

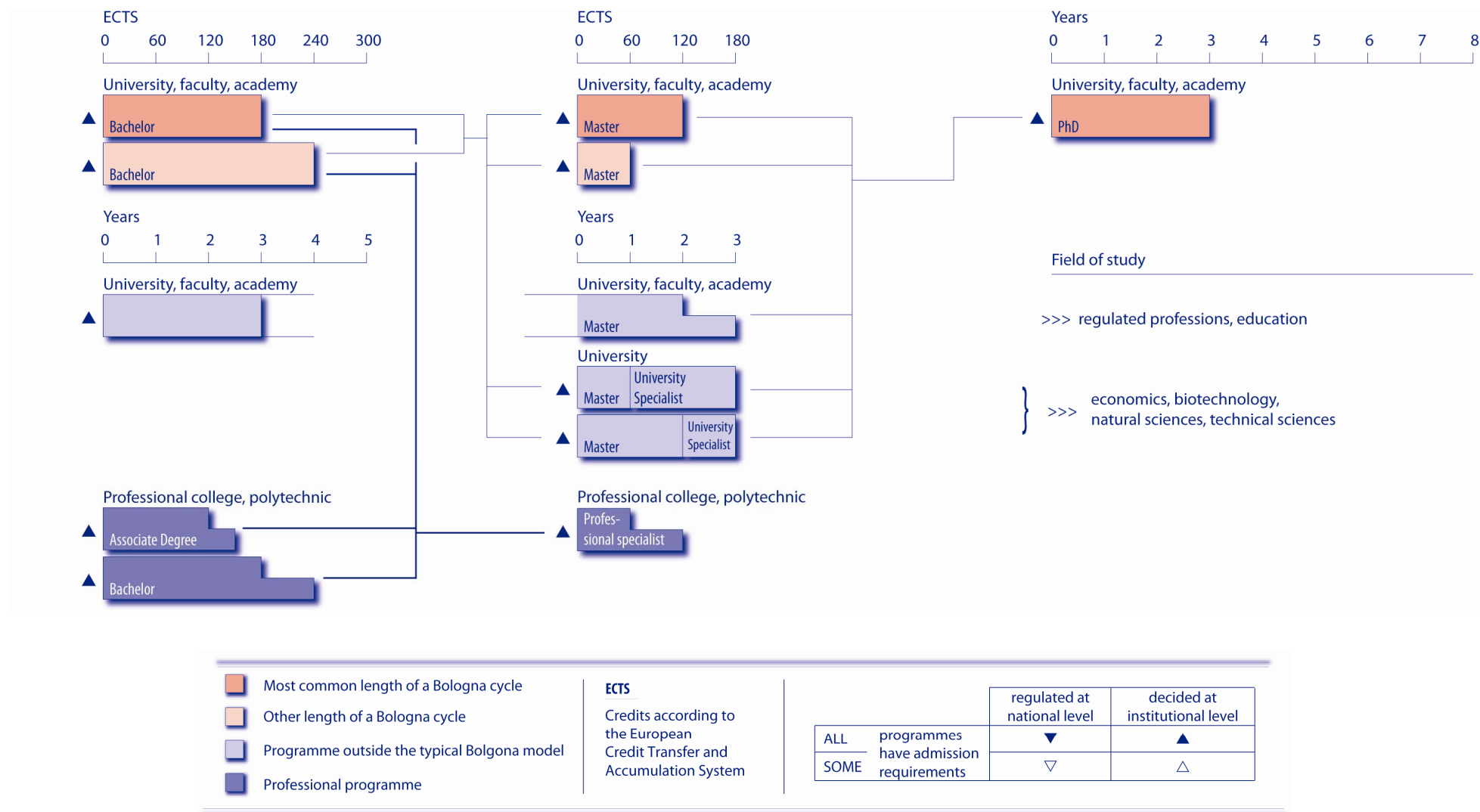


HIGHER EDUCATION IN CROATIA



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The higher education system in Croatia



Source: "Focus on Higher Education in Europe 2010 - The impact of the Bologna Process" (Eurydice, 2010).

I. Overall description

1. Major characteristics of tertiary education in the country

Legislation covering the field of tertiary education

Croatian higher education is primarily regulated by the Act on Scientific Activity and Higher Education which came into force in August 2003 and established a binary system which supports the professional education offered in polytechnics (*veleučilišta*), schools of professional higher education (or colleges) (*visoke škole*) and, exceptionally, universities (*sveučilišta*) on the one hand, and academic education which is conducted solely in universities, on the other. The main differences between these two types of higher education institutions are that universities, unlike institutions which provide only professional education, are obliged to engage in research; their teachers must have appropriate ranking in the scientific community and apply their scientific knowledge and research in the educational process; universities are allowed to independently perform initial accreditation of their study programmes (public universities only), and establish constituent units such as faculties and academies, which are legally independent entities. Both types of higher education institutions can organise and conduct professional study programmes and issue first and second cycle degrees (universities – academic and professional, other higher education institutions – only professional), but only universities can implement third cycle education.

The Act treats private and public higher education institutions equally.

Types of tertiary education institutions

Croatian higher education used to be concentrated at the major universities, but in the past years new public universities have been established (Dubrovnik, Zadar and Pula). In addition to this, the incentive for polycentric development of higher education has continued in Croatia since 2007, with the Ministry of Science, Education and Sports and the Development and Employment Fund of the Republic of Croatia investing EUR 8 million to support the establishment and development of professional study programmes outside of traditional higher education centres.

