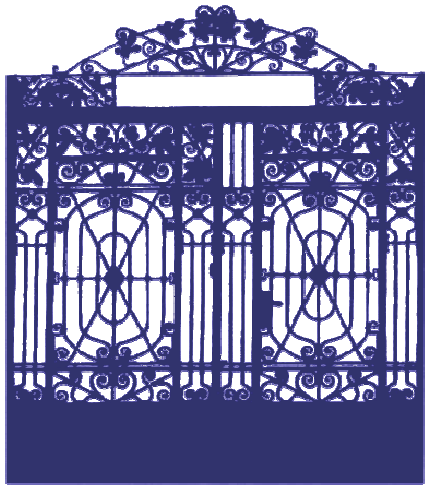


## UNIVERSITY OF APPLIED HEALTH STUDIES

Mlinarska str. 38, 10000 Zagreb, Croatia, P.O. Box: 901
Phone: +385 1 5495 800; Fax: +385 1 5495 900
Web address: http://www.zvu.hr
E-mail: Zdravstvenoveleuciliste@zvu.hr
Dean: Prof. Dr. Mladen Havelka


# AUTO-ANALYSIS

# University of Applied Health Studies


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**Zagreb, APRIL 2009**

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## ABOUT THE INSTITUTION

### *Introduction*

In the current academic year the University of Applied Health Studies celebrates its 43rd anniversary. It was founded in 1963 as Advanced School of Nursing and Health Technicians, several times changing its name according to many reforms in higher education system in Croatia. By the 1980 reform of higher education, most institutions of higher professional education, until then independent higher schools, lost their independence and were integrated with various faculties educating similar professions. In this way the previously existing binary system was discontinued, according to which professional higher education could be provided in higher schools only and the university level in faculties, and the unitary system established, with universities as the only institutions of higher education. As a result our Institution was integrated with Zagreb University School of Medicine as a single institution of higher professional education.

The education for all study programs was continued within the University School of Medicine for the following 13 years. However, not only professional development, teaching staff, equipment and all other facilities were subordinated to the needs of the study of medicine. Hence the permanent desire for independence and free development of professional higher education studies in other health professions. The possibility for renewed institutional independence arose after Croatia became the independent state bringing its own laws and acts regulating all social areas, including education. The 1993 Act on Institutions of Higher Education opens the possibility to provide higher professional education in independent institutions of higher education and not only in universities. However, the possibility has been left for universities to provide this type of education until 2010. In accordance with this Act many new institutions of higher professional education have been established, either as higher schools, colleges, or universities, if providing more than three study programs. By Governmental Decree in 1996 the Advanced School of Health Studies was again established as new public school of higher professional education, providing all professional health study programs carried out within Zagreb University School of Medicine in the previous 13 years. Later on, by another Decree of the Croatian Government, the School changed its name into the University of Applied Health Studies.

Since 1996 the second period of our institutional independence begins. Yet, the staff, facilities, and all other resources lost in the past 13 years had to be restored. The today's level of development is to a great deal due to earlier tradition and new independent growth. The key issue of the new development, felt even today, is the fact that the disintegration from Medical School was not accompanied by righteous balance of accounts by which adequate resources would be transferred to the newly founded institution; the institution was almost at its beginnings: insufficient number of teachers and external collaborators, small administration, insufficient financial resources, inadequate lecture rooms and equipment. However, the institutional independence was sufficient to ensure greater development in only a few years' time than was achieved through all the time when it was part of School of Medicine.

During the first period of independence, i.e. from 1966 to 1985, new profiles of health professionals were educated at higher levels, previously educated only at the level of high school. The first two-year academic studies were the study programs for hospital and field nurses, radiographers, sanitary and laboratory technicians. These study programs were conceived as continuation of secondary, or high school vocational education. The principal objectives of these study programs were aimed at gaining theoretical knowledge and practical skills needed in everyday work in health care practice. At that time most of the students were those coming from health institutions studying on a part-time basis, while a small number were full-time students, graduates from secondary health vocational schools.

Theory classes were held in rented lecture rooms, and practical classes in collaborative health institutions: clinical and general hospitals, health centers and other

health institutions in Zagreb. The majority of teaching staff were honorary collaborators and only a smaller number were fully employed at our institution. Significant improvement in teaching quality and number of permanent teaching staff occurred when in 1973 new building was acquired in Zagreb, 38 Mlinarska Street, the today's address of the central building of the University of Applied Health Studies.

Besides providing for the study programs in Zagreb, for many years the off-site studies were organized and carried out in other parts of Croatia, especially during the years when our institution was the only institution of higher professional education for health professions in Croatia. As at the beginning of the 70-ies of the past century there were no institutions of higher education for the fields of biomedicine and allied health professions in major Croatian cities, i.e. in Split, Rijeka, Osijek (in which today there are independent schools of medicine), we provided for nursing studies in Split and Osijek, but also from time to time in other cities (Varaždin and Požega), and even in other republics of former Yugoslavia, e.g. the study of physiotherapy in Igalo, Monte Negro – the basis of today's Health Faculty in Podgorica, the capital of Monte Negro. After Croatia has gained its independence, we actively assisted in the establishment of health studies in neighboring countries, e.g. in Mostar (today's Health Faculty), and particularly in Croatian regions which suffered major destruction during the liberation war: for instance, the undergraduate study of physiotherapy in Lavoslav Ružička College in Vukovar. Further on we actively assisted and participated in the establishment of undergraduate nursing studies in Dubrovnik (already existing as independent study), in Varaždin (about to become independent), and specialization study in physiotherapy in Vukovar (starting this year).

At the University of Applied Health Studies today there are six study programs for health professionals at undergraduate level lasting three academic years, i.e. six semesters and 180 ECTS, and four profiles of health professionals at specialization level, lasting two years, i.e. four semesters and 120 ECTS.

The ***undergraduate studies*** are the following:

1. Nursing
2. Physiotherapy
3. Occupational Therapy
4. Radiological Technology
5. Environmental Health Engineering
6. Laboratory Medical Diagnostics

Upon completion of undergraduate study the students acquires the B.A. level in the profession.

The ***specialization graduate studies*** are the following:

*1.* Public health
2. Management in Nursing
3. Environmental Health Engineering
4. Physiotherapy

Upon completion of graduate specialization study the student acquires the M.A. level in the profession.

In accordance with the accepted developmental strategy in terms of opening more specialization study programs the University of Applied Health Studies has filed requests for opening the following new specialization studies:

1. *Clinical Nursing*
2. *Psychiatric Nursing*
3. *Nursing Care in IC Unit*

4. *Midwifery*
5. *Management in Health Care System*

***Mission of the Institution***

The principle mission, or role, of professional studies in the entire system of higher education is to provide for properly educated professionals in terms of their being skilled to perform the jobs in everyday practice, i.e. professionals who have gained sufficient theoretical knowledge and practical skills aimed at the use of the acquired competences in everyday practice. The specific issues of professional studies differentiates them from general university ones in that a significant number of courses are devoted to practical teaching classes. Such a teaching concept is a basis for teaching staff resources, namely in terms of most of them being directly included into the working process.

Another aspect of such educational organization is to insure the learning outcomes at a three-year academic program that would enable the students to independently perform their professional jobs in practice and to be able to participate in continuing education at the level of specialization graduate studies as a second cycle aimed at mastering further specific competences.

With regard to the right to mobility and educational upgrading to the highest levels following completion of professional study, these students should have the opportunity to continue their education at the third level, i.e. at the level of university specialization and doctoral studies.

The basic developmental and strategic principles of the University of Applied Health Studies are related to Bologna Declaration, provisions of Croatian Act on Science and Higher Education (Official Gazette 123/2003 and 105/2004; the articles 67 to 69); Plan of Development of Educational System from 2005 to 2010 by the Ministry of Science, Education and Sports; Developmental Strategy from 2006 to 2013; Governmental Strategy for Education of Adults; and Agreement on Development of the System of Institutions of Higher Professional Education accepted by the Council of Institutions of Higher Professional Education in Croatia.

The implementation of the agreed principles is achieved in two levels:

***First,*** at the level of the Institution through

***a***.) strengthening of teaching, professional and scientific potentials,

***b.***) modernization of management of the University of Applied Health Studies,

***c.***) computerization of teaching activities, administration, students activities, and all services of the Institution,

***d***.) ensuring modern equipment and adequate lecture rooms for high quality teaching performance and successful planning of future development of various undergraduate and graduate professional studies,

***e.***) adjustment of study curricula with quality standards of European countries,

***f.***) adjustment of admission policy with the needs of Croatian health care system and other social subjects,

***g.***) strengthening of part-time studies to enable education of adults, particularly the deficient health staff with lower education grades than those required by the EU standards (e.g. higher education level of nurses as stated in the EC Directive 2005/36; and Evaluation Report for Nursing Profession of 16$^{th}$ September 2008),

***h.)*** development of teaching quality evaluation system,

***i.)*** improvement of publishing activities and library system,

***j.)*** participation of students in various activities and in the management and decision making concerning the development of our Institution.

***Second,*** at the general social level, i.e. the level of the development of the entire system of higher professional education in Croatia, through;

**a.)** efforts aimed at the development of high quality binary system of higher education in Croatia,

**b.)** efforts aimed at functional collaboration with general universities, particularly in the use of the needed educational resources,

**c.)** efforts aimed at greater dispersion of professional universities and higher education institutions in Croatian regional and sub-regional centers,

**d.)** efforts aimed at close collaboration with economic and other social subjects in the education of the professionals they need,

**e.)** efforts aimed at being open to business in higher education and reinforcing the possibility to gain greater profit at the market,

**f.)** efforts aimed at strengthening institutional independence of institutions ofl higher professional education,

***g.***) efforts aimed at improving inter-university collaboration.

Since 1996 the University of Applied Health Studies has done a lot in both of the above listed levels of activities. The major importance was given to ensure proper conditions for high quality teaching based on modern scientific knowledge, broad practical experience of teaching staff, and efforts to achieve such learning outcomes that would enable the students to compete for jobs not only in Croatia but in other European countries as well. When general social level is concerned the priority efforts were aimed at the development of binary system of higher education in Croatia and strengthening of coordination and collaboration between individual institutions of higher professional education through bodies and committees of the Council of Croatian Institutions of Higher Professional Education.

