitiveness).

In the last few years, several major projects, financed from European funds (cycles FP6 and FP7), have been assigned to scientists of our Faculty in their capacity as either partners or coordinators, which produced not only a high financial impact, but also earned us a prestigious position, rare in Croatian and broader regional contexts. In several other national projects, foreign scientists were involved collaborators. The following is a list of the most important or most valuable international projects out of about fifty of them that were active, or still continue to be, in the period 2009 -2013.

1. "Strengthening adaptive immunity via innate immunity: enhancing the CD8 T cell response by using the NKG2D ligand expressed in a herpesvirus vector (StAdvInn)" EU FP7ERC-2012-AdG_20120314-Ideas, Leader Stipan Jonjić, 2013 – 2018, EUR 1,754,897
2. "Becoming entrepreneurial: knowledge transfer from the University of Rijeka Faculty of Medicine to the biotechnology business sector" Instrument for Preaccession Assistance – IPA, PI Stipan Jonjić, partner PI Martin Messerle, 2013 -2015, 440,000 EUR
3. "Methods for high-throughput glycoproteomic analysis (HTP-GlycoMet)", contract no. 324400, FP7 programme Marie Curie Actions - Industry-Academia Partnerships and Pathways, Project coordinator: University of Rijeka, partners: Stipan Jonjić, Faculty of Medicine Rijeka; Genos, Zagreb, Bia Separations, Ajdovščina, Slovenia, Max Planck Society, Magdeburg, Germany; 2013 - 2015, EUR 1,818,077.90
4. "Platform for trans-Academic Cooperation in Innovation (PACINNO)" IPA Adriatic CBC Strategic project proposals, Project coordinator: University of Trieste; 7 partners in the Adriatic Region (Stipan Jonjić) 2013-2016, EUR 6,272,300/EUR 636,500

5. "NKG2D in T-cells - Memory Control; The role of NKG2D and the T-cell receptor in memory T cell biology" (Acronym: NKG2D and T cells, No: 274995, value 178,000 EUR), EU FP7 People-2010-IEF, coordinator Bojan Polić, 2010–2013
6. "Fat Killers: The role of Natural Killer cells in the development of Diabetes Mellitus Type", PI: Bojan Polić, EASD (European Association for Study of Diabetes) – cooperation with the Max Planck Institut for Neurological Research, Cologne, Germany, 2013–2015, 100,000 EUR
7. "The role of pathogen-driven inflammation of visceral adipose tissue in the development of Diabetes Mellitus type I", PI: Bojan Polić, Co-PI: Livija Deban, Unity through Knowledge Fund (UKF) – cooperation with the King's College / London Research Institute/ Cancer Research UK, London, UK and the Max Plank Institute for Neurological Research, Cologne, Germany, 2013 – 2015, 1,500,000 KN
8. "Natural killer cell-mediated anti-viral and anti tumor defense and therapy: Integrated research training in molecular medicine, bioinformatics and issues of biotech patents and SME business", EU Marie Curie Research Training Networks, leader Stipan Jonjić
9. "Transcriptomic Approach to Viral Disease Research", Fund Unity Through Knowledge (UKF) project leaders: Joanne Trgovcich - The Ohio State University, Columbus Ohio, SAD, and Stipan Jonjić
10. "The Centre for Antibody Production Rijeka: Upgrading the Central Research and Service Infrastructure for South Eastern Region of Europe", EU FP7-REGPOT-2008-1, leader Stipan Jonjić
11. "Funkcija NK staničnog receptora NKp46 u nadzoru infekcije citomegalovirusom i virusom influenza" (The function of NK cell receptors NKp46 in the control of cytomegalovirus infection and influenza virus), Croatian-Israeli joint research programme, leaders: Stipan Jonjić and Ofer Mandelboim, Hadassah Medical School, The Hebrew University Jerusalem, Izrael
12. "Viral evasion of NK cells", 1R01AI083201-01, National Institutes of Health (NIH) SAD, leaders Stipan Jonjić and Joanne Trgovcich
13. "Impact of NKG2D-deficiency on the Immunosurveillance of Cytomegalovirus and West Nile Virus Infections", Croatian-Israeli joint research programme, leaders: Bojan Polić and Angel Porgador, The Shraga Segal Department of Microbiology and Immunology and the National Institute for Biotechnology in the Negev, Ben Gurion University of the Negev
14. "The role of viral immunoevasins in pathogenesis of cytomegalovirus infection", Howard Hughes Medical Institute (HHMI) International Research Scholars Grant, leader Astrid Krmpotić
15. "MCMV Infection of the Developing CNS: Neuroinvasion and Immune Control", National Institutes of Health, 2010-2015, coordinator William J Britt, University of Alabama at Birmingham, USA, partner in the project Stipan Jonjić
16. "Upgrading the capacities for research in translational medicine at the Faculty of Medicine University of Rijeka" TransMedRi", FP7, 2010-2013, institutional project, coordinator Bojan Polić
17. "A European Infrastructure of Ligand Binding Molecules Against the Human Proteome" EU FP-6 CA (Akronim: ProteomeBinders), partner in the project Bojan Polić
18. "Human Papillomavirus in Cervical Neoplasia: Are Methods Based on Detection of mRNA Superior to those Based on detection of DNA?" Croatian-Austrian cooperation, 2007-2009, leader Blaženka Grahovac
19. "The role of mouse cytomegalovirus encoded inhibitors of natural killer cell ligands in viral latency and recurrent infection", DAAD, 2007-2009, leader Stipan Jonjić
20. "The development of a biological system for production of labeled monoclonal antibodies", National Foundation for Science / Max von Pettenkofer-Institut Munich, 2006-2009, coordinator Bojan Polić
21. "INFLA CARE - Razumijevanje nastajanja tumora povezanih s upalom s ciljem racionalnog stvaranja novih terapijskih strategija protiv zloćudnih tumora" (Understanding the formation of tumor-related inflammation with a view to rational creation of new therapeutic strategies against malignant tumors), FP7, 2009 -2013, leader Siniša Volarević
22. "Suicidal behaviour, trauma and mental illness in Kosovo", FP7, 2010-2011, coordinator Tanja Frančičković
23. "Congenital CMV and CNS Infection Mechanisms of Protective Immunity/1 R01 AI089956-01A1", NIH, 2011-2016, coordinator Stipan Jonjić
24. "Viral Strategies of Immune Evasion / VH-VI-424-4", Helmholtz Association, 2011-2016, coordinator Stipan Jonjić
25. "Barricaid alenthesis in lumbar disc surgery", Intrinsic Therapeutics, Boston, SAD, Department of Neurosurgery, 2004-2013, leader Greg Lambrecht

26. "Genetic factors in multiple sclerosis", Croatian-Slovenian bilateral cooperation 2009-2010, leader Smiljana Ristić
27. "Genetic analysis of multiple sclerosis", Croatian-Serbian bilateral cooperation, 2009-2010, leader Smiljana Ristić
28. "Pharmacogenetics of immunomodulatory therapy in multiple sclerosis and the influence of genetic polymorphisms of certain metabolic pathways", Croatian-Slovenian bilateral cooperation, 2012-2013, leader Nada Starčević-Čizmarević
29. "A device for hypobaric therapy in sack with distance clothes", Eureka project (EU), 2005-, leader of the Croatian part of the team: Tatjana Kehler
30. "Isotopis composition of precipitation in Croatia from the GLOBE programm (RC 144321)", Duration 36 mjeseci, IAEA (International Atomic Energy Agency, Vienna), leader Zvezdana Roller-Lutz
31. "Estimation of the ground water in the Gacka area by use of H₂, O₁₈, tritium, helium 3, rare gases and CFC (RC 16277)", duration 60 months, IAEA (International Atomic Energy Agency, Vienna), leader Tamara Hunjak
32. "Smanjenje zagađenja i očuvanje biološke raznolikosti u poljoprivredi s naglaskom na maslinarstvo" (Reduction of pollution and conservation of biodiversity in agriculture with emphasis on olive growing), IPA Slovenia-Hrvatska, 2010-2012(partner Department of Food Technology and Control)
33. "Pollution monitoring of ship emissions: an integrate approach for harbours of the Adriatic basin (POSEIDON, MED project)", leader A. Alebić-Juretić, partner ERBD, 2014-2015
34. "Climatic change-manipulation experiments in terrestrial ecosystems (CLIMMANI)", ESF, coordinator A. Alebić-Juretić, 2008-2013
35. "Development of health promotion and drug prevention course (TEMPUS)", NZzJZ PGC and partners, 2007-2009
36. "Guidelines for further development of university management towards integration in Bosnia and Herzegovina. Short-term expert. EuropeAid project "Support to Reform of Higher Education Project in BiH", 2011, leader Pero Lučin
37. "Driving re-investment in R&D and responsible antibiotic use", Inovative Medical Industry (IMI), 2014.-2017., leader Vera Vlahović-Palčevski
38. EURAP ("Prospektivno praćenje antiepileptika u trudnoći – registar"), 2001– , coordinator Dinko Vitezić
39. "Dynamique lente dans les phases ordonnées de copolymères à blocks: mobilité de polymères aux interfaces avec une paroi rigide", Bilateral cooperation with France, 2009-2010, leader Srećko Valić
40. "Uloga mikoplazme u autonomnim procesima reumatoidnog artritisa i evaluacija novih potencijalnih dijagnostičkih markera" (The role of mycoplasmas in the autonomous processes of rheumatoid arthritis and evaluation of new potential diagnostic markers), Croatian – Slovenian bilateral project, 2012-2013, leaders Jadranka Varljen and Mojca Narat
41. "Regulation of the p53 tumor suppressor by ribosomal proteins in physiological and pathological conditions", Unity through Knowledge Fund – UKF, 2009 -2011, leader Siniša Volarević
42. "UHCE - Urban Health Centre Europe: integrated health and social care pathways, early detection of frailty, management of polypharmacy and prevention of falls for active and healthy ageing in European cities", European Commission, 2014-2017, leader for Croatia: Tomislav Rukavina
43. "1st COPD Audit", European Respiratory Society, 2011, leader Monjek Haan (partner in Croatia: Institute of Pulmology, Department of Internal Medicine)
44. "Validation of genes affecting susceptibility to tuberculosis and other infectious diseases", Faculty of Dental Medicine University of Oslu, 2006–, leader Z. Dembić (partner in Croatia: Institute of pulmologiju Department of Internal Medicine)
45. "HaPanEU – Harmonising pancreatitis in Europe", UEG/LINK, 2012-2014, leader Matthias Löhr (partner in Croatia: Institute of gastroenterologiju Department of Internal Medicine)
46. "Uporaba endovenske elektrode za elektrostimulaciju srca kao hemodinamskog senzora" (the use of endovenous electrodes for pacing as a haemodynamic sensor), Medtronic Inc. (partner in Croatia: Institute of kardiovaskularne bolesti Department of Internal Medicine)
47. "Genska analiza nasljednih bolesti srca" (Genetic analysis of inherited heart disease), Danish-Croatian cooperation (Statens Serum Institute), (partner in Croatia: Institute of Cardiovascular Diseases, Department of Internal Medicine)

The Faculty of Medicine had already signed several bilateral agreements on cooperation with related universities in Japan (Hyogo College of Medicine), Austria (Graz Medical University), Sweden (Umea) and

Serbia (Novi Sad), and over the last few years an institutional framework of special cooperation in education and science was created also with the Rochester Institute of Technology (USA) and universities in the near region - Foggia, Maribor and Ljubljana.