Public higher education institutions are those established by the state. Private universities, polytechnics and schools of professional higher education can be established by the founders

in the manner prescribed by the law and regulations relating to the establishment of institutions. Counties, towns and municipalities can establish schools of professional higher education by decisions of their representative bodies. All higher education institutions in Croatia are non-profit institutions and perform their duties as a public service. According to the database of the Agency for Science and Higher Education there are 119 recognised higher education institutions in Croatia; 10 are universities (*sveučilišta*), 15 are polytechnics (*veleučilišta*) and 27 are schools of professional higher education/ colleges (*visoke škole*). In addition to this, there are 67 faculties and academies which are parts of universities, but legally recognised as separate and independent legal entities.

While most higher education institutions are publicly owned, of the total number of institutions 3 universities, 2 polytechnics and 24 schools of professional higher education are private. Traditional universities (Zagreb, Split, Osijek, Rijeka) are not functionally integrated, but the recently founded ones are (Zadar, Dubrovnik and Pula).

Types of tertiary education programmes and qualifications

The Act on Academic and Professional Titles and Academic Degree was passed in September 2007 and established an overarching system of titles for students graduating from Bologna study programmes, as well as a framework for comparison of pre-Bologna and Bologna titles.

Academic degree courses are organised according to the system of transferable ECTS credits and have three cycles: undergraduate, graduate and postgraduate. Professional degree courses also award ECTS credits but are organised in two cycles. According to the database of the Agency for Science and Higher Education, Croatian higher education institutions offered more than 1200 study programmes in 2009/10.

According to the Central Bureau of Statistics, in the academic year 2009/10 there were 141 487 students who followed regular courses in Croatia in the first and second cycles, and an additional 30 476 students who have taken all their courses but have not yet passed all their programme examinations. In 2009/10, 22 034 were enrolled in polytechnics, 9 027 in schools of professional higher education, and 114 202 in universities. Of these, 110 835 students are in the two-cycle degree system, while the remainder are those who have started their studies before the introduction of the three cycles (the so-called 'pre-Bologna' or 'old

system' students). In 2009, a total of 444 students graduated at the doctoral level, and 965 at the Master level. Of all students graduating at the Master level, 595 were in social sciences, 88 in natural sciences and 86 in technical sciences.

The EU/CoE/UNESCO format of the diploma supplement was established in Croatia through the Ordinance on the Content of Diplomas and Diploma Supplements in January 2005. Amendments to this Ordinance that came into force in April 2007 ensure that all students graduating from the reformed Bologna study programmes at Croatian higher education institutions receive their diploma supplements automatically and free of charge in Croatian and English and in the EU/CoE/UNESCO format.

The activities relating to the development of the Croatian Qualifications Framework (CROQF) commenced in March 2006 when the Ministry of Science, Education and Sports formed the relevant committee. Following consultations with numerous partners, at the beginning of 2007, The Ministry sent the Baseline of the Croatian Qualifications Framework to the Government for adoption. In July 2007, the Government adopted the Baseline of the CROQF and the Committee for the Development of the CROQF was established. The Baseline introduces basic concepts, outlines the CROQF aims and development principles (which follow the guidelines in the proposals and discussions for the Framework for Qualifications of the EHEA and the European Qualifications Framework), and sets out the qualification reference levels with credit ranges. The National Committee for CROQF development includes all relevant stakeholders (among others, representatives of the academia, employers and trade unions).

The Committee adopted a five-year Plan of Activities in March 2008. Pursuant to the Committee's decision, in April 2008 the Ministry of Science, Education and Sports (MSES) established the Operational Team in support of the Committee. In December 2009, the Report from the Committee with all related documents on the CROQF development was adopted by the Government. Pursuant to the Committee's proposal, a new National Committee for the CROQF implementation with a more focused Expert Team was established in May 2010.

2. Distribution of responsibilities

The distribution of responsibilities is regulated by the Act on Scientific Activity and Higher Education and does not vary with regard to the level, although public universities do have a somewhat wider scope of responsibilities than

other higher education institutions regarding research and quality assurance.

The Ministry of Science, Education and Sports (MSES) is the administrative body responsible for planning, funding and monitoring the overall education system. MSES performs administrative and other activities relating to: the higher education system, securing financial and material conditions for work, professional education and permanent education of teachers, accommodation, food and other issues relating to student welfare, and legal supervision of higher education institutions.

MSES is working closely with other responsible bodies, such as the National Council for Science, the National Council for Higher Education, the Science and Higher Education Funding Council, the Rectors' Conference, the Council of Polytechnics and Schools of Professional Higher Education and the National Committee for Ethics. In addition, MSES closely cooperates with other independent institutions such as the Agency for Science and Higher Education, the Agency for Mobility and EU Programmes and the Agency for Vocational Education, as well as other partners such as the Ministry of Health and Social Welfare, the Ministry of Economy, Labour and Entrepreneurship, the Croatian Chamber of Economy, the Chamber of Crafts, the Croatian Employment Service and the Croatian Association of Employers. The National Council for Science is an expert and advisory body of the Croatian Parliament responsible for development and quality of science in the Republic of Croatia.

The National Council for Higher Education is an expert and advisory body of the Croatian Parliament responsible for the development and quality of higher education in the Republic of Croatia. The Croatian Parliament, at the recommendation of the Government, appoints members of both Councils. Ideally, members are representatives of all areas of science and arts, and, regarding the Council for Science, scientists employed in industry. The National Council for Science also has area councils which are divided according to the fields of study: natural sciences, technical sciences, biomedicine and health, biotechnology, social sciences, humanities and arts. The Science and Higher Education Funding Council is an expert body of the Councils. The Rectors' Conference currently consists of all public university rectors. A representative of the Council of Polytechnics and Schools of Professional Higher Education participates in the work of the Conference, but has no voting rights. The Rectors' Conference decides on issues of common interest for the development of universities.

The Council of Polytechnics and Schools of Professional Higher Education consists of deans

of all polytechnics and schools of professional higher education. The Council decides on issues of common interest for the development of polytechnics and schools of professional higher education.

The Committee for Ethics in Science and Higher Education promotes ethical principles and values in science and higher education, in business relations, in public relations, in the application of current technologies and in environmental protection.