There still exist uncertainties caused by **not clearly enough stated social expectations from the institutions of higher professional education and inadequately defined short and long term role of these institutions**. Certain priorities can still be in conflict with others – depending on short or long term roles of such institutions. If the social priority is to accept the need of having more professional health studies in regional and local centers, then all capacities of our Institution should be directed toward organizing and performing specialization graduate studies (3+2), where teachers would be trained who are needed for future development of new study programs. However, if social priority is primarily focused on the lack of health professionals trained at our Institution, then it is absolutely necessary to ensure as many as possible professionals needed in the health care system. Of course, this would mean temporary slow-down in the development of specialization programs and engagement of all resources in increased number of three-year undergraduate studies. The University of Applied Health Studies has not received clear enough instructions by the competent authorities (ministries) about how to resolve the dilemma. However, certain ideas can be seen in the international standards and recommendations concerning the education of certain profiles in the health profession. For example, in the case of education of nurses, the EU Directive no. 2005/36 provides clear standards and recommendations. The recent visit of EU delegation for the issues of nursing in Croatia has resulted in specific recommendations for further development of nursing education (e.g. the recommendation to abandon the concept of secondary nursing schools, to upgrade the lowest educational level to three-year academic study program, i.e. the B.A. level, to upgrade the existing secondary nursing schools to the level of institutions of higher professional education, etc.). These are the recommendations that can serve as a basis to further consider the role of our Institution in the light of future changes.

Another important issue resulting from the recommendations of EU Group for Nursing Profession is the issue of part time study with specific curricula and reduced number of teaching hours in relation to full time students. The EU Group recommendation is that the part time study curricula should not differ from the full time ones. Namely, the Evaluation Report by the Group who visited Croatia in July 2008, quotes article 31 of the EU Directive 2005/36, according to which “Education of nurses responsible for general care must be based on full time teaching hours”. This means that the part time study program in action so far will no more be acceptable. The only possibility of education for the employed nurses seems to be the full time study program, i.e. that of 4 600 hours of direct and indirect teaching, which, translated into the terminology of working hours, means full time only.

How to satisfy these European standards of nursing education in the situation when most health institutions cannot afford sending their nurses to three-year full study program, i.e. the program that cannot be performed along with the working load in health care system? Similar questions and dilemmas refer to other professional profiles studying at the University of Applied Health Studies. Many of them are concerned with the changes in education that have occurred through the introduction of the Bologna process.

### *Adjustment to the Bologna Process*

Although significant to the changes in the entire system of higher education, the introduction of Bologna model into Croatian system of higher education has opened wide range of possibilities in professional higher education. Before the Bologna model was introduced, professional higher education at majority institutions of higher education in Croatia lasted two academic years, and the received degree conferred limited competences in comparison with those conferred by the four-year academic studies at general universities, with practically no opportunity for mobility within the profession. If they wanted to achieve any higher educational level they had to go to similar university study or just take the four-year university study program from the beginning. Such a situation made it impossible for many professions to be independent. At the same time the institutions responsible for their education could not have adequately qualified teaching staff for specific subjects taught to individual professions. The paradox was that, when higher education is concerned, the teachers of all possible professions educated at general university level could participate in the teaching of nurses but the nurses themselves. Naturally, it affected the teaching quality, especially in subjects connected with practical experience of the teacher. Namely, the courses in nursing care, as the key group of courses, could formally be taught only by physicians!

The introduction of Bologna model has brought crucial changes. The 3+2 study model enabled all professionals with only two-year study program to upgrade their professional education and complete the highest educational level within their profession, i.e. the level equal to general university levels.

Such a possibility has proved significant not only to certain professions but also to the enhancement of development of professional study programs at higher educational levels. The possibility to complete a five-year study program in one's own profession and be able to apply for the job of a lecturer in higher education has finally opened the door to self-reproduction of many professions the education of which has long been tutored by other professionals.

At the University of Applied Health Studies we have long before the introduction of Bologna model been aware of the need for such changes in Croatian higher education. Due to the influence of international professional associations, the three-year academic study programs for all fields were proposed already in 1995, while in 1997 license was issued for them to be fully performed. The first generation of three-year study programs was admitted in 1998/99 school-year. The time span ensured sufficient number of three-year study program graduates almost at the same time when 5-year programs could be introduced (i.e. 3+2). Hence when the first Bologna generation could be admitted, there were already about 1000 three-year pre-Bologna graduates at the University of Applied Health Studies.

In order to have as many as possible properly qualified teachers for their own courses, great efforts were aimed at proposing curricula for two-year specialization study programs.

As most of the existing three-year study programs have already been adjusted to European standards, the University of Applied Health Studies, by being the reference institution in higher education of health professionals, initiated the process of

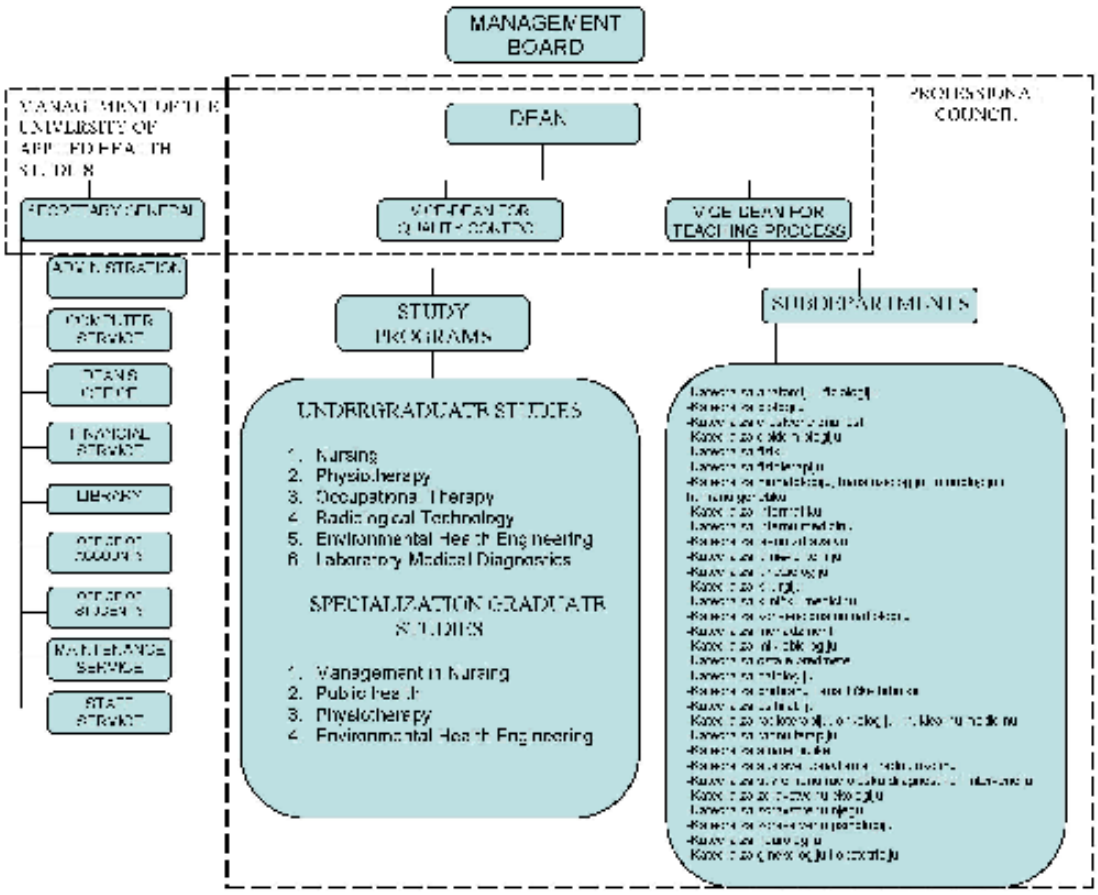
harmonization of all similar study programs in Croatia. As a result, today in Croatia all students of professional health studies have similar study programs, which enables greater mobility of teachers and students and facilitates the planning of the required number of textbooks and manuals.

Although harmonization of study program contents with educational standards in EU countries was achieved, there still remains the problem of performing by EU standards. Lack of adequate lecture rooms and in particular insufficient number of qualified teaching staff still make it difficult for the teaching process to fully achieve the European standards.

***Internal Organization***

The structure of internal organization of the Institution is defined by the Croatian Act on Science and Higher Education and by the Statute of the University of Applied Health Studies.

***Flow-chart of internal organizational structure***




***The role of Management Board***

Management Board is the body of the owner (founder) and it runs the University of Applied Health Studies. The Management Board performs the job as defined by the Act and the Statute, specifically:

- it brings the Statute of the University upon proposal by Professional Board
- it confirms the election of the Dean, as defined by the Statute
- it appoints acting dean, as defined by the Statute
- it brings financial plan upon proposal by the Dean
- it is concerned with the realization of the activities of the Institution, rational use of staff and material resources, regularity of work
- it gives consent to the Dean for signing significant agreements
- it brings book of rules for its own functioning.