Naturally, cooperation between individual researchers from different departments of the Faculty and their colleagues abroad has been practiced from the very beginning of work of the institution, outside any special agreements, and is certainly richer than the data of the relevant services show. Dozens of institutes, clinics and departments around the world are involved in the exchange of these types of results and ideas, cooperation in essay writing, short study visits and two-way transfer of knowledge (to mention just a few: Umea University, Faculty of Medicine, Department of Odontology, section of Cardiology; Beijing University Health Science Centre, Peking, NR Kina; Department of Oral surgery and Stomatology, University of Bern, Switzerland; Division of Preventive and Operative Dentistry, Endodontics, Pedodontics, and Minimally Invasive Dentistry, Med. Univ. Graz; Karolinska Institute; Institute of the Republic of Slovenia for Transfusion Medicine, Centre for Tissue Typing Ljubljana; Department of Microbiology and Immunology, FUHS/The Chicago, Med. School, USA; Department of Obstetrics and Gynecology, Toyama Medical and Pharmaceutical Univ., Japan; Department Microbiology, University Medical School Pecs; Department of Internal Medicine, Immunoallergology Unit, Firenze; INSERM, U 395, Hôpital Purpan, Toulouse; University of Miami, Miller School of Medicine, Microbiology and Immunology, Miami, Florida, USA; Istituto Clinico humanitas, Rozzano, Milan, Italy; RWTH Aachen University; Department of Neuroanatomy, University of Warwick, Warwick Medical School, UK; Baylor College of Medicine, Houston, USA; University of Oslo; Consiglio per la Ricerca e la Sperimentazione in Agricoltura - Unità di ricerca di apicoltura e bachicoltura (CRA-API), Bologna, Italy; Institute of Sanitary Engineering, Ljubljana, Slovenia; Institut Jozef Stefan, Slovenia; Biotechnical Faculty University of Ljubljana, Slovenia; COBIK Centre of Excellence for Biosensors, Instrumentation and Process Control, Ajdovščina, Slovenia; Institute of Neuropathology University Hospital in Koeln, Germany; University in Louisville, SAD; Military University Trebesska, Czech Republic; University of Braunschweig, Germany; University in Primorskem, Scientific Research Centre; Laboratory for Olive Oil Testing, Slovenia; Università' degli Studi di Udine, Dipartimento di Scienze degli Alimenti, Italy; International Atomic Energy Agency; RAMS Institut, Moskva; Elisabeth – Krankenhaus, Essen; Tübingen Krankenhauss, German Heart Centre München; Institute of Cardiology, Varšava; Faculty of Dental Medicine Sarajevo, Bosnia and Herzegovina; Faculty of Dental Medicine Belgrade, Serbia; Department of Dental and Maxillary Orthopedics and Department of Oral and Maxillofacial Surgery, Faculty of Medicine in Ljubljana, Slovenia; Institute of Medical Genetics , Ljubljana; Laboratory of Radiobiology and Molecular Genetic of the Vinča Institute of Nuclear Sciences in Belgrade; Max von Pettenkofer-Institute, München, Germany; UAB, Birmingham, SAD; Veterinary University of Vienna, Austrija; Heinrich-Heine-University Düsseldorf, Germany; Hannover Medical School, Germany; Washington University Medical Centre, St. Louis, SAD; Technical University München, Germany; University of Western Australia; The Babraham Institute, Cambridge, Great Britain; University of Mainz, Germany; Ohio State University, SAD; McGill University, Kanada; University Vitez in Travnik; Kennedy Institute of Ethics, SAD; Rochester University of Technology, SAD; Institute of Medical Ethics – Bochum, Germany; Carol Davila University of Medicine and Pharmacy, Dept of Legal Medicine and Bioethics, Bucharest, Romania; Centre for Advancement of Science, Belgrade, Serbia; Faculty of Law, University of Niš; Faculty of Medicine, University of Belgrade; Faculty of Law, University Sv. Kliment Ohridski, Skopje, Macedonia; Faculty of Philosophy, University in Novi Sad, Serbia; University of Halle-Wittenberg, Germany; European Humanities University, Lithuania - International Association of Law, Ethics and Science, France; St Camillus University Centre, Brasil; Hospital de Clínicas de Porto Alegre, Faculdade de Medicina/UFRGS, Brazil; Fakultät für Biologie Eberhard Karls Universität Tübingen, Njemačka; University of Madison – McArdle Laboratory for Cancer Research, SAD; The UNESCO Chair in Bioethics, Buenos Aires, Argentina; Institut of Bioethics, Pontificia Universidad Javeriana, Bogota, Colombia; Tuskegee University National Centre for Bioethics in Research and Health Care, SAD; Duke University, SAD; Luebeck, Centre for Reproductive Medicine; Charles University in Prague, Faculty of Pharmacy, Department of Biochemical Sciences; Department of Analytical Chemistry, Faculty of Natural Sciences, Comenius University in Bratislava; Medical School University of Crete, Greece, Institute for Molecular Biology and Biotechnology; Institute of Medical Physics and Biophysics, Muenster; University of Torun, Faculty of Chemistry, Department of Environmental chemistry and bioanalytics, Torun, Poland; Facultat de Farmacia, Departament de Nutrició i Bromatologia, Universitat de Barcelona, Barcelona; Laboratoire de physique des solides - LPS, Université de Paris Sud; École supérieure de physique et de chimie industrielles (ESPCI) in Paris; Medical University of Varna; Transilvania University of Brasov; University of Crete Medical School, Heraklion, Crete, Greece, Molecular & Cellular Biology Laboratory; Department of Molecular Cell Biology, Weizmann Institute of Science; Universität zu Köln; Danish Cancer

Society Research Centre, Institute of Molecular and Translational Medicine in Olomouc; Vontz Centre for Molecular Studies University of Cincinnati; Histology – Embryology Laboratory, Medical School, National and Kapodistrian University of Athens; Institute of Molecular Systems Biology, ETH Zurich, Department of Biology; Laboratory of Clinical Pathology, Department of Experimental, Diagnostic and Specialty Medicine, The University of Bologna; Department of Microbial and Cellular Sciences, University of Surrey; Erasmus University Medical Centre Rotterdam; Department of Oral Biology, University of Oslo; Hungary Medical Centre – University of Pécs; Florida State University at Tallahassee; Utrecht Medical Centre; Cleveland Clinic; Universitaetsklinik fuer Gastroenterologie, Hepatologie und Infektologie der Otto-von-Guericke Universitaet Magdeburg; Universita' catolica – Policlinico Gemelli, Roma; Cochrane Hepato-Biliary Group, Copenhagen University Hospital; Centro di riferimento oncologico Aviano; Kliniken Sindelfingen; Westpfalz-Klinikum, Kaiserslautern; Centre Hospitalier Universitaire Henri Mondor, Paris; Hopital Europeen Georges Pompidou, Paris; Ospedale di Mirano; Klinički centar Srbije, Belgrade; Clinical Hospital Centre Zemun; Clinic for Hemodialysis, University Clinical Centre Sarajevo; Department of Biomedical Sciences, University of Padova; Department of Biochemistry, Nara Medical University, Kashihara; Venetian Institute of Molecular Medicine, Padova; Duke University; Medical University of South Carolina, Charleston; Buffalo Neuroimaging Analysis Centre, and others).

In the period 2009 -2013, scientists of the Rijeka Faculty of Medicine held over 366 invited lectures abroad, and more than 147 foreign lecturers presented their invited lectures at the Faculty. Over 92 Rijeka teachers/researchers stayed in that period in short study visits abroad, and more than 30 foreign ones visited Rijeka, some for a longer period of time. Over 313 scientific papers resulted from direct cooperation between our scientists and their foreign colleague, and Faculty researchers organized over 167 international conferences (some have been already traditionally organized for fifteen years now, such as the "Rijeka Days of Bioethics" or "Rijeka and Its Citizens in the Medical History Book") and participated in more than 874 scientific/professional meetings abroad. Rijeka University boasts also among its ranks some heads of international organizations, such as the Southeast European Neurosurgical Society, IFOAM - AgriBioMediterraneo, International Society for Clinical Bioethics and others. Our Faculty's history lists several winners of Humboldt and Fulbright scholarships, and a young doctoral student is now residing in the United States as a user of this programme.

The volume of these forms of international cooperation can without any doubts be assessed appropriate to the importance and dynamics of the institution, although it is quite clear that the opportunity to exchange ideas and experiences offered through inter-institutional agreements is yet inadequately known and used.

c) Specify international associations of similar institutions of which you are a member and describe how you actively contribute to the joint goals.

Since 1996, the Faculty of Medicine has been a member of the Central European Exchange Programme for University Studies (CEEPUS), which many teachers and students have taken advantage of and still use almost every year to acquire valuable experience in their profession. In addition, our Faculty is included in a number of relevant international databases (for example, the directory of the Foundation for Advancement of International Medical Education and Research - FAIMER, founded in 2000 and dedicated to dissemination of medical education, and to creating educational opportunities for health care professions and databases), which certainly contributes to the international visibility of the institution.

d) Describe the forms of your involvement in inter-institutional cooperation through the Erasmus programme and other types of European projects, bilateral cooperation, joint programmes, etc.