The Agency for Science and Higher Education is an independent national body responsible for assessing scientific research and assuring quality in higher education, and recognizing diplomas and qualifications through the ENIC/NARIC. Furthermore, since 2009, the Agency is also responsible for collecting information on Croatian higher education and scientific developments, for providing support to the implementation of the state matura (national exams for graduates from secondary schools), and for administering the centralised applications and admissions to higher education. The Agency for Mobility and the EU Programmes provides support for ECTS coordinators at higher education institutions.

3. Governing bodies of the Higher Education Institutions

On the basis of the Act on Scientific Activity and Higher Education and accompanying Rules and Procedures, higher education institutions organise their activities according to their statutes, and a number of acts regulating specific topics (i.e. Study Regulations, Ethical Codex, Regulation of Financial Issues, etc.). They appoint representatives to the Rectors' Conference, propose the criteria for the selection of academic staff, work closely with the Councils for Science and Higher Education and regulate other issues within the scope of responsibility of the academic institutions.

The Rector, the Senate and the University Advisory Board govern the university. This is the minimum standard required by law, but universities may create additional management and advisory bodies within the scope of the institutional autonomy. In addition, a university may entrust the management of its business or part of it to a certain body (managing director, managing board or similar actors).

The decision-making body is the Senate. It is composed of teaching staff, which make up at least 60 % of the body, student representatives elected by the students (at least 15 % of the members) and representatives of other employees. The University Board has 6 or 12 members, with half of them appointed by the Senate (at least one is a student), and half of them appointed

by the founder, local government bodies and the Chamber of Commerce. The Dean, an expert council (usually the Faculty Council) and other bodies, as stipulated by the university statute or other acts, govern the faculty and the academy of arts. It is expected that in 2010 a new law will be introduced which may change the current organisation of universities and their governing bodies.

The Dean, the Professional Council, the Governing Board and other professional and advisory bodies govern the polytechnics and schools of professional higher education. The Dean is elected by the Professional Council and approved by the Governing Board. The Professional Council of polytechnics and schools of professional higher education consists of teachers, associates and students (at least 15 % of its members are elected by students). The Governing Board has five members. The founder appoints three and the Professional Council elects two members. The Director, the Scientific Council, the Governing Board and other bodies, as stipulated by the statute or amendments based on the statute, govern the institutes. The Governing Board is composed of members appointed by the founder and members elected by the Scientific Council of the institute.

According to the 2007 Act on Student Council and other Student Organisations, the main body representing students is the Student Council. Student representatives are elected to the governing bodies of all institutions of higher education: university senates, councils of polytechnics, the Agency for Science and Higher Education Accreditation Council, etc. By law, all higher education institutions should have a student ombudsman who is appointed by the student representative body and is given the authority to discuss student complaints with the management of the institution, advise students on their statutory and legal rights and assist them in any disciplinary cases.

4. Financing

The 2003 Act on Higher Education delegated establishment of admission quotas as well as determination of tuition fee levels and schemes to the universities and introduced lump sum financing which allows higher education institutions to allocate received funds independently.

Sources of funding of Croatian higher education institutions are: founders' funds, state budget (via MSES), local authorities funding, National Science Foundation project-based funding, institutions' own funds, and donors. Between 2003 and 2007, an average of 70 % of higher education institutions' income was provided by the state budget, which in 2007 amounted to 0.86 % of

the GDP directly. In the period from 2003 to 2007 both state funding and the institutions' own income doubled, but the participation in GDP decreased. Because of the lack of official methodology for data collection, these numbers are based on estimates by the Ministry of Finance, as collected by the Institute for Public Finances. The legal criteria for funding is the estimated amount of work required to implement the approved programmes, which correlates with the number of employees, the estimated workload of the employees according to the defined standards in higher education, and the assessed quality of the programmes. There is no differentiation according to the field of study. In practice, though, the amounts allocated are based on the amounts allocated in the previous years and there is no consistent mechanism based on the above-mentioned criteria. According to the legal framework, the allocation has to be made according to the lump-sum model where the institution itself is allowed to further allocate the amount received without consulting the Ministry. In practice, most of the money is already allocated for staff salaries through collective staff pay agreements and other indirect costs, which limits the funds available for free allocation. The financing model thus needs to be reformed. The remaining 30 % come mainly from institutions' own funds, primarily from students' fees (about 38 %), and research activities and publications (36 %).

The Law allows for public financing of private education under the same criteria that is valid for public institutions, and on the condition that the institution's activities cover a field of specific interest to the state which is not covered by public institutions. In practice, the state does not usually provide funding for private institutions, but their students do have subsidised meals, tax exemptions, health insurance and other student welfare benefits provided by the state.

5. Students' contributions and financial support

Every year, the universities autonomously determine the admission quotas. Within these quotas the universities normally assign a certain number of students who are exempt from paying tuition in full or in part. Since 2008, the Ministry has passed a decision to support second cycle students and has signed contracts with universities undertaking to reimburse tuition fees for full time students enrolled in second cycle programmes, therefore making second cycle education free of charge for these students. The same will be implemented for the first year of first-cycle students in 2010/11. According to MSES, until 2010 around 60 % of the first cycle full-time students paid no tuition fees at public higher education institutions in Croatia. Their costs of

study were paid from the state budget through an indirect system of financial support. The remaining 40 % of the students paid tuition fees determined by higher education institutions, which on average amount to around a third of the actual costs of study. The exact percentage of the tuition fee they pay varies among higher education institutions and students, according to their overall success: their ranking on the admission examinations, grades and the number of ECTS credits a student has earned. Part-time students (non-traditional) and postgraduate students always pay tuition fees and do not receive any benefits provided by the national student welfare system. The annual tuition fees are between EUR 700 and 1 400 per year for first and second cycle students, and between EUR 1 400 and 3 000 for postgraduate students.