The Management Board of the University of Applied Health Studies has five members, three of which are appointed by the founder, one by Professional Board of the Institution and one by all employees. The President of Management Board is elected among the Board members. The term of office for Management Board members is four years. The Dean participates at the meetings of the Management Board but has no right of voice and decision making. In the case of his/her absence the vice-dean appointed by the Dean participates at the meeting. The method of work of Management Board is defined by positive legal provisions of the Republic of Croatia and by Book of Rules for its functioning.

***The Role of Professional Board***

Professional Board of the University of Applied Health Studies has the following members: the Dean, vice-deans, representatives of heads of study programs, representatives of sub-departments, representatives of assistants, representatives of students. Their term of office is four years. The representatives of heads of study programs are elected at the meeting of study program heads. The representatives of sub-departments are elected at the meeting of heads of sub-departments who are employees of the Institution. The representatives of assistants are elected at the assembly of assistants, employees of the Institution. The students' representatives are elected at the Students' assembly in accordance with the Book of Rules for Students' Assembly of the University of Applied Health Studies.

When called upon, the external collaborators may also participate in the activities of Professional Board, in particular when issues of their field of work are dealt with, but they have no right of decision making.

The students representatives are elected into the Professional Board for the period of two years and they have the right of suspension veto as defined by the Act, especially when the following issues are dealt with: changes in the status of their studying rights, exams, study programs, curricular plans, students' living standards and similar.

Following suspension veto the Professional Board discusses about the same problem again in 8 days. During the repeated decision making there is no possibility of suspension veto and the decision is brought by majority votes of the total number of Professional Board members. The following are activities of the Professional Board:

- it brinks the Book of Rules about its activities
- it proposes to the Management Board the Statute of the Institution
- it decides about the questions of teaching, professional, and scientific activities
- it proposes to the Dean the Book of Regulations for the structure of the Institution
- it elects the Dean and the vice-deans
- it elects heads of study programs on proposal of Study Programs Board
- it brings the study programs, their changes and modifications, teaching plans, books of regulations, and other general documents
- it elects into profession according to the Act and Statute of the Institution
- it brings books of regulations about the criteria and methods of giving awards
- it decides about the need of signing the work contracts - performs other jobs in accordance with the Act and the Statute.

The Professional Board performs its activities during regular meetings. The discussions and decisions are valid when more than half of the Board members with the right of vote are present at the meeting. The Board brings decisions by majority of votes of the present members with the right of vote, unless differently defined by the Act. If the voting results in half/half, the vote of the Dean is a decisive one. The Professional Board can establish permanent or temporary committees, boards, or other bodies with the purpose of solving the issues within its responsibility. The number of members of these bodies, term of their office, and the activities they are to engage in are defined at the time of their establishment. The meeting of the Professional Board are prepared, convened and chaired

by the Dean, or vice-dean by the Dean's authority when he/she is absent. The Professional Board brings the book of rules about its activities concerning the issues not defined by the Act, additional provisions, or Statute of the Institution.

***The role of sub-departments***

The structural teaching units of the University of Applied Health Studies are the sub-departments. They are basic structural units in terms of providing for instructional, professional and scientific activities. All teaching staff, instructors and external collaborators participating in the teaching process of a study program, i.e. department, are members of a sub-department. They perform and modify the teaching process, propose acquisition of other instructors and external collaborators, improve all forms of teaching, elect and promote instructors and participate in all other activities relevant to the teaching process.

On proposal made by the Professional Board, the Dean decides about the establishment of sub-departments for groups of similar.

***Role of the Dean***

Dean is the head of the University of Applied Health Studies. He/she presides and is responsible for the activities of Professional Board. The following are also responsibilities of the Dean:

*- presents and represents the Institution*
*- organizes and leads the teaching and business activities of the Institution*
*- brings the Book of Rules for structural organization of the Institution upon proposal submitted by the Professional Board*
*- ensures resources for work and development*
*- proposes vice-deans to the Professional Board*
*- proposes to the Professional Board and the Management Board developmental and business policies and their implementation*
*- authorizes individuals for signing financial and other documents*
*- implements decisions brought by the Professional and Management boards*
*- decides about making and breaking work contracts*
*- submits annual reports to Professional Board*
*- participates and decides in the activities of the Council of Institutions of Higher Professional Education in Croatia*
*- undertakes all legal actions in the name of and for the Institution up to the amount of kn 200 000.00, whereas legal transactions above this amount and also all legal actions concerning acquisition, sale, and mortgage are undertaken in collaboration with the management Board of the Institution*
*- appoints committees in accordance with the Book of Rules on Structural Organization of the Institution*
*- appoints acting vice-deans, study program heads, and sub-department heads until the establishment of Professional Board based on the new Statute*
*- decides about giving rewards as defined in the book of rules*
*- performs other jobs according to the Establishment Act, Croatian Act on Science and Higher Education, and Statute of the Institution.*

***Election of the Dean***

Every fully employed instructor-teacher in the rank of senior lecturer, professor of the school of higher professional education, or in a scientific rank at the University of Applied Health Studies can be elected Dean. The Professional Board appoints a three-member committee responsible for the procedure of electing a dean. The committee members are selected among those who have not applied for the post of the dean. The election procedure starts with public announcement in accordance with the Establishment Act and Statute of the Institution. The candidates submit their program of activities for the period of election. Upon collection the documents, the Committee for election of the dean proposes to the Professional Board all candidates whom they gave positive opinions, i.e. who satisfy all the requirements.

The dean is elected by Professional Board by secret votes for the time of four years. The candidate receiving more than half votes of the present Professional Board members is elected Dean. The same person can be elected once more in sequence for the same post. The election is approved by the Management Board in the form of written consent. If none of the candidates receives more than half votes in the first circle, then in the second circle the dean is elected between the two candidates who have received the highest number of votes in the first cirle. If even then none of the candidates receives the required number of votes, the announcement procedure is repeated. The decision to repeat the procedure is brought by Professional Board no later than four months before expiration date of term of office of the current Dean. The new Dean must be elected no later than 20 days before the term of office of the actual Dean expires, and he/she assumes the duty on October 1$^{st}$ of the current year. If the dean has not been elected until the above stated date, the Management Board appoints the acting dean until the new dean is elected, but not for more than one year.

***The role of vice-deans***

The vice-deans help the Dean in his/her activities. Vice-deans are elected and dismissed by Professional Board upon proposal submitted by the Dean, by the majority of votes of the present members of Professional Board. The proposal for a vice-dean should contain a CV and a program of activities. Every fully employed instructor-teacher in the rank of senior lecturer, professor of the school of higher professional education, or in a scientific rank at the University of Applied Health Studies can be elected a vie-dean. The vice-dean's temr of office lasts until the expiration date for the term of office of actual Dean, and the same person can be re-elected.

***The Role of the Secretary General***

The secretariat and administration staff are led by Secretary General of the University of Applied Health Studies. He/she is responsible for the functioning of secretariat services. He/she must be a law school graduate and have not less than five years' experience in similar job at an institution of higher education. The election, rights, and obligations of Secretary General and the structure of administration services are defined by the Book of Rules about the Structure of the Institution. The Secretary General is independent in his/her work and is responsible to the Dean and the Management Board of the Institution.

***The Role of the Head of Study Program - Department***

Each study program of the University of Applied Health Studies has a head of the department within which the study program is carried out. The head of department is elected out of the instructors employed at the Institution and those who are in the required either teaching of scientific rank. Had of the department is responsible for organization of teaching process within a given study program, collaboration with similar studies in the country and

abroad, submitting proposals for developmental strategies and admission quotas, and perform other jobs as requested by the Dean or vice-dean.

During his/her term of office, the head of a department cannot perform the job of being head of a sub-department of the Institution. The term of office for head of department is four years and he/she can be re-elected. Head of department can be dismissed of his/her duties by majority of votes of Professional Board either on one's own request (public voting), or on request of the Dean (secret voting).

***The Role of the Head of Sub-Department***

Head of a sub-department is responsible for the activities of a given sub-department. He/she is elected among teachers-instructors employed at the University of Applied Health Studies, who are in the required teaching or scientific rank. Head of a sub-department has a four-year term of office and can be re-elected. He/she can be dismissed of the duties by majority of votes of Professional Board members either on one's own request (public voting), or on request of the Dean (secret voting).

Heads of sub-departments are elected as proposed by sub-department members and through internal announcement by Professional Board and the Dean's consent. The head of a sub-department responds to the Dean of the Institution, its Professional Board and the vice-dean, authorized by the Dean.

***Objectives and Difficulties Objectives***

***With regard to teaching, or instructional, activities*** the implementation of new specialization graduate studies is planned for 2009/2010 academic year. Program proposals have already been submitted for most of the study programs to Croatian National Council for Higher Education, namely: 1. psychiatric nursing; 2. intensive care nursing; 3. Five-module clinical nursing: a) the role of a nurse in hospital infection control; b) hematological/oncological nurse; c) nurse in diagnostic procedures; d) nurse in gastroenterology; e) nurse in neurology.

***New specialization graduate studies*** are important to the refreshment of teaching staff, needed both in undergraduate and graduate study programs. It is also important for expansion of instructional structure health studies in other Croatian regions. Regional study programs could then be implemented throughout Croatia in smaller cities where there is great need for professionals educated at our Institution of higher professional education.

The proposed study programs are entirely harmonized with European standards, in their concept, structure and content; the excellence criteria are set so high that the study outcomes for graduate students will provide advantages for them when competing in the labor market; the quality of instruction will be constantly monitored and improved through individual and systemic follow-up of study outcomes in relation to the needs of modern health care practice. Efforts for the off-site studies will be directed toward the possibility of ensuring the students to fulfill their studying load at the place of work and through e-learning.