Almost every year, at least one of our employees (and occasionally, of course, several of them) uses the opportunity of professional training abroad which is obtained, as a rule, through competition announced by the University of Rijeka. In the past five years, our teaching and administrative staff made shorter visits to institutions in Umea, Rome, Warsaw, Maribor and other. At the same time, we hosted several foreign teachers/researchers and initiated the signing of exchange agreements in the framework of the Erasmus programme with the University in Foggia with, and we are currently in the process of establishing cooperation with universities in Thessaloniki and Bologna.

The bilateral agreement that the Faculty of Medicine concluded with the Japanese province of Hyogo has resulted in regular exchange of small groups of students, so each year our and their students go on one-month visits (which include also Rijeka clinics). Likewise, the agreement with the Rochester Institute of Technology has resulted in visits by students from the US and their teachers, who participate in part of the teaching at our Faculty, and vice versa. In the framework of this cooperation, a delegation of our Faculty made a study visit to the National Institute of Technology for the Deaf in Rochester in order to prepare a project for establishment of the National Centre for Higher Education of the Deaf and Hard of Hearing based in Rijeka, which is currently under consideration of the Croatian Government.

e) Analyse the application of your teachers' and associates' foreign experience, acquired through longer visits (a year or more) to eminent HEI or institutes worldwide. Compare this with other similar institutions and give your opinion on this matter.

Stays our scientists/teachers abroad for a period longer than one year are rare, since the organization of our study programmes and significant teaching load rarely allow long-term absence. From the experience of those who have had the opportunity to get a deeper insight into other systems subjected to comparison, it can regularly be concluded that the fundamental drawback of our institution in comparison with similar institutions in Europe or the US comprises its material infrastructure (technical teaching and research equipment), the lesser flexibility in adaptation of our system to the dynamics and requirements of the market (adaptation of the content of teaching and research), the lower motivation (ambition) of our teaching and administrative staff, and the slowness and poorer efficiency of administration (typical of our public sector in general). Until recently, the system of funding science in Croatia resulted in poor productivity, but in recent years visible progress in this respect has been made in Croatia, and thus our Faculty as well.

f) Describe and assess cooperation, if any, in the area of exchange of teachers and associates with other foreign HEI. State possible students' opinions and comments about the visiting teachers.

Information on assessment of foreign visiting teachers is scarce. However, lectures given by our colleague Anna Loiacono of the University of Foggia (Southern Italy), for example, who stayed at the Faculty of Medicine in Rijeka in 2013 in the framework of the Erasmus programme and was involved in teaching English, were evaluated by our students as very innovative and significantly different from classes to which they are accustomed.

g) State how you support courses in English or in another world language in order to attract foreign students.

Although several courses given by our teachers have been offered in English for several years already, a real step forward in this regard was taken only recently by the decision of the Faculty Council in October 2014, which supported the Dean's proposal to prepare the curriculum of the study of Medicine in English. This proposal is prompted by discussions with partners from Germany (private educational institute Mira) who offered joint delivery of studies in English primarily for German, but also other students, in which the first three years of studies would be performed in Rijeka, and the higher three in German hospitals.

h) Analyse international cooperation of your students, especially in terms of specialty (specialised student conferences, study visits, etc.) and promotion of student rights.

In the observed five-year period, students of the Faculty participated in several professional student conferences (Pro et Contra Bled 2013, three participants of our Faculty, Pro et Contra Ljubljana 2014, one participant; ZIMS - Zagreb International Medical Summit 2009, 2010, 2011, 2012, 2013 and 2014, each year ten students), they made study visits to foreign institutions (ZOSS Express 2012, visit to colleagues at the Faculty of Medicine in Maribor; ZOSS Express 2013, visit to colleagues at the Faculty of Medicine in Ljubljana; ZOSS Express 2013, a visit to the University Hospital in Trieste; a visit by five of our students to

the University of Skopje Faculty of Medicine for the signature of the Agreement on International Cooperation), and other.

Great attention is devoted to the promotion of student rights (our students are members of the Commissions for Education and for Electives, and of the Disciplinary and Ethics Committees; there is a Student Ombudsman, and in 2009 he a guide for freshmen was published), although for the time being not yet at an international level.

Each year two student organizations - EMSA and CROMSIC - implement student exchange:

- in 2009:

- a. Bilateral exchange within EMSA Twinning Project with Groningen. Netherlands, (outgoing: 12; incoming: 12)
- b. Bilateral exchange with the Hyogo College of Medicine (outgoing: 3; incoming: 3)
- a. 2009-2010: international exchanges between CroMSIC and the International Federation of Medical Students' Associations (outgoing: 32, of whom 26 professional and 6 scientific; incoming: 42, of whom 33 professional and 9 scientific)

-in 2010:

- b. Bilateral exchange within the EMSA Twinning Project with Ivano-Frankivsk, Ukraine (incoming: 14)
- c. Bilateral exchange with the Hyogo College of Medicine (outgoing: 3; incoming: 3)
- d. Bilateral exchange with the Rochester Institute of Technology (incoming: 10)
- e. International exchanges between the CroMSIC and the International Federation of Medical Students' Associations (outgoing: 32, of whom 26 professional and 6 scientific; incoming: 42, of whom 33 professional and 9 scientific)

- in 2011:

- a. Bilateral exchange within the EMSA Twinning Project with Ivano-Frankivsk, Ukraine (outgoing: 14)
- b. Bilateral exchange with the Hyogo College of Medicine (outgoing: 3; incoming: 3)
- c. Bilateral exchange with the Rochester Institute of Technology (incoming: 10; outgoing: 5)
- d. International exchanges between the CroMSIC and the International Federation of Medical Students' Associations (outgoing: 36, of whom 30 professional and 6 scientific; incoming: 58, of whom 50 professional and 8 scientific)

- in 2012:

- a. Bilateral exchange with the Hyogo College of Medicine (outgoing: 3; incoming: 3)
- b. Bilateral exchange with the Rochester Institute of Technology (incoming: 10; outgoing: 5)
- c. ERASMUS - professional practice (1 incoming)
- d. ERASMUS - programme in France and Slovenia (3 outgoing Planning and Management in Health Care students)
- e. International exchanges between the CroMSIC and the International Federation of Medical Students' Associations (outgoing: 38, of whom 35 professional and 3 scientific; incoming: 60, among whom 55 professional and 5 scientific)

- in 2013:

- a. Bilateral exchange with the Hyogo College of Medicine (outgoing: 3; incoming: 3)
- b. Bilateral exchange with the Rochester Institute of Technology (outgoing: 4)
- c. ERASMUS - professional practice (6 incoming students)
- d. International exchanges between the CroMSIC and the International Federation of Medical Students' Associations (outgoing: 51, of whom 44 professional and 7 scientific; incoming: 64, of whom 58 professional and 6 scientific)

Students of the Faculty were particularly engaged in (co-)organization of student scientific or professional meetings with international participation (Student Congress of Nutrition and Clinical Dietotherapy in 2010, 2011, 2012, 2013 and 2014.; Student Congress of Neuroscience Neuro 2011, 2012, 2013, 2014.; DiaTransplant 2012 – 5th Croatian Symposium on Renal Replacement Therapy with international participation - student section; World Healthcare Students' Symposium 2013, Lausanne, Switzerland; 6th

Croatian Congress on Obesity with international participation in 2014; 8th Croatian Internist Congress with International participation in Opatija 2014 ; International Symposium Health for All ?! Healthy Aging!, Rijeka 2014; 5th International Symposium of Psychiatry and Neuroscience in 2014, Rab. Two student representatives are members of the EMSA European Board, and in 2012 Rijeka organized EMSOC 2012 - the annual meeting of the European Medical Students' Orchestra and Choir.

i) Comment on the possibilities for your students to spend a part of their studies abroad and on the forms of institutional support for it.

The already existing Erasmus programme enables students to spend several months in a foreign HEI provided that they can be included in the appropriate classes in the host institution and at the same time fulfil their obligations at the home institution. It is a very useful practice which our faculty does support, although we are aware that the level of students' information and motivation, and sometimes even that of the teachers and administration and their flexibility, leaves a lot to be desired. However, these shortcomings can and must be rectified continuously and systematically, since the mobility of students and the resulting exchange of knowledge and experience are prerequisites for higher quality teaching, and ultimately of professional advancements as well.

j) Describe visits of foreign students to your HEI (their duration and content, Table 6.2).

During their stay at our Faculty, which usually lasts one month, foreign students work in hospital and gain insight into our system of medical education and practice, but also become acquainted with important academic, cultural and social events.

k) Specify to what extent you are satisfied with the current situation and propose possible improvements.

An institution may not always succeed in creating perfect teachers or scientists, but it can definitely have a significant role in ensuring conditions that stimulate, monitor and promote quality as an idea and practice. Part of the quality can certainly be brought to a higher level through continuous comparison with similar institutions and implementation of other people's experience and good practices.

The present level of international cooperation achieved at our Faculty is predominantly based on the branched and rich collaboration of individuals rather than the institution, with the exception of students who make good use of short-term exchanges.

The Faculty aims to establish an effective system of informing and motivating students, teachers, scientific and administrative staff for much greater and more frequent use of programmes such as the Erasmus programme with a view to advancement of personal and institutional capacities.