The MSES formed a Committee in 2009 to develop a new legal framework in higher education and to evaluate the current legislative framework that pertains to the funding of costs for studying in Croatia. The Government of the Republic of Croatia passed a decision in March 2010 to provide education in first cycle programmes free of charge. Contracts have been signed with the higher education institutions and the implementation of this decision will start in the academic year 2010/2011.

All students at private higher education institutions pay tuition fees, which range between EUR 1 500 – 15 000 annually. Private HEIs might provide tuition fee remission for some of their students, but this is not regulated at national level.

All full-time students in Croatia receive a food subsidy (the price of a full meal for students is EUR 0.8 and the rest is covered by the state), health insurance, tax exemption on student employment, subsidy for private accommodation, tax relief on student parents' income. In addition, most full-time students in Croatia have full or substantial subsidies for local transportation costs (funded by the local communities). Students who live in student dormitories pay around EUR 30 per month for their lodging (prices vary in different dormitories and different cities). There is also a system of annual state grants for several categories of students: exceptional students, students of lower economic or social status, and students with disabilities. Since there is no official data on study costs or the access of all social groups to higher education, MSES and other stakeholders have joined the Tempus project *Towards Equitable and Transparent Access to HE*, which will be implemented by the end of 2012 with the goal of evaluating the current system of student support, providing data and producing guidelines for policy changes. The Republic of Croatia has also

joined the EUROSTUDENT IV comparative study of student welfare.

6. Licensing, quality assurance and accreditation of institutions and/or programmes

Quality assurance in higher education and in science is regulated by the 2009 Act on Quality Assurance in Higher Education and Science. Internal quality assurance is provided by the institutions' internal QA systems in the form of internal checks. Study programmes delivered at public universities are self-accredited by university senates, while programmes delivered by private higher education institutions, polytechnics or schools of professional higher education are accredited by the Agency for Science and Higher Education (ASHE). ASHE is an independent public body responsible for external quality assurance in Croatia and implements regular audits, evaluations, accreditation of some professional study programmes and re-accreditations of all higher education institutions. Public HEIs other than universities (polytechnics and colleges), and all private HEIs need to submit proposals of their study programmes to ASHE which starts the accreditation procedure within eight days and arranges a peer review team to evaluate the proposed programme. Following the opinion of the peer review team, ASHE within 60 days recommends whether the education minister should issue a license or not (this is a formal arrangement and the MSES is obliged to accept the ASHE recommendations and decisions). These programmes are also subject to cyclical re-accreditation every five years.

In the case of accreditation of new institutions, all such proposals must include an agreement with an already accredited HEI about the joint provision of an already accredited study programmes. After the period of two years, the new institution may apply for independent awarding of the qualifications. ASHE will appoint a peer review team to evaluate the proposal and submit its accreditation decision to the education minister. All higher education institutions are subject to cyclical re-accreditation every five years.

7. Admission

Regulations governing admissions are, by law (the Act on Science and HE), set individually by each higher education institution. As such, higher education institutions individually decide how they will recognise prior learning as a part of the admissions procedure. They are also responsible for determining the admission quotas.

Starting from the academic year 2010/2011, admission procedures for enrolment at higher

education institutions in Croatia are centralised and managed by the Central Application Office which is a part of the Agency for Science and Higher Education; the basis for admission ranking are secondary school grades and success at the newly introduced state *matura*, implemented at state level. Higher education institutions are autonomous in deciding on the weight given to the results of the state graduation examination.

Students who did not complete a relevant secondary school also have the right to enrol in undergraduate studies. The higher education institution determines the registration conditions for those applicants. It is expected that the development of the Croatian Qualifications Framework will create a non-binding framework which will facilitate the recognition of prior learning for the purposes of admissions processes.

8. Organisation of the academic year

Duration of the academic year is defined by law (the Act on Science and HE): every year it begins on 1st of October and ends on 30th of September of the following year. By law, the structure of the academic year is defined by the HE institutions themselves, in semesters or trimesters. The most common structure is two semesters, with the winter semester ending in February. Examination periods are connected to academic breaks which usually take place in February, with the summer break from mid-July to the beginning of September. There are also numerous HEIs that apply obligatory continuous student evaluation during semesters which usually reduce or even replace extra examination periods.

9. Curriculum content

The curriculum is defined at institutional level (as regulated by Article 79 of the Act on Science and Higher Education). All higher education institutions except public universities have to have their study programmes evaluated by the Agency for Science and Higher Education before approval (accreditation). The Act stipulates the curricula to be in line with the latest scientific achievements, national priorities, professional demands and comparable EU curricula. There are no compulsory or core subjects defined at the national or regional level, but most study programmes do have some core/compulsory subjects which are required in order to graduate.

10. Assessment, progression, certification and degree

The law does not define assessment methods, nor are there official studies in this field.

Anecdotal evidence shows that assessment during examination periods is mostly conducted via oral and written exams. Many HEIs do not have examination periods, but assess their students continually according to different types of assessments which include monthly tests, short class tests, homework, project and team work etc. The final mark can, according to the Act on Science and Higher Education, be from 1 (fail) to 5 (excellent). Most assessments are criteria-based (absolute), but there are examples of relative assessment as well.

The requirement for final qualifications as prescribed by the Act on Science and HE is the completion of all exams, with a thesis and/or a final exam optional in professional degree courses and obligatory in academic study programmes at all levels.

All Croatian HE qualifications include a reference to the field of study (or a branch of science for third cycle programmes.) Upon completion of first cycle university programmes, students are awarded a document called *svjedodžba* and the academic title of University Baccalaureus – *sveučilišni prvostupnik* (exceptionally, students graduating from technical sciences are awarded the academic title University Baccalaureus Engineer -*sveučilišni prvostupnik inženjer*.)