***Planning of admission quotas –*** the need for professionals of individual health profiles in Croatia will be monitored. Admission of full-time students to the existing study programs and planning of new full-time study programs will be coordinated with the needs at the State level through agreement and consent to admission quotas issued by the Ministry in charge of higher education in Croatia. Admission policy for part-time students will be agreed upon directly with health institutions and through coordination with the Ministry of Health and Social Welfare. Direct agreement on quota policy for part-time students is important because of great need for part-time students and insufficient teaching resources for high quality performance and organization of such studies. Hence, part-time study programs should be meant exclusively for those already fully employed in health care institutions and who need the upgrading of their professional status.

***Strengthening of all forms of continuing and life-long education and training*** is planned together with the promotion of permanent contacts with graduate students through

ensuring flow of information about to what extent are learning outcomes consistent with the needs of health practice; on this basis changes and modifications of the existing and new study programs will be made.

***The students' activities*** will be reinforced through the students' assembly and through providing opportunity to work and participate in all relevant bodies of the Institution. Another objective is to improve the students' standard of living by establishing a Students' Center of our Institution which would be equipped for providing services of nursing care and home care for the disabled, the sick and the senior citizens.

***The number of instructional-teaching staff will further*** increase both of fully employed and of external part-time collaborators, particularly those needed in performing practice classes. The improvement of collaboration with health institutions will be in terms of stimulating instructors and collaborators to participate in the so-called cumulative working activities All forms of continuing professional learning and upgrading will also be stimulated together with attending specialization and doctoral university studies, short and long-term study visits abroad, etc.

***Further efforts will be aimed at ensuring adequate building*** and classrooms needed for the development of all activities – teaching, scientific, publishing, administration. Construction of a new building for the Institution is planned, the size of about 10000 m2, with the adjacent space for students' accommodation and leisure activities. The new building is planned to be constructed at the location of "Sisters of Mercy" hospital by the end of 2012. A long-term loan would be ensured under the guarantee of the Government and additional needed amount would be obtained by selling the premises in 38 Mlinarska Street.

Modern equipment required in practical classes would continue to be used in health centers as teaching bases. Efforts would further be aimed at providing for the equipment by joint purchase modality in order to ensure the property rights avoiding thus one-year agreements on rental.

Another plan is to **reduce the State budgetary income** and to increase one's own income up to the ratio of 30:70%. Precise monitoring of single expenditures for each individual study program will continue in order to obtain actual price for the study program and define the so-called necessary "lump sum" for it. The reduction of unnecessary costs is planned to be achieved through rationalization of expenditures, particularly through rational organization of the teaching process and administration. Also, means should be made available for the introduction of new technologies, supporting professional training of teachers abroad, purchase of new books, publishing of greater number of manuals and textbooks. Some of these could be achieved through applications for pre-admission EU funds.

***Harmonization of the degree of computer literacy*** for teachers, students and all collaborators by supplying them with modern PCs is considered one of the most important steps toward extending electronic communication and introducing new ways of electronic learning. One of important admission criteria, especially for full-time students, will be their knowledge about information technologies and skills in using basic computer programs. During the first study year mastering of computer skills will be taught among the initial study subjects. Continuing courses of enhancing computer skills are organized for teaching staff, external collaborators, and other employees. They will have their web pages with updated information about teaching materials and reports on all the classes they hold. The ISVU system, that has been used in the past 5 years, has shown its disadvantages but also many benefits, will be further extended and improved by new applications. Extensive informatization of administration and account keeping is also being currently introduced. New information technologies in remote learning and knowledge testing, the so-called e-learning, will be developed. All the manuals and textbooks published by the University of Applied Health Studies will be available in digital form; the technology for telematic communication between teachers and students, and for professional meetings and seminars will also be provided; for the purpose of being able to invite foreign lecturers, one of the classrooms will have the equipment for simultaneous translation. Both, the teachers and the

students will have free access to information bases useful in their education and professional training

The University of Applied Health Studies will continue to ***improve its own publishing activities***, particularly in terms of stimulating the teachers to produce texts specifically directed toward conceptual ideas of professional studies, i.e. toward application of knowledge and skills in practical work. In view of the great need to open professional health studies in all parts of Croatia, which leads us to the need for greater amount of teaching materials, the plan is to develop publishing activities to the extent that would satisfy all future needs for such contents, not only in Croatia but also in all neighboring countries. Hence, the Publishing Department will be established with fully employed staff. The Department will be in charge of publishing professional and scientific papers of teachers/instructors of professional studies and external collaborators in the field of biomedicine and general health.

***The Library*** will be supplied with at least ten copies of each text required as obligatory literature for every study program, and also a sufficient number of the recommended reference literature. For the purpose of professional training of teachers and students' seminar and diploma papers subscription will be extended to journals covering all study programs at the University of Applied Health Studies. Each study program will be subscribed to at least two relevant journals of specific professional fields. The availability of other journals will be extended through agreements to use the services of other libraries and availability of publications by subscription to electronic data use.

The ***relations will be improved with health institutions*** with which there already exists collaboration and it will be extended by including new health institutions as teaching bases of the University of Applied Health Studies. Beside public health institutions, the objective is to extend collaboration with private health institutions as well. Through the so-called cumulative work contracts better relations will be established between the University of Applied Health Studies and teaching bases in health and other institutions, particularly in view of the possibility for the University to have its own clinics as clinical teaching bases.

The ***relations with other institutions of higher professional education*** should be strengthened and aimed at the exchange of teachers and greater mobility of students. The University of Applied Health Studies has a rather specific role as a reference center for the field of professional health education and should stimulate the development of new institutions of higher professional health education in Croatian regional centers; it specifically refers to establishment of off-site studies in cities and regions in which there is great need for professional health studies with the perspective for opening independent institutions of higher education at a later time. By actively participating in the activities of the Council of Croatian Institutions of Higher Professional Education the University of Applied Health Studies is intensely included in all forms of collaboration between institutions of higher professional institution, in particular those initiated and implemented by the Council In the period from 2004 to 2007, the Dean of the University was the first president of the Council and the Council was located in the premises of the University and received all the needed infrastructural support and assistance by the University of Applied health Studies. Due to joint activities of the Council and the University many positive changes in the system of higher professional education were initiated, rules of procedures elaborated, and decisions brought about the establishment of committees for basic professional fields – the committees were to define minimum conditions for teaching ranks; the system was introduced for definition of priorities in using means allocated for capital investments and number of developmental working posts (new teaching staff) in institutions of higher education; Many concrete proposals for changes in legal provisions were elaborated; regional development of the system of higher professional education was stimulated in collaboration with the Rectors' Assembly and the National Council for Higher Education. Following expiring date of the Dean's term of office as president of the Council of Croatian Institutions of Higher Professional Education, the teaching staff of the University of Applied Health Studies continued to participate in the bodies and activities of the Council, namely as members of Committee for

Teachers' Ranks, president of committee for quality control and improvement, and president of committee for international collaboration.

***Collaboration with general universities*** is basically aimed at rationalization of teaching and other resources through agreements on functional collaboration and mutual employment of teachers, space and equipment, in the parts of the teaching process that is not in collision with conceptual specificities of professional and general university study programs. The University of Applied Health Studies has proposed a general concept of collaboration between professional and general university study programs through agreements on cumulative work contracts with general university teachers, and through joint investments into equipment and new buildings.

***International collaboration*** is particularly important in view of the process stimulated by the Bologna Declaration. Namely, the implementation of reform in the system of higher education in Croatia, as an essential part European integration process, the quality standards are set together with the standards for students' mobility and professional competence of teachers and students. The acquisition of these standards is tested within the evaluation of institutions and assessment of their work. In this way the international collaboration becomes one of criteria for achievement level of the institution and its readiness to satisfy the challenges of EU membership. Among the EU directives for higher education there is also promotion and recognition of the value and quality, among students and teachers equally, that arises from studying and training in different environments, particularly with regard to cultural, national, language and historical traditions (ref. to Draft Declaration on the need to be included in international exchange programs; VVIS 2008).

Apart from being included in EU programs (for which certain prerequisites need to be met), it has been proposed to make an agreement on how to establish the relations with international network of institutions of higher professional education and their associations (in the fields of higher professional education in health professions). There is also a plan to establish associations that would be able to promote the EU standards and coordinate with the Department for International Collaboration the activities in scientific and professional international projects. The collaboration between students' associations will also be promoted.

Actions and measures will also be stimulated at the level of sub-departments and study groups of the University of Applied Health Studies. For example: **1.** Inclusion into the Program of life-long learning of EU Commission as part of the Erasmus exchange program; **2.** Utilization of EU funds for the realization of horizontal mobility; **3.** Establishment of an association for the promotion of higher professional education and its including into the European Register of accreditation non-government agencies; **4.** Letter of Intent for collaboration with potential partners in the field of specialization graduate study of nutrition; **5.** Collaboration with the relevant EU countries for the possibility of exchange of students and teachers as a prerequisite for TEMPUS projects; **6.** A joint pilot project of a teaching class in English in collaboration with one of the EU institutions; **7.** Active participation of teachers/instructors in international professional associations; **8.** Providing a list of available scholarships and state donations in the United States and EU; **9.** A web page in the English language and a brochure with basic information for foreign partners.

In 2009 and the following years many forms of extension of international collaboration are planned. For example: **1.** Collaboration with the University of the West England, Bristol, Faculty of Health and Social Care, Bristol, for possible exchange of students and teachers; regulation of current collaboration with South Karelia University of Applied Sciences Health Care and Social Services, Lappeenranta, Finland; **2.** Establishment of association for the promotion of higher professional education and its including into the EU register of accreditation non-government agencies; **3.** A joint pilot project of a teaching class in English in collaboration with one of the EU institutions; **4**. Providing a list of available scholarships and state donations in the United States and EU; **5.** Completion of web page content in the English language and a brochure with basic information for foreign partners and students.