Table 6.1. Mobility of teachers and associates in the past three years

	Number of visits by teachers and associates of this HEI abroad			Number of visits by foreign teachers to this HEI		
	1 - 3 months	3 - 6 months	6 months or more	1 - 3 months	3 - 6 months	6 months or more
Scientific	10	2	12	9	-	1
Artistic	-	-	-	-	-	-
Teaching	-	-	-	1	-	-
Professional	-	-	-	-	-	-

Table 6.2. Mobility of students in the past three years

	Number of students in international exchange		
	1 - 3 months	3 - 6 months	6 months or more
Students of this HEI	162	3	-
Foreign students	218	-	-

Table 6.3. Mobility of non-teaching staff in the past three years

Number of visits abroad of this HEI professional non-teaching staff		
1 - 3 months	3 - 6 months	6 months or more
-	-	-

7. Resources: professional services, space, equipment and finances

a) Analyse the ratio between the number of administrative, technical and support staff and the number of the employed teachers and associates, the number of students, teaching space, technical and other maintenance equipment, and the financial capacity of your institution

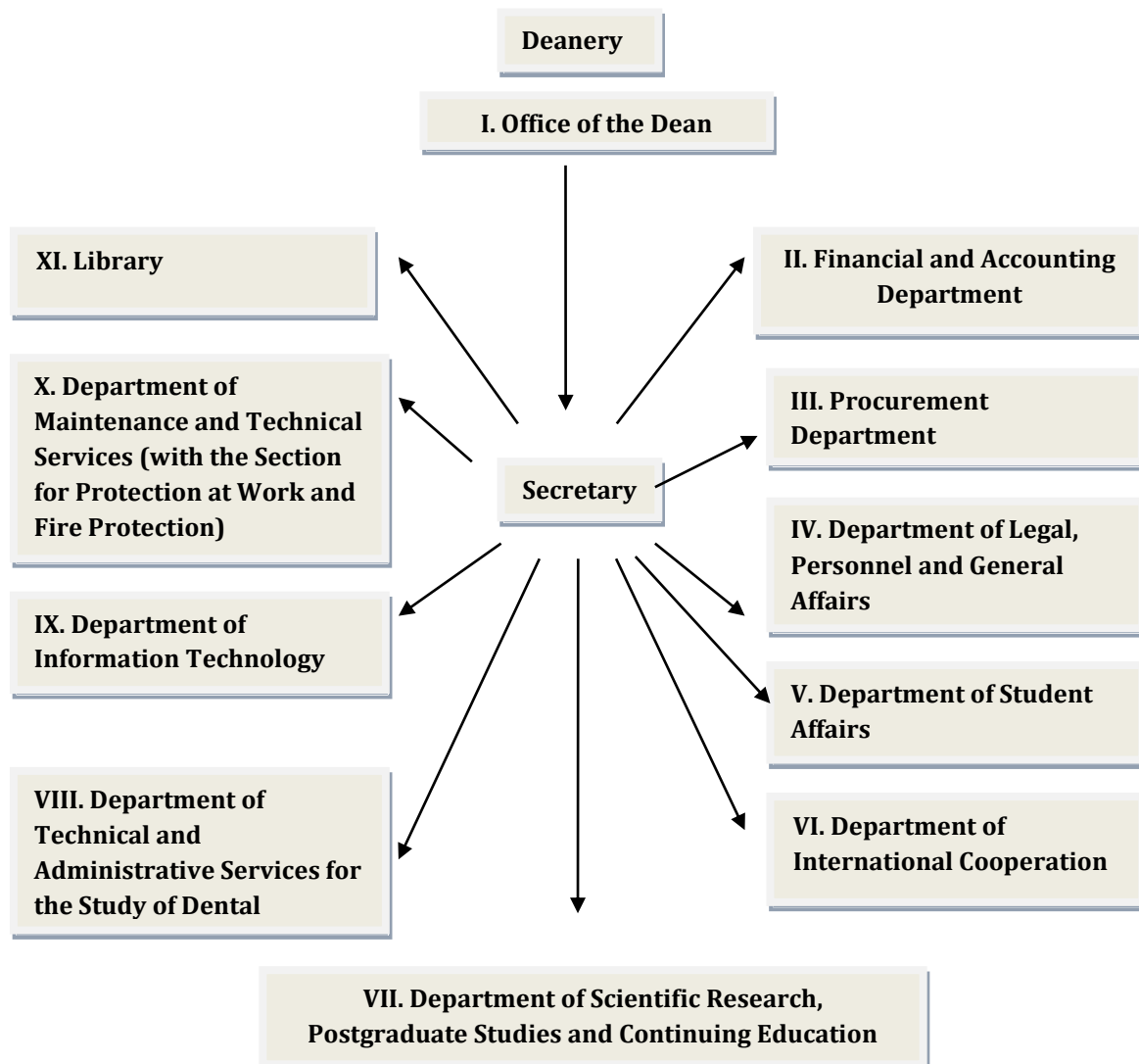


Figure 1. University of Rijeka Faculty of Medicine: Organisation

Organisational units of the professional services of the Faculty of Medicine are adapted to the professional and administrative tasks that they carry out, in which they are coordinated by the Faculty Secretary. Regulations on Internal Job Classification of the Faculty of Medicine were approved by the Senate of the University of Rijeka. Our professional services are organised in eleven units (Office of the Dean, nine Departments: Financial and Accounting; Procurement; Legal, Personnel and General Affairs; Student Affairs; Scientific Research, Postgraduate Studies and Continuing Education; International Cooperation; Technical and Administrative Service for the Study of Dental Medicine; Information Technology; Maintenance and Technical Services - with the Section for Protection at Work and Fire Protection; and the Library). The professional services employ a staff of 65 (Table 1); secretaries (college/secondary

education -13) and cleaners (primary/secondary education -13) of departments and institutes constitute technical and support staff employed at their respective departments and institutes, so they are not shown in the Table. Analysis of the structure of employees showed that of the 554 employees, 102 (18%) are employed as technical staff (laboratory technicians, technical teaching assistants), and 91 (16%) as administrative and support staff, which is in line with the Strategy of the University, which aims to establish a share of not more than 25% of administrative and support staff in the total number of employees.

Table 1: Professional services – organisation and number of the staff

	Service/Organizational unit	Description	Educational level	Number of staff
	Secretary	Manager of professional services	VSS ¹	1
I.	Office of the Dean	Manager of the department in central office - deputy secretary	VSS	1
		Head of the Office of the Dean	VŠS ² /SSS ³	1
		Head of administrative services in the Office of the Dean	VŠS/SSS	1
II.	Financial and Accounting Department	Manager of the Financial and Accounting Department	VSS	1
		Head of the financial and book-keeping division	VŠS	1
		Head of the treasury subdivision	VŠS/SSS	1
		Head of the payroll accounts subdivision	SSS	1
		Head of the subdivision for settlement of other accounts	VŠS/SSS	1
		Head of the solvency and ledgers subdivision	VŠS/SSS	1
		Professional advisor for foreign receipts and expenditures	VSS	1
		Head of administrative services	VSS/VŠS	1
III.	Department of Procurement	Manager of the Department of Procurement	VSS	1
		Professional advisor for procurement	VŠS/SSS	1
		Head of the subdivision for procurement	VŠS/SSS	1
		Head of the subdivision for commissary and storage	VSS	1
		Professional associate for procurement	VSS	1
IV.	Department of Legal, Personnel and General Affairs	Manager of the Department of Legal, Personnel and General Affairs	VSS	1
		Head of the personnel division	VŠS	1
		Head of the personnel subdivision for research assistants and non-academic staff	VŠS/SSS	1
		Head of the subdivision for registry and files	VŠS/SSS	1
		Head of administrative tasks	SSS	1
		Division head in the department of legal, personnel and general affairs	SSS	1
V.	Department of Student Affairs	Manager of the Department of Student Affairs	VSS	1
		Head of the student affairs division	VŠS	1
		Professional advisor for professional	VSS/VŠS	1

		studies		
		Head of the subdivision for university undergraduate and graduate studies	VŠŠ/SSS	1
		Head of the subdivision for professional studies	VŠŠ/SSS	1
		Professional advisor for student affairs	VSS	1
VI.	Department of International Cooperation	Manager of the Department of International Cooperation	VSS	1
		Head of division	VŠŠ	1
VII.	Department of Scientific Research, Postgraduate Studies and Continuing Education	Manager of the Department of Scientific Research, Postgraduate Studies and Continuing Education	VSS	1
		Professional advisor for postgraduate studies and lifelong learning	VSS/VŠŠ	1
		Secretary	VSS/SSS	1
VIII.	Department of Technical and Administrative Services for the Study of Dental Medicine	Manager of the Department of Technical and Administrative Services for the Study of Dental Medicine	VSS	1
		Cleaner	SSS	1
IX.	Department of Information Technology	Manager of the Department of Information Technology	VSS	1
		Head of the division for servers and local network management	VŠŠ	1
		Personal computer administrator - senior information officer	VŠŠ/SSS	1
		Senior information officer	SSS	1
X.	Department of Maintenance and Technical Services	Manager of the Department of Maintenance and Technical Services	VSS	1
		Electrician	SSS	1
		Head of central heating operations	SSS	1
		Doorman	SSS	5
		Maintenance officer	SSS	3
		Telephonist/ doorman	SSS	1
		Cleaners	NSS ⁴	8
		Head of the division for maintenance of neatness of the facilities and the environment	NKV ⁴ /SSS	1
	Section for Protection at Work and Fire Protection	Professional advisor for safety at work and fire protection	VSS	1
XI.	Library	Qualified librarian	VSS	3
	TOTAL			65

1 University
2 College
3 Secondary
4 Primary
5 Unskilled

Note: Parts of the text written in light letters indicate the jobs formerly occupied by the staff who are now employees of the Faculty of Health Studies as of 01/10/2014, but which are required by the Regulations on Internal Job Classification of the Faculty of Medicine; the Faculty of Medicine has all administrative structures and legal acts in accordance with the requirements of the University of Rijeka.

b) Comment on the qualification structure of non-teaching staff and possibilities for their professional advancement.

Analysis of the structure of employees showed that of the 554 employees, 102 (18%) are employed as technical staff (laboratory technicians, technical teaching assistants), and 91 (16%) as administrative and support staff. Secretaries (college/secondary education -13) and cleaners (primary/secondary education - 13) of departments/institutes constitute technical and support staff employed at their respective departments and institutes. The professional services employ a staff of 65. Analysis of the qualification structure of the professional services staff showed the following levels: 21 (38%) university, 33 (50%) college/secondary, 4 (6%) are skilled/unskilled workers, and 8 (12%) have primary education qualification.

Professional development is carried out in accordance with the Lifelong Learning Programme established pursuant to a decision of the European Parliament and the Council (no. 1720/2006/EC) in 2006, which comprises four sector programmes: Comenius (pre-school and school education), **Erasmus (higher education)**, Leonardo da Vinci (vocational education and training) and Grundtvig (adult education). The programme is intended for all persons involved in the education process at all levels from pre-school to higher education, including administrative staff in universities and other higher education institutions. The mobility of students, teachers and non-teaching staff is one of the goals of the organization of higher education according to the principles of the Bologna Process. The recommended form of mobility for the non-teaching staff of the University of Rijeka Faculty of Medicine is professional development. Teaching and non-teaching staff can achieve mobility for the purpose of professional development lasting between a few days to six weeks.

In accordance with the Programme, professional development may include several types of activities:

- attendance of structured courses/workshops of professional development workshops organized by a foreign higher education institutions in order to improve the skills needed to perform duties within the existing workplace;
- work on the model of job-shadowing, i.e., monitor the work of colleagues in the host institution in the performance of their professional activities;
- attend conferences, seminars and language courses.