On completion of second cycle university programmes, students are awarded a document called *diploma* and the academic title of Master – *magistar* (or Master of Engineering -*magistar inženjer*.) On completion of integrated first and second cycle programmes in medicine, dental medicine or veterinary medicine students are awarded the academic title of Doctor (*doktor*). On completion of third cycle university programmes, students are awarded a document called *diploma* and the academic degree of Doctor of Science or Doctor of Arts (*doktor znanosti* or *doktor umjetnosti*).

On completion of postgraduate specialist programmes, students are awarded a document called *diploma* and the title of University Specialist (*sveučilišni specijalist*.) Students of postgraduate specialist programmes in medicine, dental medicine or veterinary medicine are awarded the title of University Master (*sveučilišni magistar*).

Short cycle professional programmes normally last for two or two-and-a-half years, in which students accumulate between 120 and 150 ECTS credits, respectively. On completion students are awarded a document called *svjedodžba* and the professional title *stručni pristupnik*, which is broadly equivalent to an associate degree.

On completion of the first cycle of professional

programmes, students are awarded a document called *svjedodžba* and the professional title of Professional Baccalaureus – *stručni prvostupnik* (or Professional Baccalaureus Engineer -*stručni prvostupnik inženjer*.)

On completion of specialist graduate professional programmes, students are awarded a document called *diploma* and the professional title of Professional Specialist *stručni specijalist* (or Professional Specialist Engineer – *stručni specijalist inženjer*). Students graduating in the fields of medicine, dental medicine or veterinary medicine are awarded a professional title of *diplomirani* with a reference to the field of study.

There are no first cycle qualifications that do not give access to the second cycle. There are no additional requirements during the university first cycle programme for continuing enrolment in a professional second cycle programme. However, the universities determine the conditions for admission to their second cycle programmes after the completion of a professional first cycle programme. Universities may set additional courses and different exams as requirements for students who are transferring from professional to university studies, and these courses usually focus on the development of research skills or theory-based knowledge.

All second cycle university qualifications give access to the third cycle, but holders of second cycle professional qualifications have to pass additional courses and examinations to prepare them for participation in a research study programme. The percentage of second cycle qualifications that give direct access to the third cycle is 85 % (data provided by the MSES).

Based on the 2007 Act on Adult Education, higher education institutions can use prior informal or non-formal learning in their internal regulations. These regulations can specify that prior learning can be used as a basis for the allocation of credits, in which case such allocation needs to be well documented and subject to external quality assurance. The recognition of prior learning at Croatian higher education institutions is in its early stages and an important step forward will be further work on the Croatian Qualifications Framework. This will set the non-binding standards upon which higher education institutions can rely when drafting their own regulations.

11. Academic staff

The categories of the academic staff are defined by the Act on Scientific Activity and Higher Education.

There are different selection criteria for

different parts of the HE system.

Two types of grading are required for universities: first, an appropriate scientific grade, which is obtained upon meeting the requirements, set by the National Council for Science (NCS) at the national level; second, a scientific teaching grade, which relates to the teaching position at the university and is gained through an appointment procedure carried out autonomously by the university by means of a public competition. The method of verifying whether one meets these conditions and has the necessary psychological or physical characteristics is outlined in the university statute or other organisational documents. Research or teaching assistant titles are selected from the ranks of the most successful students that are appointed according to the statute of the higher education institution and the regulations provided by the MSES.

Corresponding rules apply at polytechnics and schools of professional higher education, except that these do not have positions corresponding to scientific teaching grades. However, teachers appointed to scientific/teaching or nominal grades at the university are able to conduct this type of instruction.

Persons appointed to teaching positions conclude a permanent employment contract, which includes an obligation to seek re-appointment or advancement every five years. The obligation to seek re-appointment ends with the person's second appointment to the position of a full professor or a teaching post of a college professor (permanent grade). The NCS defines minimal standards for promotion based on scientific achievements, primarily based on scientific publications. The NCHE approves the conditions of the Rectors' Conference and the Council of Polytechnics and Schools of Professional Higher Education for awarding scientific teaching, artistic teaching and education teaching positions. The Rectors' Conference, with the approval of the NCHE, determines the general scientific/teaching grades.

12. Research activities

As stated in the Act on Scientific Activity and Higher Education and the Science and Technology Policy of the Republic of Croatia for the period 2006-2010 (MSES, 2006), scientific activities are a main responsibility of universities (but not other HE institutions).

Research activities undertaken by higher education institutions are under the authority of the MSES, which carries out administrative and other tasks related to planning, financing, implementing and monitoring science and technology in the Republic of Croatia. The

strategic and advisory body for developing and maintaining the quality of the overall scientific activity is the National Council for Science (NCS). It monitors and evaluates the quality of scientific organisations, proposes budgets for scientific activities, organises the evaluation of scientific projects and programmes, and submits annual budget proposals for science and HE to the Croatian Government. In 2000, the Croatian Parliament passed an Act establishing the National Science Foundation (NZZ), the government agency responsible for funding scientific and developmental projects in addition to the MSES.

The largest part of research activities in terms of human resources and the number of R&D legal entities recorded by the Central Bureau of Statistics (CBS) rests within the HE sector. This sector makes up around 44 % of all the R&D institutions and employs between 50 %-60 % of all researchers. The majority of state-funded research projects, over 70 %, are implemented by universities, while the remaining are implemented by public institutes, private institutes and other research units. The commercialisation of science through scientific cooperation (e.g. contract research) or spin-off companies is still a new practice in the Croatian academic community. The share of HE expenditures on R&D financed by the private business enterprises or industry makes up around 10 % of such spending, while the majority of HERD is financed by the central Government, at more than 70 %. In April 2007 the Croatian Parliament passed Amendments to the Act on Scientific Activity and Higher Education which introduced a system of tax reductions for scientific research in order to facilitate the commercialisation of scientific research and the entry of private funding into higher education. Croatian scientists also participate in international, mostly EU-funded, R&D projects such as FP7, COST, ESF, Eureka etc.