* * * * *

When the above activities and plans get realized the University of Applied Health Studies will be an institution of higher professional education with clear and unique concept of professional education in the field of health and biomedicine and will provide high quality and efficient training based on learning outcomes and harmonized with social needs. Special emphasis will be put on life-long learning and, due to its long tradition in special care for quality, it will stimulate regional development of similar institutions of higher education in all parts of Croatia and greater professionalization of its graduate students, especially those who were not in position to develop their own professional independence. In this way such health professions will be able to independently provide for their own professional reproduction. These are the professions that have so far received education in Croatia from professionals of other profiles. At the same time a sufficient number of teachers/instructors will be ensured to be able to open new regional and local professional study programs in parts of Croatia where there is great need for such health professionals.

Through the realization of the above perspectives the University of Applied Health Studies would become an institution of higher education entirely capable of fulfilling its social role in accordance with legal provision on its establishment.

***The difficulties***

The University of Applied Health Studies is part of the system of higher professional education in Croatia and shares its destiny, developmental problems, and perspectives with all other public (State owned) institutions of higher education. The fact remains that the development of these institutions has always to a very small extent been in their own hands, depending on the competence of their management, quality and motivation of their teachers, diligence and social needs for their graduate students. The greatest influence on their existence and developmental perspectives throughout the entire history of institutions of professional higher education in Croatia has been by the actual politics. And since the mid 60-s of the past century (when most of the so-called higher schools were opened) until today it moved as if in regular intervals from complete negation of the need for such and educational system that would be separated from general universities but would function as institutions of conceptually different higher professional education directed toward everyday working practice – all to verbal glorification of their importance, but never with sufficient political will to substantiate such importance through concrete developmental stimulation.

***Today's developmental perspectives***

The present moment is another similar moment of cross-roads, the neutral position of a pendulum, the position for which it is not yer clear to what side it will turn. Whether toward the already seen integration with general universities – as suggested by the decision of the Constitutional Court according to which professional study programs are nothing but lower level of general university education- or toward independent institutional development as separate professional universities? It up to the politics to solve the dilemma, and the development of our Institution as well as the development of the entire system of higher professional education depends on political decision.

The University of Applied Health Studies supports the opinions and attitudes of the Council of Croatian Higher Professional Educational Institutions according to which the binary system of higher education should be finally and definitely established, i.e. that professional study programs should be carried out exclusively in independents institutions of higher professional education, without the possibility for general universities to provide for such study programs. The fact that such a solution is also proposed in the document of the Ministry of Science, Education and Sports, "Plan of Development of Educational System from 2005 to 2010" gives hope that favorable solution has more chance that ever before. Opposite to these hopes are doubts based on concrete examples of neglecting the actual problems of institutions of higher professional education, and also on examples of more and more

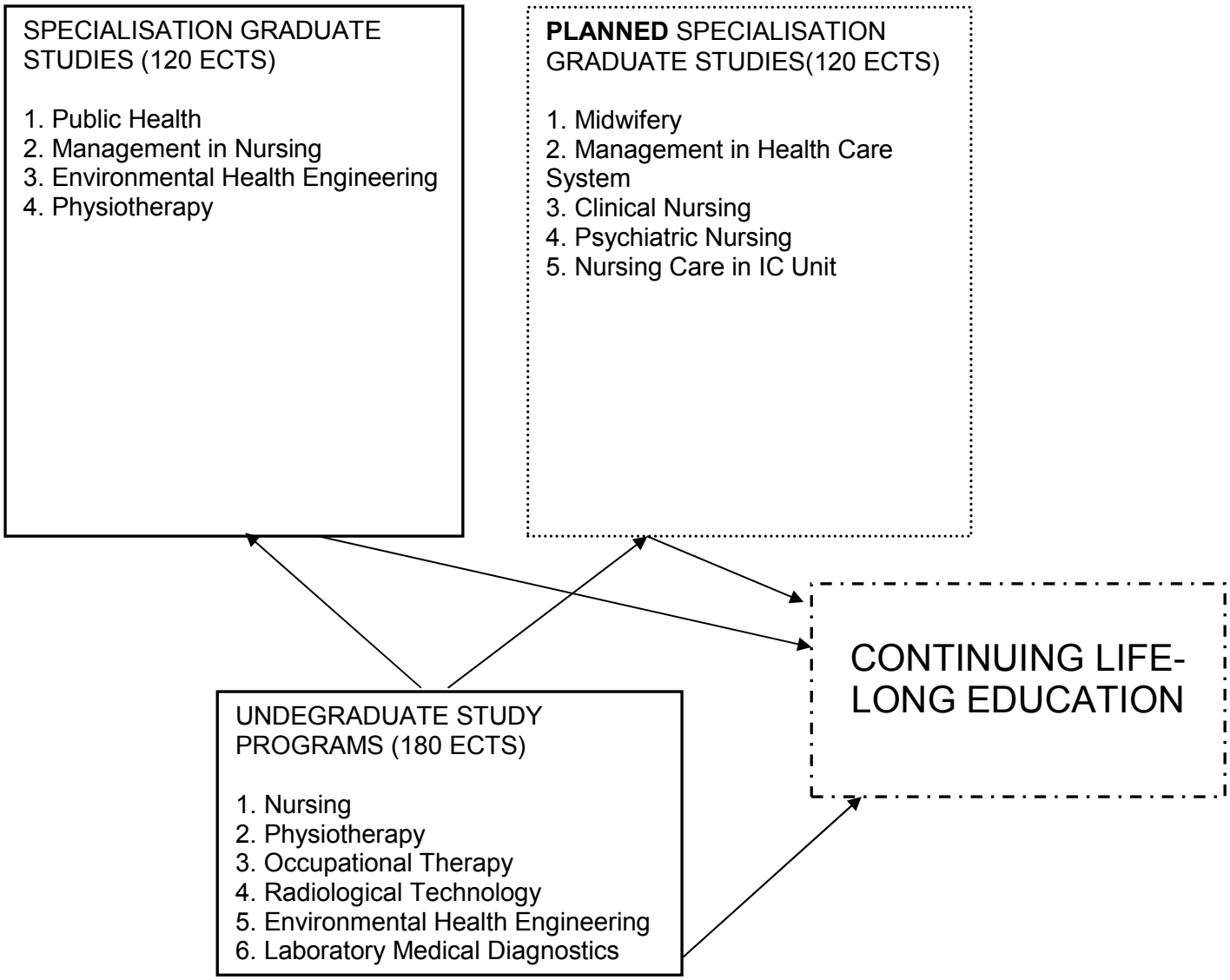
political decisions that reduce the entire system of higher professional education to a level far from appropriate for higher education

The Management and the Professional Board members of the University of Applied Health Studies are of opinion that there it has great developmental perspectives since it has been continually developing for more than 40 years, despite all the difficulties; however, the only prerequisite being that the clear binary system of higher education in Croatia be legally provided for. Yet, if those who advocate the unitary or mixed system of higher education prevail, there is a fear that the already experienced cycle of severe stagnation in higher professional education will happen again.

The University of Applied Health Studies will continue to actively participate in the bodies of the Council of Croatian Institutions of Higher Professional Education in term of stimulating and contributing to the development of the entire system of professional studies in Croatia. The proposals of changes and annexes of the existing and new regulations concerning higher education are aimed at ensuring better legal prerequisites for the development of the system of institutions of higher professional education in Croatia in terms of their greater autonomy, legal equality, and equal developmental opportunities for their teachers and their students when compared with general university teachers and students. The principle objective in all the above mentioned is in achieving the final ideal of development of “the equal but different” study programs – equal by the quality, social importance, degree of autonomy and developmental opportunities, and different only by the basic teaching concept, i.e. greater direction toward professional profiles capable of being included into everyday practice and less toward scientific research.

# 1. STUDY PROGRAMS

***Flow chart of study programs configuration***



**Study Program for Physiotherapy** – educates physiotherapists – health professionals planning and carrying out therapeutic and rehabilitation procedures by employing knowledge and skills in the field of physiotherapy, clinical kinesiology, basic biomedical sciences, clinical medicine, and other allied fields. A physiotherapist participates in procedures of primary and secondary prevention. Upon completion of study requirements the undergraduate student obtains the grade of B.A. in physiotherapy

**Study program for Laboratory Medical Diagnostics** – educates health professional competent for working with complex analytical procedures in medical laboratory diagnostics and analytics. Upon completion of all study requirements the undergraduate student obtains the grade of B.A. in medical laboratory diagnostics.

**Study program for Occupational Therapy** – educates occupational therapists health professionals trained to perform occupational therapeutic process including also the assessment of occupational therapy needs, planning of intervention, implementation of intervention and evaluation. Upon completion of all study requirements the undergraduate student obtains the grade of B.A. in occupational therapy

**Study program for Radiological Technology** – educates radiological technologists – health professionals trained to work in diagnostic and intervention radiology, radiotherapy, oncology and nuclear medicine. Within these professions a radiological technologist performs the job and tasks in the field of radiological diagnosis, intervention and therapy. A radiological technologist is trained to work in medicine, dental medicine, and veterinary medicine. Upon completion of all study requirements the undergraduate student obtains the grade of B.A. in radiological technology.

**Study program for Environmental Health Engineering** – studies the possible solution of public health problems. The study program includes all segments of ecological systems and factors influencing human health. Upon completion of all study requirements the undergraduate student obtains the grade of B.A. in environmental health engineering

**Study program for nursing** - educates qualified nurses. The nurses are medical professionals trained to assist all individuals, the patients, and the sick to achieve physical, mental and social potential to normally function in their social and living environment. A nurse is trained to act in a way to promote and maintain health and assist in prevention of disease. A nurse plans, carries out and evaluates nursing care during disease and rehabilitation. A nurse also promotes active participation of the individual, the family, interest groups, and the community in all aspects of protection and preservation of health and healthy environment. Upon completion of all study requirements the undergraduate student obtains the grade of B.A. in nursing.