Professional development of administrative staff is planned and implemented in accordance with the Regulations on Training in the Field of Public Procurement (OG 06/2012). Two employees of the Faculty of Medicine are holders of certification in the field of public procurement (one in the Procurement Department and the other in the Financial and Accounting Department), obtained following their attendance of training lasting 50 teaching hours and passing the written examination, as stipulated in the Programme of Training in the Field of Public Procurement.

c) Describe the situation and your satisfaction with the existing space in lecture-rooms and laboratories/practicums with regard to the current number of students, enrolment quotas and the optimal number of students. Compare your own space capacities with those in other comparable institutions.

The Faculty of Medicine occupies a total fifteen buildings (Table 7.1.). The official address of the Faculty, Braće Branchetta 20, comprises six buildings: the Main Building of the Faculty, the Institute of Molecular Medicine - dormitory, the Deanery, the Centre for Proteomics, the Vivarium, and the building that houses the student cafeteria and the Accounting Department. All these buildings, as well as the land on which they were built, are registered in the Land Registry as being the property of the Faculty of Medicine. The facility of the Institute of Pathology and Pathological Anatomy and the facility of the Institute of Forensic Medicine, which are located within the CHC Rijeka, are non-registered property of the Faculty.

The main building of the Faculty houses nearly all pre-clinical institutes and departments (Institute/Department of Chemistry and Biochemistry, Institute/Department of Physics, Institute/Department of Microbiology and Parasitology, Institute/Department of Anatomy, Department of Informatics, Institute/Department of Physiology and Immunology, Institute/Department of Biology and medical Genetics, Institute/Department of Histology and Embryology, Institute/Department of Pharmacology). In 2014, the Department of Social Sciences moved to the facility that had been assigned for use to the Faculty of Medicine on 01/08/2012, and is being used, as of

1/10/2014, by the Faculty of Health Studies. The above-listed departments have their own teaching practicums and fairly well equipped laboratories for scientific research. The total area of laboratories/practicums used in teaching is 1510.7 m² with a total of 505 student workstations (Table 7.3.). The Main Building also comprises common lecture and seminar rooms. There are two large lecture halls (160 and 106 seats, respectively), five smaller rooms, each with 54 (56) seats, used for seminars and lectures for small study groups, and the Auditorium with 62 seats, commonly used for the Doctoral study of Biomedicine. The total area for higher education activities at the Faculty of Medicine is 3292.66 m², of which 2514.45 m² with 2138 seats for students are used for lectures (Table 7.2.). Before the beginning of the academic year 2002-2003, the teaching rooms were thoroughly renovated (two classrooms) or enlarged (four seminar rooms and the Auditorium), and equipped with modern teaching equipment (LCD projectors and computers, sound systems, movable screens for projection, new whiteboards, new lighting and darkening system, new ventilation and heating system). The aforementioned procedure significantly increased the area of modern teaching space and thus enabled better quality teaching for all study groups at the Faculty. Part of the practical training takes place, in addition to the Main Building, in the building of the Centre for Proteomics and the Institute of Molecular Medicine and Biotechnology.

A significant part of teaching takes place also in the facility of the Institute/Department of Pathology and Pathological Anatomy, which has a modern, fully equipped lecture room with 141 seats and a practicum, in the facility of the Institute/Department of Forensic Medicine, as well as in the building of the study of Dental Medicine, in which there are 10 surgeries.

Classes are also conducted in lecture rooms and at workstations in the eight teaching bases of the Faculty of Medicine (Table 7.4.) or the CHC Rijeka (renovated classrooms at the localities of Sušak, Rijeka and Kantrida, and in some clinics), the Health Centre PGC, the Teaching Institute for Public Health of the Primorsko-Goranska County, the Orthopaedic Clinic Lovran, Thalassotherapia in Opatija, Rab Psychiatric Hospital Rab, Polyclinic Medico and the Institute of Emergency Medicine of the Primorsko-Goranska County. The teaching areas currently at our disposal were largely renovated in the period from 2002-2007 and fully meet the needs of teaching in accordance with the Bologna Process. It should be noted that the enrolment quotas did not significantly change over the years (in the period before the said renovation and expansion of the teaching space), so for the time being there is a fair balance between the number of students, study programmes and the space required for teaching.

d) Describe the situation and the functionality of the IT equipment used in teaching at your Institution. In particular, describe the possibility of students using this equipment outside classes.

The IT room in the Main Building of the Faculty of Medicine has 15 computers and a LCD projector, and the Admin Building at V. C. Emina Street no. 5 has 21 computers (Table 7.5.). In addition to the IT rooms, another 38 lecture rooms (Table 7.2.) and the seminar room of the Faculty of Medicine are equipped with computers with open Internet access and LCD projectors.

IT equipment is regularly maintained, partly by employees of the IT Department, and partly by authorized services. The average age of computers in lecture rooms is three years, so the condition and functionality of the IT equipment used in teaching is satisfactory.

Outside classes, students can use the computers in the premises of the students organisation (FOSS - University Students Committee), where there are eight computers. Students also have at their disposal ten computers in the library, and six computers and three student kiosks found in the lobby of the Faculty, which students can use outside classes between 8am and 8pm. Students of the Faculty of Medicine in Rijeka are entitled to use the CARNet Internet services (Internet access, e-mail address and web space), for which they need to open an account with the CARNet administrator.

e) Reflect on the internal policy of computer procurement and use.

IT equipment for the needs of the Faculty of Medicine has been procured through public tenders in accordance with the Public Procurement Act. Open calls for tenders define the technical specifications and configuration of equipment, while procurement of goods is regulated by annual contracts, which also stipulate a three-year warranty for the purchased IT equipment. In the last five years, the IT equipment was significantly renovated and technically meets the needs of users.

f) Comment on teaching cabinets, their number (data from the Table) and functionality. Assess the appropriateness of the cabinets for performing teaching and scientific activities of your teachers and associates.

The Faculty of Medicine has a total of 119 teacher offices (average size between 8 and 22.5 m²) located in the Main Building of the Faculty, the Institute of Pathology, the Institute of Forensic Medicine and Criminalistics, and in the Admin Building (Table 7.6.). The largest number of teacher offices are located in the Main Building of the Faculty (75 or 63%), in which the majority of preclinical classes are held and in which also most permanently employed teachers and assistants in full employment work. Their work conditions vary depending on the number of full-time staff and useful floor area of individual institutes/departments.

The teacher offices are used for part of the teaching (tutorials, partial exams and part of the exams) and part of scientific activities (writing scientific papers and projects, tutorials with research assistants, etc.). In most cases, the institutes/departments cannot provide each teacher/assistant with their own office and therefore in some cases several teachers share the same office. All offices have a phone and Internet connection(s) and most of them are air-conditioned. Their furniture and equipment are functionally appropriate for their use, so we find that the teacher offices in our Faculty are well equipped and functional.

g) Describe the size and level of equipment of the premises used exclusively for scientific-research activity and assess the space occupancy level.

Scientific research (totalling approximately 520 hours per week) takes place at 13 locations with a total area of 2509 m² (Table 7.7.). Thirty scientific-research laboratories (679 m²) are situated in the Main Building of the Faculty of Medicine, and five (400 m²) at the Institute of Pathology, Institute of Forensic Medicine and Criminalistics. Scientific research activities are also carried out in the Campus (Institute of General Pathology, Biobank TransMedRi) and the Proteomics Centre (total area of 800 m²), as well as in all teaching bases of the Faculty (Table 7.4.). The pre-clinical institutes/departments which are located in the Main Building and in the campus of the Faculty of Medicine also have several modern laboratories in which biomedical research is carried out. The following laboratories are found at the Faculty: for tissue culture, histology, molecular biology, chemistry and biochemistry, confocal microscopy, flow cytometry and cell sorting, gas chromatography, a bank of cell lines stored in liquid nitrogen and deep freezers, experimental vivarium, and some other. The share of laboratory space in institutes varies between 40% and 60%, and the size of institutes ranges between 150-500 m².

The Faculty of Medicine also has its own Laboratory Mice Breeding and Engineering Centre (Vivarium) with 622 m² of usable space, within which there is a Laboratory for microinjection and embryo transfer. The space in the Main Building and in the faculty campus is relatively well-used, although it is still possible to increase the number of researchers and research groups, and use the laboratory space more extensively. The furniture and equipment in the laboratories are modern and functionally adapted to these areas, so we find that the level of equipment and functionality of these facilities are excellent, in particular those of the newly constructed laboratories in the Centre for Proteomics, the Institute of Molecular Medicine and Biotechnology, the Institute of Histology and Embryology, the Institute of Biology and Medical Genetics and the Institute of Physiology and Immunology.

h) Describe the library space in your institution and its working hours for your students, teachers and associates and for external visitors, if applicable. Comment on the number of books and journals (domestic and foreign) in the library and on the amount of funds used each year for the purchase of new books and journals.

The library is a separate organizational unit of the Faculty. It was founded at the same time as the Faculty (in 1955), although it actually began working on 27 January 1956, when the first bibliographic unit was registered. It is a library with the largest stock of scientific literature among all constituents of the University of Rijeka, which comprises almost 29,000 monographs, over 16,000 volumes of scientific and professional journals, and about twenty units of electronic publications. Its stock also includes a valuable collection of books from the 16th and 17th centuries (such as Galen's works, for example). Over the years, the library's stock has been enriched with book donations by retired professors, but also from other sources. The first books and journals were donated to the library by the Andrija Štampar School of Public

Health, while the donations from abroad include those organized by John Petrusek (1990) and the donation of the Croatian Fraternal Union in Pittsburgh (1992). Moreover, very successful collaboration has been established with the SABRE organization, through which the library acquired a number of valuable books on biomedicine. The library's stock is partly located in the Main Building, and partly in the libraries of other constituents of the Faculty of Medicine. The library also works closely with the University Library of Rijeka on stock cataloguing.

During business hours (Monday through Friday from 8am to 8pm), the library provides the following services: use of the reading room for the entire stock, loan of textbook materials to be taken out of the library, search of the database, photocopying articles and journals, interlibrary loan, and training of users to use library information systems.

The current library space, totalling an area of 370 m², with 30 seating places and 10 computers for users, does not meet all the needs of its users, especially students of the Faculty (1500 student users). The existing spatial shortage could be solved in the future using the space capacity of the University Library (University campus on Trsat).

i) Assess the IT level of your library. In particular, specify electronic databases of books and journals available to teachers, associates and students, and describe the manner and frequency of their use. Compare this with other similar institutions.