13. University-enterprise cooperation

According to the Act on Scientific Activity and Higher Education, the definition of curricula is at the discretion of HE institutions, and employers are legally regulated only with regard to the election of members to NCSHE. University-enterprise cooperation is neither regulated nor analysed at national level and is a component of Croatian higher education that needs to be strengthened in the future. In practice, most higher-education institutions do require some on-the-job training from their students before graduation, and often the institutions themselves make agreements with employers and arrange internships and trainings. There are no studies, however, on the impact and quality of such arrangements.

There are some examples of good practice, especially within various Tempus projects, that have strengthened the links between higher education and entrepreneurs, included employers in the development of new study programmes and provided employers with opportunities for lifelong learning. In April 2009 the Service for Professional Orientation of Students was established at the University of Osijek. The service assists students in making and implementing decisions about future careers, as well as further education, with employers working to develop quality collaboration and thus achieve a better correlation of the University and the labour market. The activities of the Tempus JEP project of the European Commission ECAS – *Establishing Career Advising Services at Croatian Universities*, coordinated by the University of Dubrovnik, include the establishment of a service for the professional counselling of students at three Croatian universities (in Dubrovnik, Rijeka and Osijek). The purpose of the Service is to enable universities to better prepare their students for entry into the labour market.

Two Tempus projects are currently being implemented with university-enterprise cooperation in view: FoSentHE (*Fostering Entrepreneurship in Higher Education*) and OPUS (*Opening University towards Society: Linking Education-Research-Innovation*).

14. International cooperation

International cooperation in higher education encompasses interuniversity cooperation, intergovernmental cooperation and cooperation on the basis of different mobility programmes, namely Erasmus (Lifelong Learning Programme), Erasmus Mundus, Marie Curie (FP7) and CEEPUS.

MSES funded over 500 months of scholarships per year for incoming student mobility on the basis of bilateral agreements and operational programmes of cooperation concluded between the Croatian Government and 44 other countries.

Moreover, MSES funds over 100 months of scholarships for the teaching staff in the framework of the CEEPUS programme.

On the basis of the Memorandum of Understanding between the Republic of Croatia and the European Union, Croatia expressed its wish and dedication to participate in the Lifelong Learning Programme (LLP) prior to its accession to the European Union. The conclusion of the Memorandum of Understanding envisages Croatia's full participation in the Programme by the end of 2010 and its full participation in the Programme from 2011 onwards.

In order to participate in the LLP, Croatia established, in 2007, the National Agency for the LLP, the Agency for Mobility and EU Programmes which became operational with support of the EU funds (IPA), and a state budget.

The National Agency is currently implementing Preparatory Measures with the purpose of fully equipping and training its staff, carrying out a comprehensive information campaign, and implementing pilot projects within the LLP. The amount of 97% of the overall yearly budget allocated for the pilot projects under the IPA Preparatory measures was contracted in 2009. MSES additionally supported outgoing mobility of students by having awarded ERASMUS grants to 100% of total applications received at the higher education institutions for outgoing mobility in the academic year 2009/2010.

Opportunities for student and staff mobility are also available through TEMPUS (although, from 2010, Croatia participates in TEMPUS only on a self-financing basis) and Erasmus Mundus.

Foreign students and staff are accepted at the student dormitories of all universities in Croatia. The ongoing project of building university campuses in several cities includes expanding the capacity of student dormitories so as to increase quotas for foreign students and staff. Offices for International Relations at Croatian universities provide foreign students with information pertaining to their course obligations and the administrative regulations of their stay in Croatia. In cooperation with the Institute for Development of Education and the Agency for Mobility and ASHE, MSES started to build up a portal for foreign students. The portal "Study in Croatia" will contain all relevant information, including Croatian regulations and a complete list of available study programmes. The portal www.studyincroatia.com is to become functional by the end of 2010.

There is, however, a need to strengthen further the number of courses being offered in foreign languages, as well as to encourage support for international students at polytechnics and schools of professional higher education. In 2009 the MSES set up a Working Group with the objective of smoothing the progress of increasing international mobility in the education sector. The Working Group for removing obstacles to mobility in education is composed of representatives from various governmental and public institutions namely the MSES, the Ministry of Finance, the Ministry of Interior, the Agency for mobility and EU Programmes, the Agency for Science and Higher Education, higher education institutions, and the Institute for Development of Education and the students' representative. The main task of the Working Group is to prepare

proposals for amendments to the existing legislation, to regulate the temporary residency of foreign pupils, students, teachers and non-teaching staff in Croatia, as well as to regulate the awarding of scholarships to pupils, students, teachers and non-teaching staff for

study trips abroad. Although the Action Plan for removing obstacles to learning mobility is envisaged to be adopted by the Government in the last quarter of 2010, a number of results have already been achieved.

II. Current challenges and needs

1. Trends and challenges

The major challenges facing the higher education system in Croatia in the near to mid-term are the structural reform of universities, the reform of the financing system for higher education, assurance of equitable access to higher education, and the continuation of curricular reforms alongside the implementation of the Croatian Qualifications Framework.

According to the data provided by the Central Bureau of Statistics, in the academic year 2006/2007, Croatian tertiary education institutions employed, on a full-time equivalent basis, 9 457 professors and associate lecturers, while in the academic year 2009/2010, there were 11 459 professors and associate lecturers. This data shows that, in only three years, the number of professors and associate lecturers in the Republic of Croatia increased by over 21 %. In addition to this, between 2005 and 2008 the budgetary provisions for higher education increased by 33 %. Since then, under the effects of the economic crisis, the available budgetary funds have decreased but the increase in available funds still surpasses significantly the comparable increase in the number of students (3 %).