*A detailed description of study plans, programs and learning outcomes is presented in annexes (Auto-analysis , Part 2- annexes)*

Employment opportunity in Croatia for B.A. students in laboratory medical diagnostics, physiotherapy, radiological technology and nursing is very good. However, it is not so good for B.A. students in occupational therapy and environmental health engineering. Admission quotas for these profiles are adjusted to the employment opportunities. The study programs enable mobility of the students and their transfer to other similar study programs in Croatia.

***Specialization graduate professional study program***

Specialization graduate study programs at the University of Applied Health Studies are the following:

1. Physiotherapy
2. Public Health
3. Management in Nursing
4. Environmental Health Engineering

Upon completion of undergraduate study program the physiotherapist may continue studying at specialization graduate program in physiotherapy and achieve the rank of M.A. in physiotherapy.

Upon completion of undergraduate study program a nurse may continue studying at specialization graduate programs in public health and management in nursing graduate programs and achieve the rank of M.A. in nursing.

Upon completion of undergraduate study program the engineer in environmental health may continue studying at specialization graduate program environmental health engineering and achieve the rank of M.A. in environmental health engineering.

The courses in specialization graduate study programs take two academic years (4 semesters) and provide 120 ECTS.

*The details of courses and learning outcomes of graduate specialization professional study programs are presented in annexes (Auto-analysis – Part 2 – Annexes).*

According to the agreed strategies, new specialization study programs are planned at University of Applied Health Studies

*The details of proposals for new courses and learning outcomes of graduate specialization professional study programs are presented in annexes (Auto-analysis – Part 2 – Annexes).*

***The key objectives of admission requirements and study conditions***

When making the Book of Rules for Study Requirements at University of Applied Health Studies the following objectives were given special consideration:

- Acceptance of basic principles of Bologna Declaration
- Harmonization of general documents with legal regulations provided in the Act on Scientific Activities and Higher Education (Official Gazette 123/03, 198/03, 105/04, 174/04).

The following are defined in the Book of Rules for Study Requirements: admission of students, study programs and plans, knowledge tests, teaching outcomes, students' status and study regulations, participation of students in the activities of the University of Applied Health Studies; the right of enrolling into study programs for all candidates who have successfully complete any 4-year high school program. The concrete admission requirements are announced in the contest upon as defined by the Professional Board of the Institution and based on the Statute and Book of Rules for Study Requirements

***Qualification procedure*** consists of written knowledge testing during qualification exam in the following subjects: anatomy, physiology, biology, chemistry and physics according to teaching programs for 4-year general or vocational high school, plus the grades achieved during high school education (general grades in all high school classes and the grade at final exam). When applying for qualification procedure the candidates should submit medical certificates on basic health and psychophysical capacity for studying; also, the

candidates for the program of laboratory medical diagnostics need additional certificates including ophthalmologic tests for visual acuity and color differentiation, while the candidates for radiological technology study program need certificate on fitness for working in the zone of ionizing radiation.

The Book of Rules also defines the teaching process to be in accordance with the approved study programs for each particular study group, to last 3 (three) academic years for undergraduate studies (180 ECTS) and 2 (two) academic years for graduate studies (120 ECTS); the possibility is also defined for two-year undergraduate professional study programs and on-year specialization graduate study programs.

***The courses*** are organized as lectures, seminars and practical classes in basic subjects and can take from minimum 20 hours to maximum 30 hours a week. The students' involvement in all forms of classes is based on 40-hour weekly load and is organized through lectures, seminars, practical classes, consultations, tutoring, study visits, permanent knowledge testing, preliminary exams, exams and diploma exams. The following make part of practical classes: regular students' activities at teaching bases including on-duty service, clinical practice, professional practice, field work, and other forms that contribute to the acquisition of the required competences

***Knowledge testing*** is also defined by the Book of Rules. The students' knowledge is tested and evaluated through the entire the school year, whereas the final grade is defined by the achievement at exam. During teaching classes, the students' knowledge can be tested by preliminary tests, partial exams and other forms of continuous knowledge testing.

The undergraduate study program is completed upon passing final exam, while the graduate specialization professional study program is completed upon passing the diploma exam in front of a three-member board, appointed by the Dean and proposed by the head of the study program. Instructions about the diploma paper are given on web page of the university

***The testing of teachers' performance*** is carried out by the Committee for Quality Management and is defined by the Book of Rules for Study Requirements, and so is the participation of students in the University Professional Board, the status of students and of those eligible for the degree finals. The students participate in the activities of the University Professional Board through their representatives and student-assistants (demonstrators). The student-assistants are the students who assist their teachers/instructors in practical classes. They are selected among the best students and those who show the ability and aptitude to participate in pedagogical professional activities.

### *The criteria of admission quota*

The number of students admitted to the study programs of the University of Applied Health Studies depends on the overall teaching load defined by individual study program and numbers of teachers/instructors and external collaborators performing the required teaching classes. The external collaborators participating in clinical practice with 4-6 students per group should also be taken into consideration, together with the availability of classrooms and clinical bases

The admission quota depends on a number of regulations that define the needs for individual health profiles in the health care system. For example, the Book of Rules on minimal conditions concerning the space, number of staff, and medical and technical equipment needed to perform health care activities; the Book of Rules on standards for individual health profiles, etc. It is estimated that in EU countries one medical doctor and 4-5 nurses are sufficient for about 1000 people; in Denmark there are 100 occupational therapists per 100 000 inhabitants; in EU the teams of medical laboratory diagnostics include one specialist in medical laboratory diagnostics at highest university level, 4 professionals in medical laboratory diagnostics at B.A. level, and one technician in laboratory medicine.

Employment opportunities for graduate students exist both in public and private health and social care institutions. Upon completion of all study requirements the students need to complete a one-year internship and pass the State Board Exam. The Croatian Employment

Agency periodically announces vacancies for employment of probationary employees in different health professions.

The number of students admitted to the University of Applied Health Studies study programs is defined on the basis of the following:

1. *No. of teaching classes per student as defined by the Study Plan and Program*
2. *No. of teachers/instructors and external collaborators*
3. *Classrooms and other facilities*
4. *Standards setting the number of individual health profiles per population (e.g. the number of nurses/physiotherapists, etc. per 100 000 inhabitants); the standards refer to Croatia and EU*
5. *No. of employed*
6. *No. of unemployed*
7. *No. of students admitted to and graduating from our University and other similar institutions of higher education.*

In the period from 2005/06 to 2008/09 academic years the following **admission quotas** have been proposed: physiotherapy, 70-110 students; laboratory medical diagnostics, 40-50 students; radiological technology, 50-55 students; occupational therapy, 30-50 students; environmental health engineering, 30-50 students; nursing, 80-110 students. The numbers are corrected for each single academic year depending on the above parameters. During qualification procedure for full-time studying about 3 to 4 candidates apply for one post in physiotherapy and nursing programs, while 5 to 6 candidates apply for the same study programs on part-time basis. As regards the other four study programs, namely occupational medicine, laboratory medical diagnostics, environmental health engineering, and radiological technology, there apply from 1.5 to 3 candidates for one post in each study program.

***Table 1. Parameters for undergraduate study programs at the University of Applied Health Studies***

| PARAMETAR | | STUDY PROGRAM | | | | | |
|---|---|---|---|---|---|---|---|
| | | Physiotherapy | Laboratory Medical Diagnostics | Radiological Technology | Occupational Therapy | Environmental Health Engineering | Nursing |
| 1. | No. of teaching classes per student – defined by Study Plan and Program | **+/-** | **+** | **+** | **+/-** | **+** | **+** |
| 2. | No. of teachers and external collaborators | **+/-** | **+/-** | **+** | **+** | **+/-** | **+** |
| 3. | Classrooms and rooms for practical classes | **+** | **+/-** | **+** | **+/-** | **+** | **+** |
| 4. | Standards defining the number of individual health profiles per no. of inhabitants | **+** | **+** | **+** | **-** | **+/-** | **+** |
| 5. | Employment opportunities | **+** | **+** | **+** | **-** | **+/-** | **+** |
| 6. | No. of students admitted to and graduating from our Institution and other similar institutions of higher education | **+** | **+** | **+** | **+** | **+** | **+** |

***Table 2. Parameters for specialization graduate study programs at the University of Applied Health Studies***

| PARAMETAR | | STUDIJ | | | |
|---|---|---|---|---|---|
| | | Physiotherapy | Management in Nursing | Public Health | Environmental Health Engineering |
| 1. | No. of teaching classes per student – defined by Study Plan and Program | **+/-** | **+** | **+** | **+** |
| 2. | No. of teachers and external collaborators | **+/-** | **+/-** | **+/-** | **+/-** |
| 3. | Classrooms and rooms for practical classes | **+** | **+** | **+** | **+** |
| 4. | Standards defining the number of individual health profiles per no. of inhabitants | **+** | **+** | **+** | **+** |
| 5. | Employment opportunities | **+** | **+** | **+** | **+** |
| 6. | No. of students admitted to and graduating from our Institution and other similar institutions of higher education | **+** | **+** | **+** | **+** |

LEGEND:
**+** good
**+/-** satisfactory
**-** unsatisfactory

***Realization of objectives set during elaboration of new study programs***

When creating new study programs the following objectives were set:

- Harmonization of programs with Bologna Declaration
- Harmonization of programs for individual health profiles at the level of the Republic of Croatia
- Taking into consideration international recommendations regarding the study contents for individual health profiles
- Modernization of teaching methods.