The library of the Faculty of Medicine in Rijeka has:

1. Catalogues and databases
2. Citation databases
3. Full-text database

Overview of online databases by area:

- a) Natural sciences
- b) Biotechnology
- c) Social Sciences
- d) Technical Sciences
- e) Biomedicine and Health
- f) Humanities

Library IT services available to teachers, staff and students consist of electronic access and search of bibliographic units. The electronic content includes electronic books, journals, databases, and catalogues of the Faculty library and other libraries. Access to database is provided on the basis of approach granted by the Centre for Online Database of the Ministry of Science, Education and Sports.

On-line catalogue: The Discovery Service of the University of Rijeka enables simultaneous search of the common catalogue of higher education institutions and the associated local catalogues of University libraries, subscribed databases available to the University of Rijeka, the HRČAK Croatian portal of scientific journals and other selected scientific sources in free access on the internet.

Teachers use the online databases in order to prepare teaching materials and collect data and information for drafting scientific and professional papers, while students access databases in order to prepare final, diploma or seminar papers and essays.

Full or partial access is possible to the following databases:

E-books: NCBI Bookshelf; FreeBooks4Doctors; The Online Books Page; MedicalStudent.com; Search eBooks.com

E-bases:

OVID - MEDLINE, Cochrane Controlled Trials Register, Cochrane Database of Systematic Reviews, Database of Abstracts of Reviews of Effectiveness, PsycINFO, Core Biomedical Collection, ERIC, INSPEC Web of Science

SCOPUS

EBSCO - access to online bases Academic Search Premier, Business Source Premier, ERIC, Clinical

Pharmacology, Newspaper Source, Masterfile Premier, Health Source
PUBMED
Abbreviations (Pharma-Lexicon)
AcronymFinder
AIDSinfo
ALTBIB (Bibliography on Alternatives to Animal Testing)
BLAST
BRFSS (Behavioral Risk Factor Surveillance System)
Cancer.gov
CancerMondial
ETOH (Alcohol and Alcohol Problems Science Database)
FREIDA (Fellowship and Residency Electronic Interactive Database)
Haz-Map (Information on Hazardous Chemicals and Occupational Diseases)
HIV Database
HSTAT (Health Services/Technology Assessment Text)
IBIDS
ICTVdB (International Committee on Taxonomy of Viruses)
Images: Diagnostic Imaging and Radiology
Images from the History of Medicine
Images: Organ System Pathology
Images: The Visible Human Project
ITER (International Toxicity Estimates for Risk)
MITOMAP (A human mitochondrial genome database)
Mouse Genome Informatics
OMIM (Online Mendelian Inheritance in Man)
Proquest Dissertation Abstracts
PsycLine
REHABDATA
TOXLINE
WHO Mortality Database

j) Comment on the office premises of administrative and support professional services (such as the secretariat, accounting, IT services, etc.).

Administrative staff, or 65 employees of professional services, are located in the Deanery building (Office of the Dean, Secretary, Procurement Department, Department of Student Affairs; Department of Personnel and General Affairs, Department of Scientific Research, Postgraduate Studies and Continuing Education; Department of International Cooperation and Head of the Department of Information Technology). The building of the cafeteria houses also the Financial and Accounting Department, while the Main Building of the Faculty of Medicine accommodates the offices of the staff of the Information Technology Department, the Department of Maintenance and Technical Services - with the Section for Protection at Work and Fire Protection, part of the Procurement Department and of the Department of Legal, Personnel and General Affairs (Commissary and Storage, and Writing Office and Archive subsections).

The Information Technology Department is divided, so the part of employees are located in the Main Building and part in the Deanery building, depending on the specific tasks of the respective staff. The library and its three employees are located in the Main Building (370 m²). The furniture and equipment of the offices of the professional services are functionally appropriate for their tasks. Offices are generally of an adequate size, they all have phone and internet access, part of them are air-conditioned, so we find that the equipment and functionality of office spaces are mostly good. The only exception in this are offices and counters for admission of students, which are part of the Office for Student Affairs, because they occupy a relatively small space on the ground floor of the Deanery, so we are considering a more appropriate spatial solution for them.

k) Give your opinion on the ratio of the institution's state budget (teaching, scientific and artistic) and market incomes, and comment on the degree of your institution's autonomy and flexibility in its financial operations.

The scope of work of the Faculty of Medicine was defined in accordance with the provisions of the Act on Scientific Activity and Higher Education, the Act on Quality Assurance in Science and Higher Education, and the Act on Institutions. Its autonomy in financial operations is determined by the regulations on financial transactions in the public sector. The Faculty has to keep accounting records and prepare financial statements for the budgetary accounting: a report on incomes and expenditures, receipts and expenses, the balance sheet, the statement of changes in the value and volume of assets and liabilities, and notes. Funds for the work of HEI, which are provided from the budget of the Republic of Croatia, are remitted by the Ministry in accordance with the provisions of the Act on Execution of the State Budget of the Republic of Croatia.

The most significant share of income of the Faculty of Medicine (Table 7.11.) consists of funds from the budget allocated for salaries, operating costs, including field work, outsourcing for teaching, and for domestic research projects. Second most significant amount of income is generated from activities on the market or income from our own activities, the ratio of budget and market income being 75.64% versus 24.36%. The Faculty has all its market income at its full disposal, but it should be noted that 80% of this income is used to cover the cost of financing the programmes on the basis of which it was created. As a constituent of the University of Rijeka, the Faculty of Medicine is required to report annually to the Senate on the progress and fulfilment of objectives that are set in the common Strategy. The University integrates functions of its constituents and ensures their concerted action.

l) Provide a more detailed comment on the structure of market income sources (charging tuition fees from students, research projects, services, other activities) of your institution.

The income generated from activities on the market includes income from the provision of professional health services, our postgraduate specialist and doctoral studies fees, and scientific and professional projects (Table 7.11.). The largest share of our own income consists of income from professional services (47%), followed by scientific projects financed from EU funds (43%) and tuition fees (4.9%). A lesser portion of our own income is generated by expert witness activities, projects of cooperation with industry, and other programmes. During this reporting period, an increase in the number of international projects could be noted (12), which significantly contributes to the flexibility in the funding of scientific activity, which is likely to continue in the next reporting period.

m) Describe the way in which you manage income generated from market services in order to improve the quality of activities of your institution.

Projects financed from EU funds, being a significant factor in the structure of our own income, are intended for science and for increasing the scientific capacity of the Faculty (professional development of staff, procurement of expensive and sophisticated equipment with a view to implementing new working methods, etc.). The remainder of our own income is primarily used to finance the inputs required to perform activities that generate the said income and the costs of regular activities.

n) Provide your comments on the percentage structure of investing market income and estimate to what extent a reduction in or lack of these funds can impact the institution's functionality and its primary activity.

The highest value of expenditures (76%) refers to reimbursements for employees, of which 33% are used for salaries of the employees and only 3% for external associates. Second largest total expenditure refers to materials and energy (9%), followed by that for services (5%), staff costs, which primarily include professional development (4.6%), and investments in non-financial assets (4%), of which 53% are used for investments in laboratory equipment. The latter points to the effort invested by the Faculty of Medicine in Rijeka to raise the employees' professional skills, and to the priority it gives to maintenance of its equipment. Projects financed from EU funds are spent according to the project agreements at the level of 100% of the allocated funds. Of the remaining own income, 20% is spent for regular operations of the Faculty and 80% to cover the cost of the programmes that generated the said income. As the inflow of budgetary resources is insufficient to finance teaching and research as the core activities, improving the quality of teaching and research excellence are already now directly dependent on market income, and

any potential further decrease in revenues would directly affect the stability but also the possibility of realization of the basic activities of the Faculty.

o) Specify your priorities in solving the existing problems in the event of an increased budget funding of your institution.

In the event of an increased budget funding of the Faculty of Medicine in Rijeka, these funds would primarily be used to close the financial construction of expenditures for the core business. This would, as described above, enable allocation of most of the market income to investment in human resources and infrastructure capacity of the Faculty, which in turn would create new value in the short-term period, and in the long term stabilise overall functioning of the Faculty.

p) Specify to what extent you are satisfied with the current situation and propose possible improvements.

In the previous period, there has been an increase of income generated from our own activities, in particular that obtained from scientific and professional projects, as compared to that obtained from tuition fees and lease. The increase in the number of international projects contributes significantly to the flexibility in the financing of scientific activities and we expect this positive trend to continue in the coming period. High-quality projects and preparing the necessary documentation for them are basic prerequisite for successful withdrawal of EU funds and similar sources. At present, the Faculty of Medicine in Rijeka, as well as most constituents of the University, lacks the appropriately trained personnel necessary for successful preparation and monitoring of projects. Stronger support of University is therefore needed in this regard, namely, its professional services should be better staffed and professionally trained and be made available to all University constituents.

Table 7.1. Buildings of the Faculty of Medicine

(Specify the existing buildings, buildings under construction and planned construction.)

Building	Location	Year of construction	Year of extension or reconstruction	Total area for work in HE in m ²	Total area for scientific research work in m ²
1. Main Building MF¹	Braće Branchetta 20	1908	2002	913.95	621.90
2. Institute of Molecular Medicine - dormitory	Braće Branchetta 20		2002	0	58.39
3. Deanery	Braće Branchetta 20	1908		0	0
4. Centre for Proteomics	Braće Branchetta 20	2002		0	588.00
5. Cafeteria – Accounting	Braće Branchetta 20		1999	0	0
6. Vivarium	Braće Branchetta 20		2005	0	621.40
7. Institute of Forensic Medicine	Vukovarska 11		2002	30.00	20.00
8. Institute of Pathology	Cambierieva 17	1962	2003	100.00	380.00
9. Building of Dental Medicine (lease)	Krešimirova 40		2005	314.15	0
10. Admin Building -used from 01/08/2012-01/10/2014; - as of 01/10/2014 - Faculty of Health Studies	V.C. Emina 5	1942	2006-2007	634.80	0

11. Admin Building (lease from 01/01/2011-31/12/2012)	Cambierieva 2			61.78	0
12. Campus, section building	Radmile Matejčić 2	2011		256.98	220.00
13. CHC² Rijeka Locality Rijeka Locality Sušak Locality Kantrida	Krešimirova 42 T. Strižića 3 Istarska 43			821.00	0
14. Orthopaedic Clinic Lovran	Šetalište M.Tita 1			68.00	0
15. Teaching Institute for Public Health PGC³ - Rijeka	Krešimirova 52a			92.00	0
TOTAL AREA				3 292.66	1 921.69