The increased public funding and increased human resources have resulted in some positive changes in the higher education sector: new student services have started developing and there has been an overall improvement in the teacher/student ratio. The capacity of higher education institutions to use the new resources efficiently, however, is limited by weak governance structures. By historic tradition, the four largest public universities in Croatia (Rijeka, Zagreb, Osijek and Split), are loose associations of independent institutions – faculties, and account for over 70 % of all students in Croatia. According to OECD (2007) and World Bank (2009) reports, this governance model hampers the progress of system reforms and decreases the overall responsiveness of the university system to the needs of Croatian society. The legal independence of faculties lowers the universities' capacity to function as

single entities, which negatively affects their strategic development, their use of resources and the overall quality of teaching and research.

The draft Act of Universities, currently under discussion, plans to reform the governance model and the financing system for higher education in Croatia. Croatia is planning several EU projects to support the institutional changes planned by this new legislation.

The planned reform of the system in place for tuition fees and student welfare aims to remove obstacles to the HE system. A concrete proposal of the new student support system in Croatia, which can be translated into concrete amendments of laws and regulations, is to be developed with the help of the Tempus project *Towards Equitable and Transparent Access to Higher Education in Croatia*, the implementation of which began in February 2010.

Another major task in Croatia is the curriculum reform, including the correct implementation and linking of the expected learning outcomes with the student workload (and, thus, the allocation of ECTS credits) and qualification. This is a task which overlaps with the development of the Croatian Qualifications Framework, a process to be finished by 2012. In order to enhance the implementation of learning outcomes in higher education, six projects have been financed by the National Science Foundation, implemented at different universities and dealing with learning outcomes in teacher education, interdisciplinary fields, student evaluation in the first and second cycle, etc. Activities of HERE experts, funded by the EU via the Tempus office since 2007, also contributed to the promotion of the curricular reform.

The role of students in the reform processes at all institutional levels is to be continuously strengthened through implementation of the 2007 Act on Student Council and other Student Organizations.

The new Act regulating the status and the remits of the quality assurance agency (ASHE - Agency for Science and Higher Education) was adopted in 2009 and is being implemented, especially with regard to the role of universities in the accreditation of study programmes and internal QA, adaption of the Agency to European standards and preparation for full ENQA membership. By developing a strong higher education information and statistics system (which currently does not meet the

needs of MSES and ASHE), quality assurance will be significantly improved and the role of the Agency strengthened.

Finally, Croatia is to join the Erasmus programme in 2011; this should improve academic mobility significantly – one of the primary aims of the Bologna process. With this aim, the MSES has established a working group for removing the remaining obstacles to academic mobility.

2. The Bologna Process

The Bologna Cycle Structure

Level of implementation of a three-cycle structure compliant with the Bologna Process	Bologna structure fully implemented in all or most study fields		
Student workload/duration for the most common Bologna programmes			
Bachelor programmes	180 ECTS (3 years)	Master programmes	120 ECTS (2 years)
Bachelor/Master cycle structure models most commonly implemented	180 + 120 ECTS credits (3+2 academic years)		

European Credit Transfer System (ECTS)

Legislation on ECTS	Legislation governing the arrangements for implementing ECTS has been introduced.
Level of implementation of ECTS	Over 75 % of institutions and programmes use ECTS for both transfer and accumulation purposes. Allocation of ECTS is based on contact hours, or a combination of contact hours and student workload.

Diploma Supplement (DS)

Implementation of the Diploma Supplement	DS issued in the vast majority of study programmes.	
Diploma Supplement issued	Automatically and free of charge	In the language of instruction and/or more official languages

National Qualification Framework (NQF)

Stage towards establishing a National Qualification Framework		Not yet started formally.
		<u>Step 1</u> : Decision taken. Process just started.
	X	<u>Step 2</u> : The purpose of the NQF has been agreed and the process is under way including discussions and consultations. Various committees have been established.
		<u>Step 3</u> : The NQF has been adopted formally and the implementation has started.
		<u>Step 4</u> : Redesigning the study programmes is on-going and the process is close to completion.
		<u>Step 5</u> : Overall process fully completed including self-certified compatibility with the Framework for qualifications of the European Higher Education Area.

National Quality Assurance System

National Body for Quality Assurance		
Name	Agency for Science and Higher Education	
Year of establishment	2004	
Status	Independent national body	
Principal "object" of the evaluations	Institutions plus programmes	
Body responsible for	Both public and private higher education institutions	
Main outcome of the review		A decision granting the reviewed institution/programme permission to operate/teach at certain levels/undertake research, etc.
	X	Advice on how the reviewed institution/programme can improve quality in specific areas

Recognition of qualifications

Ratification of the Lisbon Recognition Convention	Yes	2002
Adoption of national laws/regulations required to implement the Lisbon Recognition Convention	Yes	2004
Institution responsible for recognising foreign qualifications for the purpose of academic study in the country	Higher education institutions	
Institution responsible for recognising foreign qualifications for the purpose of work in the country	Agency for Science and Higher Education (Croatian ENIC office)	

III. Participation in EU programmes

1. Tempus

Croatia has participated in the Tempus Programme since 2000.