Committees for elaboration of study programs have been established at the level of the State and their members were teachers/instructors from all similar studies in Croatia (Zagreb, Rijeka, Split, Osijek). The existing three-year programs were taken as a basis the new ones, since already from 1999/2000 academic year the three-year professional study programs were implemented for full-time students. All the professional study programs were harmonized for the entire Croatia so that mobility of students and recognition of profiles could be recognized.

The programs were harmonized with the following international institutions for higher education of individual profiles, e.g.:

- *Physiotherapy*:
  1. WCPT Declarations of Principle – Education, World Confederation for Physical Therapy, 2003.
  2. Education Policy Statement, European Region of the World Confederation for Physical Therapy, 2004.
  3. Curriculum Framework for Qualifying Programs in Physiotherapy, 2002.
  4. Benchmark Statement: Health Care Programs, The Quality Assurance Agency for Higher Education, Gloucester, United Kingdom, 2001.
  5. Curriculum Physiotherapy Degree Program in Aarhus, School of Occupational Therapy and Physiotherapy, Risskov, Denmark, 2003.

- *Occupational Therapy:*
  1. European standards in education of occupational therapists, ENOTHE, European Network of Occupational Therapy in Higher Education
  2. Minimal Standards for Education of Occupational Therapists, WFOT; World Federation of Occupational Therapists 2002.

- *Nursing*:

  1. WHO. Munich Declaration: Nurses and midwives: a force for health, 2000. http://www.euro.who.int
  2. WHO. Nurses and Midwives for Health, A WHO European Strategy for nursing and midwifery education Copenhagen 1999.
  3. Council Directive 77/452/EEC. http://eur-lex.europa.eu
  4. Council Directive 77/453/EEC. http://eur-lex.europa.eu
  5. Directive 2005/36/EC of the European Parliament. http://eur-lex.europa.eu

The individual courses within each study program are allocated the ECTS points as defined by the legal Act, according to which the total one-semester load amounts to 30 ECTS

points, i.e. 60 ECTS points per one academic year. The calculation for each individual course is made on the basis of number of hours (lectures, seminars, practice), number of tasks a student is given, number of preliminaries, seminar papers, difficulty and extent of teaching materials, and other student's obligations. The programs offer greater number of electives than before. Also, general and specific competences for each individual profile are determined by the professional study program

Having in mind the fact that the programs are meant for professional studies that prepare the future health profiles for independent work in a given profession, the clinical, field, laboratory and similar classes account for 45 to 60 per cent of the entire study program. In order to monitor the students' success in studying and ensure their continuing training report books have been made for individual monitoring of a single student's activities and they serve as evidence of the acquired skills or competences.

Training rooms have been equipped for physiotherapy and for nursing care, while other training rooms are in the stage of being nearly completed. Their purpose is to enable the carrying out of pre-clinical subjects in as well equipped classrooms as possible. Seminars and all types of practice courses imply small student groups, problem solving tasks, and development of critical thinking

The system has been elaborated for the evaluation of courses. It includes anonymous surveys twice a year: at the end of each semester for one-semester courses, and at the end of academic year for two-semester courses, before examination terms. It is within the responsibility of Committee for Evaluation of Teaching Performance, assisted by coordinators for each study program. The questionnaire contains fourteen items relating to the work of teachers/instructors for each individual course, and nine items for the assessment of the entire course; also there is a possibility to openly comment the whole process. The questionnaire is designed for optic reader and the obtained data are computer analyzed. The teachers obtain the results after examination terms in the form of average value for each questionnaire item and average value for the whole Institution in a given semester. The teachers can also see the original filled up questionnaires.

Besides teaching, the students evaluate general study conditions once a year. The issues such as equipment of the Institution, organization of teaching classes and examinations, administration and secretariat of the Institution are evaluated. By students' evaluation of the teaching contents, the active role of students in the teaching process is emphasized together with their participation in the development of new roles and competences.

***Changes in the previously accepted Bologna study programs***

When making changes in the undergraduate study programs for nursing, occupational therapy, physiotherapy, environmental health engineering, radiological technology and graduate study program for environmental health engineering, proposals submitted by sub-department heads and teachers/instructors were discussed; their experience in teaching and organization of the teaching process was taken into consideration together with the students' proposals for changes in study programs. Eventually the draft proposal of changes was made and submitted to Professional Board of the University of Applied Health Studies for approval. The changes were made in accordance with recommendations on the maximum extent of 20%.

The objective was to facilitate the teaching process and examinations, to increase the quality of mastering of individual study contents, to harmonize the students' load with the teaching process.

***The objectives to be achieved by professional specialization graduate study programs***

The professional specialization graduate study programs in nursing (management in nursing and public health), physiotherapy and environmental health engineering are aimed at ensuring the possibility for undergraduate students to continue studying at higher educational levels in their own profession. It was made possible by legal provisions of the Act on Scientific Activities and Higher Education.

There are two principle objectives for admitting students to graduate professional study programs. First, as these are the profiles that have not yet been professionalized, i.e. that they could not be trained in their profession to the highest educational levels, the most important objective of professional specialization graduate study programs is to obtain the teaching staff for the reproduction of their own profession.

Second, with regard to the increased complexity of work in modern health and the need to enhance the standards of health practice, it is necessary to ensure a sufficient number of specialized professionals for many segments of health care practice

The admission requirements are defined by the study progress.

The admission requirements for professional specialization graduate study program of nursing are: completed three-year undergraduate study program in nursing, or two-year undergraduate study program in nursing, or similar four-year university study program plus active speaking and writing proficiency in English.

The admission requirements for professional specialization graduate study program of physiotherapy are: completed three-year undergraduate study program in physiotherapy, or two-year undergraduate study program in physiotherapy, or similar four-year university study program plus active speaking and writing proficiency in English or German.

The admission requirements for professional specialization graduate study program of environmental health engineering are: completed three-year undergraduate study program in environmental health engineering, or two-year undergraduate study program in environmental health engineering, or similar four-year university study program plus active speaking and writing proficiency in a foreign language.

The admission quota and contents of the qualifying exam are defined by the Professional Board of the Institution

*Qualification procedure includes the following:* assessment of whether the candidates satisfy the requirements; rank of achievement of the candidates based on average grades of previous studies (three-year, two-year, or four-year study programs). The candidates also need to submit a medical certificate of psychophysical ability for the study.

*Admission quota* is defined by the same parameters as for undergraduate study program (no. of teaching hours per student based on study plan and program; number of teachers/instructors and external collaborators; classrooms; standards defining the number of health professionals per inhabitants; employment opportunities). The need for professionals of these health profiles is great since they possess significantly greater knowledge and professionals skills than those completing the undergraduate study programs. Upon completion of Management in Nursing graduate program the health professionals have competence to perform jobs such as management in nursing care, to participate in projects of health promotion and prevention of disease. Upon completion of graduate program in Public Health, the health professional have competences as defined by the objectives of the Munich Declaration about education of health professionals, and by the objective of the “Health for All” strategy. By the completion of specialization graduate study in Physiotherapy, a highly professional specialization training in ensured within study modules (e.g. cardio and respiratory physiotherapy; musculoskeletal physiotherapy; neurological physiotherapy), and research and teaching activities in physiotherapy are stimulated. The specialization graduate study program in Environmental Health Engineering provides for professionals who are completely independent in the work and who can be competently involved in the activities of sanity inspection and environmental sanitation.

After having completed specialization graduate study programs the professionals in each field, if they satisfy other requirements, can apply for teaching posts in the education of new generations of students and can actively participate in research programs. Professional specialization graduate study programs are carried out on at the University of Applied Health Studies in Zagreb.

Every two years more and more undergraduate students apply for specialization graduate studies, making it possible to ensure sufficient number of competent teachers/instructors for each of the above health profiles in the future.

***The overall view of study programs and plans for future changes***

With regard to the present experience in the carrying out of teaching programs based on the existing study plans and programs, changes are needed in terms of decreasing the students load in direct form of teaching and directing it to increase the independent individual student's engagement. The introduction of e-learning is planned: only a few courses in the beginning, and gradually increasing their number. The introduction of diploma supplement is proposed containing the list of the acquired competences.

In order to further increase the educational level of professionals completing the undergraduate study programs, proposals have been submitted to Croatian National Council for Higher Education for approval and issuing of license to perform three-year undergraduate study programs in Nursing Care in IC Unit, Psychiatric Nursing, and Midwifery.

## 2. STUDENTS AND STUDYING

***Assessment of structure and quality of admitted and registered students***

The students admitted to the University of Applied Health Studies are those who have gained satisfactory knowledge in their high school, general or vocational, and who have satisfied all requirements of the qualifying exam

The interest in study programs at the University of Applied Health Studies has lately showed mild decrease. The population applying for admission exam is not homogeneous, meaning that not only those who have completed vocational high schools in the field of health apply, but also the gymnasium and other vocational or general high school graduates.

The passing rates at the University can be assessed as satisfactory; although they differ from one to the other study group, the differences are relatively small. The passing rates are slightly better in the physiotherapy and nursing study program groups, but this is only in accordance with the interest in the study and quality of the candidates

The passing rate for the first Bologna generation is no different than that for the next or any other generation of students.

A satisfactory passing rate shows good motivation and selection of students and appropriate adjustment of studying process to the students' needs

***Organization of knowledge tests for students***

Testing, or evaluation, of thel students' knowledge is an indispensable part of all study programs, at all levels of organized and systematic education. Grading of the students'

achievements shows to what degree the subjects of teaching have approached the desired goals

The grading results have proved to have deep impact on future careers of the students. Therefore it is utterly important to continually perform grading in a professional manner and to take into consideration extensive knowledge about the testing processes and methods. The students should be evaluated on the basis of the well-known criteria, rules and procedures continuously applied. The evaluation of students' achievement in terms of grades, also serves as valuable information on efficiently of the education and learning system. Knowledge tests significantly define the instructional design of the teaching process.