¹ Faculty of Medicine

² Clinical Hospital Centre

³ Primorsko-Goranska County

Table 7.2. Lecture rooms

Building	Lecture room number or label	Area (in m ²)	Student seating capacity	Hours of use per week	Equipment rating (1-5)*
1. Main Building FM	1	133.30	106	30-35	5
2. Main Building FM	2	177.60	162	30-35	5
3. Main Building FM	4	45.85	54	30-35	5
4. Main Building FM	5	45.85	54	35-40	5
5. Main Building FM	6	45.85	54	35-40	5
6. Main Building FM	7	45.85	54	35-40	5
7. Main Building FM	8	61.80	56	30-35	5
8. Main Building FM	10	89.00	62	25	5
9. Institute of Pathology, Cambierieva 17	Lecture room	101.20	140	30	5
10. Institute of Forensic Medicine	Lecture room	30.00	23	30	5
11. CHC Rijeka, Locality Sušak	Auditorium	94.00	89	30-35	5
12. CHC Rijeka, Locality Rijeka	Auditorium	95.50	90	30-35	5
13. CHC Rijeka, Locality Rijeka	Lecture room at the Clinic for Gynaecology	73.50	72	15-20	5
14. CHC Rijeka, Locality Rijeka	Lecture room at the Clinic for ORL	46.20	55	20	5
15. CHC Rijeka, Locality Rijeka	Lecture room at the Clinic for Infectious Diseases and Febrile Conditions	79.00	71	20-25	5
16. Rijeka, Locality Rijeka	Lecture room at the Clinic for Surgery	71.00	40	10-15	5
17. CHC Rijeka, Locality Rijeka	Lecture room at the Clinic for Radiology	31.00	20	20	5
18. CHC Rijeka, Locality Rijeka	Lecture room at the Clinic for Psychiatry	47.00	41	30	5
19. CHC Rijeka, Locality Rijeka	Lecture room at the Clinic for Neurology	45.60	35	35-40	5
20. CHC Rijeka, Locality Rijeka	Lecture room at the Clinic for Dermatovenerology	30.00	25	15-25	5
21. CHC Rijeka, Locality Rijeka	Lecture room at the Clinic for Internal Medicine	28.50	20+12	25-30	5
22. CHC Rijeka, Locality Kantrida	Small lecture room	57.00	36	10-15	5
23. CHC Rijeka, Locality Kantrida	Large lecture room	122.70	110	20-25	5
24. Orthopaedic Clinic, Lovran	Lecture room	68.00	60	20	5
25. Teaching Institute for Public Health PGC - Rijeka	Lecture room	92.00	80	25	5

26. Building of the study of Dental Medicine	Lecture room	29.65	35	35-40	5
27. Building of the study of Dental Medicine	Lecture/practice room	61.43	30	20-30	5
28. Building at Cambierieva 2	Lecture room	61.78	30	35-40	5
29. Main Building FZS ¹ , V.C. Emina 5	Lecture room 1 (ground floor)	39.05	22	30	5
30. Main Building FHS, V.C. Emina 5	Lecture room 2 (ground floor)	34.60	18	30	5
31. Main Building FHS, V.C. Emina 5	Lecture room 3 (ground floor)	36.54	24	30	5
32. Main Building FHS, V.C. Emina 5	Lecture room 4 (ground floor)	60.27	48	30	5
33. Main Building FHS, V.C. Emina 5	Lecture room 5 (ground floor)	63.93	38	30	5
34. Main Building FHS, V.C. Emina 5	Lecture room 6 (1 st floor)	69.21	38	30	5
35. Main Building FHS, V.C. Emina 5	Lecture room 7 (1 st floor)	55.90	30	30	5
36. Main Building FHS, V.C. Emina 5	Lecture room 8 (1 st floor)	73.15	42	30	5
37. Main Building FHS, V.C. Emina 5	Lecture room 9 (1 st floor)	134.80	120	30	5
38. Main Building FHS, V.C. Emina 5	Lecture room 11 (2 nd floor)	66.84	42	30	5
TOTAL		2514.45	2138	1025-1135	

¹ Faculty of Health Studies

* The level of equipment lecture implies the quality of furniture, technical and other equipment.

Table 7.3. Laboratories/practicums used in teaching

Building	Internal label of the laboratory/practicum	Area (in m ²)	Student seating capacity	Hours of use per week	Equipment rating (1-5)
Main Building FM	Practicum Department of Physics (1)	66.30	30	24	4
Main Building FM	Department of Anatomy (4)			88	4
	Practice room (1)	50.00	30		
	Practice room (2)	48.00	24		
	Practice room (3)	45.90	24		
Main Building FM	Department of Microbiology and Parasitology (2)			42	4
	Practice room (1)	41.60	20		
	Practice room (2)	26.00	10		
Main Building FM	Department of Pharmacology (1) Practice room	73.75	36	35	4
Main Building FM	Department of Biology and Medical Genetics (1) Practice room	64.80	30	29	5
Institute of Pathology,	Department of Pathology and Pathological Anatomy (3)	86.20			4
	Practice room (microscopes)		40	33	

Cambierieva 17	Dissection lab		10		
	Library		20	14	
Main Building FM	Department of Chemistry and Biochemistry (2)			53	4
	Practicum (1)	68.70	20		
	Practicum (2)	79.40	20		
Building of the study of Dental Medicine	Surgeries (1-10)				5
	Surgery 1	36.97	4	107	
	Surgery 2	24.32	2	75	
	Surgery 3	34.40	3	60	
	Surgery 4	37.21	2	60	
	Surgery 5	32.96	4	117	
	Surgery 6	37.30	4	75	
	Surgery 7	33.55	3	28	
	Surgery 8	17.36	1	65	
	Surgery 9	22.06	1	65	
	Surgery 10	29.70	2	105	
Main Building FM	Department of Physiology and Immunology (2)				4
	Practice room	65.20	32	54	
	Seminar room	53.80	40	42	
Main Building FM	Department of Histology and Embryology (2)				5
	Practice room	51.20	21	22	
	Laboratory	44.00	15	13	
Main Building FM	Department of Informatics (1)	39.00	15	20	5
	IT lab				
Skills Lab Radmile Matejčić 2, Campus (section)	Department of Anaesthesiology, Resuscitation and Intensive Care	256.98	18	20	4
TOTAL		1510.7	505	1246	4

Table 7.4. Teaching bases (workstations) for practical classes

Building	Name of the teaching base (workstation)	Number of students attending the teaching base	Number of classes (per week) held in the teaching base *
1. CHC Rijeka Locality Rijeka (Krešimirova 42, Rijeka); Locality Sušak (T. Strižića 3, Rijeka); Locality Kantrida (Istarska 43, Rijeka)	CHC Rijeka	1051	190
2. Teaching Institute for Public Health PGC Rijeka, Krešimirova 52a	Teaching Institute for Public Health	318	15
3. Health Centre PGC Rijeka, Krešimirova 52a	Health Centre PGC	116	13
4. Orthopaedic Clinic Lovran, Šet. M. Tita 1	Orthopaedic Clinic Lovran	277	43
5. Thalassotherapia Opatija, M. Tita 188	Thalassotherapia	60	3
6. Polyclinic Medico Rijeka, Agatićeva 2	Polyclinic Medico	25	2
7. Psychiatric Hospital Rab, Kampor 224	Psychiatric Hospital Rab	168	2
8. Institute of Emergency Medicine PGC Rijeka, Branka Blečića bb	Institute of Emergency Medicine PGC	222	2
TOTAL		2237	270

**The data refer to the number of hours of instruction per week held on these localities in accordance with implementation curricula by organisational units (trimesters, one-course blocks or blocks of classes)*

Table 7.5. Computer room equipment

(Provide information on computers in computer laboratories practicums used in teaching)

Number of new computers (up to 3 years)	Number of computers older than 3 years	Functionality rating (1-5)	Maintenance rating (1-5)	Possibility for extracurricular use ((1-5))
15+21*	0	5	5	5

** Computers found in the computer room in the Admin Building at V.C. Emina 5.*

Table 7.6. Teachers' offices

Building	Number of teachers' offices	Average area (in m ²)	Equipment rating (1-5)	Average area in m ² per full time teacher/associate
1. Main Building FM	75	12.4	4	8.61
2. Institute of Pathology Cambierieva 17	10	8	4	4.4
3. Institute of Forensic Medicine and Criminalistics Vukovarska 11	4	22.5	5	12.85
4. Admin building, FHS, V.C. Emina 5	30	17.3	4	28

Table 7.7. Space used only for scientific and research work

Building	Internal room or laboratory label	Area (in m ²)	Hours of use per week	Equipment rating (1 - 5)
1. Centre for Proteomics		588.00	40	5
2. Vivarium		621.40	40	5
3. Main Building FM	Institute of Pharmacology laboratories (4)	87.00	40	4
4. Main Building FM	Institute of Microbiology laboratories (3) *	40.00	40	4
5. Main Building FM	Institute of Chemistry and Biochemistry laboratories (3) and weighing cabin	127 +13	40	4
6. Main Building FM	Institute of Anatomy laboratories (3)	87.15	40	4
7. Main Building FM	Institute of Physiology and Immunology laboratories (6)	119.75	40	5
8. Main Building FM	Institute of Histology and Embryology laboratories (5)	85.00	40	5
9. Main Building FM	Institute of Biology and Medical Genetics laboratories (3)	63.00	40	5
10. Main Building FM	Institute of Molecular Medicine and Biotechnology laboratories (3)	58.39	40	5
11. Institute of Pathology, Cambierieva 17	Institute of General Pathology and Pathological Anatomy laboratories (4)	380	40	4
12. Institute of Forensic Medicine	Institute of Forensic Medicine and Criminalistics	20	40	4

and Criminalistics, Vukovarska 11	laboratory			
13. Institute of Pathology, Campus, Radmile Matejčić 2 (section)	Institute of General Pathology and Pathological Anatomy Transmedri biobank	220	40	4
TOTAL		2509.69	520	4.5

* 3 laboratories of the Institute of Microbiology are also used for professional work

* 3 laboratories of the Institute of Biology and Medical Genetics are also used for professional work

Table 7.8. Space used only for professional work

Buildings	Internal room or laboratory label	Area (in m²)	Hours of use per week	Equipment rating (1 - 5)
1. Main Building FM	Institute of Chemistry and Biochemistry laboratory	12	8	5
2. Institute of Pathology, Cambierieva 17	Institute of General Pathology and Pathological Anatomy prosecture	559*	40	3
3. Institute of Forensic Medicine and Criminalistics, Vukovarska 11	Institute of General Pathology / Institute of Forensic Medicine and Criminalistics prosecture	260	40	4
4. Institute of Forensic Medicine and Criminalistics, Vukovarska 11	Institute of Forensic Medicine and Criminalistics laboratory	48.90	40	4
TOTAL		879.9	128	4