1. Statistics

Number of projects in which one or several institutions in the country have been involved (as coordinator, contractor or partner)

	TEMPUS I and II	TEMPUS III	TEMPUS IV		
	1990-1999	2000-2006	2008	2009	2010
Joint European Projects	-	68	8	5	0
Structural & Complementary Measures (Tempus III)	-	17	1	1	0
Structural Measures (Tempus IV)	-				
Total	-	85	9	6	0

Higher education institutions with highest TEMPUS participation during TEMPUS I to III (1990-2006)

Institutions	Total	Number of projects	
		JEP	SCM
UNIVERSITY OF ZAGREB	72	60	12
UNIVERSITY OF SPLIT	39	27	12

UNIVERSITY OF RIJEKA	37	28	9
JOSIP JURAJ STROSSMAYER UNIVERSITY OF OSIJEK	16	10	6
UNIVERSITY OF ZADAR	16	9	7
UNIVERSITY OF OSIJEK	14	12	2
UNIVERSITY OF DUBROVNIK	13	6	7

2. Impact of the TEMPUS Programme

The Tempus programme has contributed significantly to the development of existing curricula and the establishment of new ones in Croatia. For example, the first curriculum in the field of underwater science has been established in the region under the project *Underwater Science and Technologies*, and the project *Geographic Information Science and Technology in Croatian Higher Education* has revised the existing curriculum, both according to the Bologna principles and with a view to giving Croatia a stronger position in the European Higher Education Area.

What has to be emphasised in particular is a revision of ECTS credits, as well as the improvement of teaching methodologies and the further development of quality assurance at Croatian higher education institutions. The project *Palliative and Pain Medicine Project* has introduced new courses and strengthened the position of Croatian medical experts in palliative care in the region, and the Faculty of Agronomy at the University of Zagreb has introduced quality assurance standards under the project *Support Network for Improvement of the Strategic Planning* project. Quality assurance has also been a crucial element of numerous other Tempus projects in Croatia.

The involvement of students has also played an important part in the implementation of Tempus in Croatia. Student representatives have been involved in the project and benefitted from the above-mentioned introduction of new curricula, as well as from collaboration with European partner institutions and institution building. Collaboration with foreign partners has been further developed on all levels, with academic, administrative and managerial staff at Croatian higher education institutions benefitting from this, primarily through numerous training courses and mobility, which took place under a vast number of Tempus projects financed in Croatia.

Institution building has also played an important role in the implementation of

Tempus in Croatia. For example, career advice centres have been founded at three Croatian universities under the project *Establishment of Career Advice Centres at Croatian Universities* and new research offices have been founded in six Croatian universities under the project *Capacity Building for Research in Croatia*. Furthermore, within the framework of the project *Enhancing Absorption Capacity of EU programs in Croatia*, four educational modules in international project management were developed, an accompanying handbook was published and the Centre for international project management was founded. New research strategies have also been developed under the latter project. The project *Opening University towards Society: Linking Education – Research – Innovation* has had an impact on the definition of structural and legal measures at institutional, national and regional level relating to research, doctoral studies and technology transfer, in order to create new strategic documents.

Finally, it is worth mentioning that there is a stronger link between the academic and business community, which can be seen in various Tempus projects in Croatia. Links with industry have been strengthened under the recently funded project *Virtual Manufacturing Network – Fostering an Integration of Knowledge Triangle*, as well as under projects such as *Electricity Market Simulations and Analysis Curricula for Engineering Education*, *Numerical and Experimental Engineering Dynamics* and *Kollaborative Internatonalisierung des Software Engineerings in Kroatien*. The latest project also involves strong collaborative internationalisation of the higher education system, and it has an impact on the establishment of regional and national networks at academic and business level for technology transfer in the field of programme engineering.

All Croatian universities have been participating in Tempus programmes and there is a generally accepted positive attitude towards its impact on the Croatian higher education system.

2. Erasmus Mundus

Number of students/staff participating in the programme

Erasmus Mundus – Joint degrees (Action 1)

	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011
Students	-	2	-	-	10	13	20
Scholars	-	-	-	-	-	-	N/A

Nationals of the country participated in the programme for the first time in 2005-2006 (students).

Erasmus Mundus– Partnerships (External Cooperation Window, Action 2)

Year of Grant Allocation	2007	2008	2009
Undergraduate	-	6	9
Master	-	2	19
Doctorate	-	1	8
Post-doctorate	-	1	1
Academic staff	-	28	8
Total	-	38	45

Institutions participating in the programme up to and until 2010

Institutions	Action 1 Joint Programmes	Action 2 Partnerships	Action 3 Attractiveness projects
JOSIP JURAJ STROSSMAYER UNIVERSITY		X	
UNIVERSITY OF ZAGREB		X	X
UNIVERSITY OF ZADAR		X	

IV. Bibliographical references and websites:

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- Amendments available in Croatian at web-site of the Official Gazette of the Republic of Croatia - <http://narodne-novine.nn.hr/>
- Act on Academic and Professional Titles and Academic Degree (Official Gazette 107/2007): http://narodne-novine.nn.hr/clanci/sluzbeni/2007_10_107_3126.html
- Agency for Science and Higher Education: <http://www.azvo.hr/Default.aspx?art=590&sec=288>
- Press releases of the Croatian Bureau of Statistics: http://www.dzs.hr/default_e.htm
- Ordinance on the Content of Diplomas and Diploma Supplements, (Official Gazette 9/2005): http://narodne-novine.nn.hr/clanci/sluzbeni/2005_01_9_140.html
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- Agency for Mobility and Programmes of the European Union : <http://www.mobilnost.hr/>
- Croatian Qualifications Framework, web-site of the Government of the Republic of Croatia: <http://www.vlada.hr/hr/aktualne teme i projekti/aktualne teme/hko hrvatski kvalifikacijski okvir>

- National Council for Science : <http://www.nvz.hr/>
- National Council for Higher Education : <http://www.nvvo.hr/>
- Agency for Science and Higher Education website – an overview of HE in Croatia: <http://www.azvo.hr/Default.aspx?sec=246>
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- Hunjak, Tihomir, Financing of Higher Education Institutions, Institute for Public Finances Zagreb, May 2008

Useful websites:

- Ministry of Science, Education and Sports <http://public.mzos.hr/Default.aspx>
- Agency for Science and Higher Education <http://www.azvo.hr/Default.aspx>
- Agency for Mobility and Programmes of the European Union <http://www.mobilnost.hr/>
- Institute for the Development of Education <http://www.iro.hr/en/>

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