*260 m² of the area of the prosecture are shared with the Institute of Forensic Medicine and Criminalistics

Table 7.9. Capital equipment

(Provide information on available capital equipment of the HEI the purchase value of which exceeds HRK 200,000)

Name of instrument (equipment)	Purchase value	Age
1. COMPUTER LAB TC2009	236 554.51	4.84
2. ULTRACENTRIFUGE SORVALL WX 80	247 964.00	3.31
3. IVC SYSTEMS (INDIVIDUAL VENTILATION CAGES)	257 758.57	2.67
4. VIRTUAL MICROSCOPE SYSTEM VS 110	542 000.00	3.51
5. INDIVIDUAL VENTILATION CAGES FOR LAB MICE	502 217.61	3.44
6. IN VIVO IMAGING OF LAB ANIMALS MULTISPECTRAL FX PRO	1 201 000.00	3.31
7. FAST REAL TIME PCR SYSTEM	279 299.34	3.28
8. CONFOCAL MICROSCOPE WITH AN INTERFACE FOR LASER SCANNING	2 200 000.00	3.11
9. NUCLEIC EXTRACTOR - MAGMA PURE	595 600.00	2.69
10. FLOW CYTOMETRY (FACSVERSE)	903 304.11	2.65
11. PERSONAL GENOME MACHINE SYSTEM	500 000.00	1.38
12. MICE CAGES	221 668.00	5.21
13. GENETIC ANALYZER 310 DNA SEQUENCER	423 273.50	4.86
14. INVERTED FLUORESCENCE MICROSCOPE OLYMPUS IX51	274 645.13	4.85
TOTAL	8 385 284.77	3.51

Table 7.10. Library equipment

Total area (in m ²)	Number of employees	Seating capacity	Number of students using the library	Is there an electronic database of your books and journals
370	3	30	1500	yes

Number of book titles	Number of textbooks*	Rating of currentness of books and textbooks (1-5)	Number of foreign journal titles	Number of national journal titles	Rating of functionality of catalogues, books and journals (1-5)	Equipment rating (1-5)**	Rating of quality and availability of electronic contents (1-5)***
2583	3630	4	10 + online databases of magazines paid through MSES ¹	19	good	4	4

¹ Ministry of Science, Education and Sports

* The number of textbooks comprises all textbooks, regardless of the number of copies.

** Copying for teachers and students, provision of copies from other libraries, catalogues of teachers' works, etc.

*** The electronic content comprises electronic editions of books, journals, databases, but also library's own catalogues and those of other libraries. The Discovery Service of the University of Rijeka enables simultaneous search of: the University common catalogue and associated local University libraries catalogues, subscribed databases available to the University of Rijeka, RH HRČAK portal of scientific journals and other selected scientific sources freely accessible on the Internet

Table 7.11. Financial evaluation

	INCOME	N-2 calendar year	N-1 calendar year
1.	STATE BUDGET INCOME	83 405 835	77 855 727
1.1.	Employees' salaries	69 810 324	69 058 290
1.2.	Operation costs (including fieldwork)	8 283 108	7 453 486
1.3.	External cooperation in teaching	1 228 949	
1.4.	National research projects	3 596 081	1 308 597
1.5.	International research projects		
1.6.	International cooperation		
1.7.	Organization of scientific conferences		
1.8.	Acquisition of journals		
1.9.	Regular maintenance		
1.10.	Construction and investment maintenance		
1.11.	Equipment	487 373	
1.12.	Total other types of incomes - income from the Croatian Employment Service – incentive for employment HRK 1 600.00		35 354
2.	OTHER PUBLIC BUDGET INCOME	1 314 889	578 742
2.1.	Income and grants from local government entities (towns, counties, etc.)	310 036	64 421
2.2.	Income and grants from other subjects (for example National Science Foundation)		
2.3.	Total other types of incomes - subjects in the economy	1 004 853	514 321
3.	INTEREST INCOME	348 678	367 790
4.	OWN ACTIVITY INCOME	19 141 219	18 796 677
4.1.	Tuition fees - postgraduate specialisation	198 854	333 923
4.2.	Tuition fees - postgraduate doctoral	385 750	937 200
4.3.	Research projects	10 977 941	5 360 724
4.4.	Professional projects	555 059	834 793
4.5.	Rent income	33 528	88 217
4.6.	Other types of income	100 062	158 265
4.7.	Professional health services - diagnostics	6 890 025	11 083 555
5.	SPECIAL REGULATION INCOME	2 910 777	5 269 980
5.1.	Tuition fees – undergraduate, graduate, professional	2 275 087	4 854 748
5.2.	Additional test of special knowledge, skills and abilities (if carried out in addition to the state graduation exam)		
5.3.	Enrolment fees	453 810	269 783
5.4.	Publishing activity	64 996	98 901
5.5.	Fees for student applications, certificates, diplomas, student ID booklets, etc.	116 884	46 548
5.6.	Other types of income		
6.	OTHER (NOT MENTIONED) INCOME - collected on the basis of insurance - damage		15 249
A	TOTAL BUSINESS INCOME	107 121 398	102 884 165

	EXPENDITURES	N-2 calendar year	N-1 calendar year
1.	EMPLOYEE EXPENSES	81 781 230.95	79 809 922.08
1.1.	Employees' salaries	53 739 094.00	53 043 856.00
1.2.	External cooperation in teaching	2 520 834.98	2 655 396.15
1.3.	Other types of expenses	25 521 301.97	24 110 669.93
1.3.1.	Sickness benefit at the expense of the fund	207 626.76	103 646.19
1.3.2.	Gifts	302 600.00	304 578.84

1.3.3.	Severance pay	24 000.00	66 500.00
1.3.4.	Compensation for illness, disability or death	67 000.00	91 826.00
1.3.5.	Holiday bonus	528 750.00	0.00
1.3.6.	Other unlisted expenses for employees	286 068.21	136 657.90
1.3.7.	Pension contributions	13 418 743.00	13 308 828.00
1.3.8.	Contributions for compulsory health insurance	9 555 426.00	8 974 695.00
1.3.9.	Contributions for compulsory unemployment insurance	1 131 088.00	1 123 938.00
2.	MATERIAL AND ENERGY EXPENSES	9 538 595.00	8 884 165.00
2.1.	Office supplies and other material expenses	1 054 544.00	1 145 414.00
2.2.	Laboratory material	5 412 139.00	4 778 249.00
2.3.	Energy	2 472 965.00	2 621 104.00
2.4.	Material and parts for current and investment maintenance	314 362.00	153 129.00
2.5.	Small items	251 355.00	133 212.00
2.6.	Other types of expenses - official, working and protective clothing and footwear	33 230.00	53 057.00
3.	SERVICE EXPENSES	5 346 928.02	5 133 955.85
3.1.	Telephone, mail, transport	1 117 008.00	913 901.00
3.2.	Overhead services	1 341 293.00	1 400 072.00
3.3.	Promotion and information	25 469.00	18 606.00
3.4.	Utility services	621 642.00	695 028.00
3.5.	Lease, rent	266 613.00	459 041.00
3.6.	Intellectual and personal services (service contracts, fees)	370 694.02	461 631.85
3.7.	IT services	198 681.00	178 249.00
3.8.	Other types of expenses	1 405 528.00	1 007 427.00
3.8.1	Health and veterinary services	190 045.00	144 847.00
3.8.2.	Graphic and printing services	748 921.00	575 094.00
3.8.3.	Film and photo developing	1 143.00	16 883.00
3.8.4.	Vehicle registration	6 086.00	5 945.00
3.8.5.	Cleaning, laundry, etc.	89 683.00	81 916.00
3.8.6.	Protection of property and persons	1 645.00	2 467.00
3.8.7.	Other services not mentioned above	260 356.00	143 837.00
3.8.8.	Reimbursement of expenses for persons outside employment relationship	107 649.00	36 438.00
4.	NON-FINANCIAL ASSETS EXPENSES	4 254 227.00	3 779 974.00
4.1.	Business facilities	24 945.00	0.00
4.2.	IT equipment	405 057.00	533 104.00
4.3.	Laboratory equipment	2 800 789.00	1 476 653.00
4.4.	Office equipment	232 489.00	308 218.00
4.5.	Communication equipment	176 753.00	109 235.00
4.6.	Other equipment	0.00	0.00
4.7.	Literature	0.00	0.00
4.8.	Plant, machinery and other equipment investments	0.00	35 760.00
4.9.	Additional investments in building facilities	330 998.00	1 235 753.00
4.10.	Other types of expenses	283 196.00	81 251.00
4.10.1	Maintenance and protection equipment	65 722.00	48 839.00
4.10.2.	Instruments, devices and machines	36 746.00	18 557.00
4.10.3.	Means of transportation in road transport	85 464.00	0.00

4.10.4.	Investments in software	95 264.00	13 855.00
5.	EMPLOYEE REIMBURSEMENT	5 281 404.00	4 417 284.00
5.1.	Business trips	2 893 343.00	1 947 696.00
5.2.	Professional training	642 952.00	677 318.00
5.3.	Other types of expenses including cost of transport	1 745 109.00	1 792 270.00
6.	OTHER BUSINESS EXPENSES NOT MENTIONED ABOVE	929 014.00	858 864.00
6.1.	Insurance premiums	144 393.00	132 385.00
6.2.	Representation	314 215.00	302 843.00
6.3.	Membership fees	44 309.00	39 301.00
6.4.	Banking and financial transactions services	76 362.00	86 177.00
6.5.	Interest	8 088.00	18 243.00
6.6.	Other financial expenses	341 647.00	279 915.00
6.6.1	Fees and charges	35 334.00	35 076.00
6.6.2.	Other business expenditures	288.00	105 396.00
6.6.3.	Foreign exchange losses	174 633.00	30 003.00
6.6.4.	Other expenditures not mentioned above	129 392.00	109 440.00
6.6.5.	Current cash donations	2 000.00	0.00
B	TOTAL EXPENDITURES	107 131 398.97	102 884 164.93
C	Balance brought forward from previous year	0.00	0.00
	TOTAL BALANCE 31/12/ (A-B+C)	0.00	0.00