***Current situation at the University of Applied Health Studies***

The current practice at the Institution is that the students need to pass written and then oral exam, following the teaching classes of a given course. The grade was so far usually the result of non-continuous follow-up of the student's progress in the teaching process and the process of acquiring certain knowledge and skills. So far, the student's knowledge was not verified during the teaching process, but rather in a form of a minor course during which certain forms of continuous knowledge tests were performed, e.g. in terms of homework or minor seminar papers.

I was mostly the teachers/instructors who defined the form of exam. Besides objective reasons, there are also personal aptitudes of the teachers in selecting the form of knowledge tests. Furthermore, the fact remains that the students generally perform much better in oral than in written exams. Being aware of the disadvantages and bias present during both, written and oral exams, it seems most appropriate to use both forms and thus enable the students to show what they know as best as they can.

The grades are mostly in the range of numeric figures: excellent (5), very good (3), good (3), satisfactory (2), and failure (1). Such a grading scale, with four passing grades and one failure, is an evaluation scale showing all essential characteristics of the ordinal scale and the rank scale, by which it is possible to assess whether something is more than something else, but not to what extent. In such scales the differences between the degrees are never equal. The knowledge range covered by nominally the same grade in different subjects and different study groups are significantly different.

The scales are not formed according to the best (as in the US system or the ECTS system), but according to the previously defined grading scales in which the passing rate threshold is not equally defined and usually ranges between 50 and 75%.

There are also differences within the grading system itself, while the Bologna process and the introduction of ECTS points should contribute for the grading to be harmonized at all levels and in all criteria. For these reasons efforts should be made toward the implementation of the student grading system that would improve the process itself in relation to the present situation. Also the need has been recognized for additional education of teachers/instructors in relation to these issues. Knowledge testing should be objective, righteous, professional and transparent, which is today's practice at the University of Applied Health Studies. In the shortest possible time the teachers provide feedback information on test results so that the students can have ready access to all knowledge tests.

***The sequence and terms of exams***

The principle prerequisites for taking exams are as follows: the student can pass the exam only upon completion of all lectures and other obligations set for individual studyl course (seminars, practice), and when applying for exam in a set period. Within these conditions the student can freely choose the sequence of giving exams. The annual schedule (time to apply for and date of exam) is announced through the ISVU system (information system of institutions of higher education). The exams are held in three regular terms (winter: February; summer: June and the first half of July; autumn: September); and the extra terms in November and April.

### *Taking exam and the examiners*

The student can try to pass the exam in one subject eight times at the most, and four times in one academic year. For the fourth time the exam is given in front of a three-member commission appointed by the Dean. If on fourth effort the student does not pass the exam, he/she has the right to four more trials, but then the fourth one, i.e. the eighth, is given again in front of a three-member commission. If even then the student does not pass the exam he/she loses the right to continue with the study program. The exam is always given in front of the teacher lecturing on the subject, except when the teacher is absent for a longer time.

### *Methods of examination and grading*

It has already been explained that the students are informed about the exact date of registration for and having exam in advance for the whole academic year. The time between registration and the date of exam is in the range of about ten days. The students can register for giving an exam in usually two days a month and they do so through the ISVU system. Usually a month before the exam the exact dates of exams are given on students' computers (the so-called studomat), and if a student has completed all the lectures he/she can register for giving the exam from the day of announcement to five days before the exam. If the student does not want to give the exam, he/she can unregister also through "studomat" two days before the date of exam. The exams are oral (oral exams are public), or written, often both. In the latter case, the written part is given before the oral. Prior to commencing the oral exam the student has the right to see the grades of his/her written part. If the written test or paper is assessed as failure, the student cannot approach the oral exam. By not coming to the exam for which the student has registered he/she loses one term. If the student is not satisfied with the obtained grade, he/she can refuse to take the grade and register for exam in the next term, or, within 24 hours, file written request to the Dean to repeat the exam in front of the University board. The Dean, or vice-dean, determines new term for exam but not later than three days following the day of filing a request

### *Recommendations to improve the grading system*

#### *The need for continuous knowledge testing – grading during teaching classes*

Gaining knowledge and competences in a certain field is process that needs time perspective. Grades, although essential, are sensitive part of the educational process. Hence the need to have a transparent system of grading in order for mobile students to be able to transfer their grades from one system into the other.

Assessment of a student's achievement and progress in learning are sensitive and inter-dependent variables. Collecting information about a student's progress must be organized in a way not to interfere with the process of knowledge acquisition. Namely, if the testing of knowledge occurs too often the students will not have enough time for the processes of deep learning, organization and elaboration of learning contents, but will rather be focused on superficial processing and learning of facts that would provide correct answers to test questions. However, collecting information about the student's progress should not occur too seldom since then the teacher cannot see the student's level of knowledge and does not know whether he/she is capable to competently follow the class. When collecting information about the student's progress it is important that the examined topics be in accordance with the objectives of courses and teaching units.

The idea is to provide for continuous knowledge testing during the entire teaching process. Such tests, together with constructive and timely feedback information about the test results help students to follow their progress, to get the feeling of success and achieved level of competence and to focus their studying methods to achieve even better results. Testing of knowledge shows the teachers to get information about the topics that the

students have problems with and can also define more efficient teaching methods and new strategies. Through continuous knowledge testing the students' knowledge is monitored and assessed permanently in one semester, or academic year, in all forms of teaching classes. The grading may be in terms of giving for every activity and knowledge or skill tests. In the structure of total number of points, or score, at least 50% of them should be given for activities and knowledge tests performed during the entire semester. The final exam in the structure of points should be assigned not more than 50% of the total grade. The testing method is defined as precise learning outcome in the general plan of the course (syllabus). Learning outcomes should be supported by extra instructions and obligatory literature, and the topics not discussed during the teaching process should be examined. The selected methods should be acceptable to both, the examiners and the students, in order to ensure relevant testing and grading results. For the purpose of having evidence of permanent knowledge testing a special form can be created (portfolio) for registering points, or scores the student has achieved through the acquisition of knowledge and practical skills. The recommended methods of continuing knowledge testing could comprise the activities during teaching classes, homework, seminar papers, experimental work, practical exercises, essays, presentations, critical reviews, reviews of databases, projects, research participation, laboratory practice, team assignments, field practice, preliminary exams.

*Proposal for clinical skill testing, i.e. the introduction of clinical practice exam*

So far the follow-up and assessment of students' activities in clinical practice was reduced to the follow-up of full-time students and evaluation of the reports on their activities during clinical practice, in terms of description of the acquired skills. A relatively small number of courses at the University of Applied Health Studies has formal exam in clinical practice as part of regular syllabus.

The idea is to dedicate more attention to this part of grade assigning and to start carefully planning how to do it. Clinical practice should always be considered a highly important part of the teaching process, particularly in view of the fact that within all professional study programs carried out at the University of Applied Health Studies, the undergraduate and the graduate students are trained to be able to immediately perform their specific skill. Therefore it is important for the grading system to be primarily aimed at the development of the young on the basis of essential principles of freedom and responsibility to oneself, to the patient or client, and to the whole community. Apart from that the responsibility of the teachers implies stimulating the selective continuing learning, active efforts toward reaching the goals set in advance, and not only passive accumulation of knowledge in a given field

For reasons of many specific issues in the relations between health staff and their clients, or patients, and between health staff and the entire social community, clinical practice is not a mere acquisition of professional skills but also of positive behavioral patterns. A future health professional should not possess good knowledge but also positive attitudes and critical opinions. Clinical skills can to a certain extent be mastered through theoretical explanations and demonstrations, but more important than these are direct educational activities, such as practicing on a model, simulation, or the actual patients and clients. To achieve the teaching goals, the acquisition of professional skills should be repeatedly tested during clinical practice and finally on exam or preliminary exam. During evaluation of the acquired clinical skills it is important to assess whether the student is capable of proper communication (e.g. taking medical history, assessment of the patient, etc.), interpretation of the obtained information, planning and implementation of concrete therapeutic interventions. The attitudes, opinions, knowledge and abilities can be tested in different ways, namely in written form, verbally, or practically. However, written exams are less appropriate for the testing of professional skills and competences than the practical exams. As the example of such an exam, the technique of the objectively structured clinical exam could be used. It means a sequential testing of a series of specific skills, i.e. it is the model of group assessment of achievement through several structured clinical situations in a given time by

rotating the examinees in clinical bases, using rooms, participants and equipment available in all academic settings. The method of data collection could be observation with or without a check-list (independent assessment of the observer/examiner), conversation with the examinee, notes made by the examinee and by the patients or clients.

*Grades in EU system of score transfer*

As part of ECTS, the scale of grades, or points, should be designed in a way in which it would make it easier to understand and compare the grades from different national educational systems. The purpose is to obtain as objective as possible evaluation of students in comparison with other students in a similar system. Based on the achievement, the students would first be classified into those who satisfy and those who do not satisfy the required learning goals and would then be further classified into smaller groups within these two groups. The scale itself is not meant to replace the national scoring systems but rather to facilitate their understanding in other countries. The basic requirement for ECTS is to have sufficient amount of baseline data, sufficiently large groups to ensure validity, accurate statistical methods for calculation and permanent control of the quality of results obtained by the scale. The institutions of higher education should tend toward assigning ECTS points to all their students and should take into consideration ECTS points as assigned in other educational. Naturally, flexibility is also needed, since ECTS is conceived to increase the transparency of large number of grading systems, but it cannot in itself include all the specific cases

***The Students' Standard***

The students have their learning space in the ground floor of 38 Mlinarska street, the address of the main building of the University of Applied Health Studies, and in 209 Ksaver building (cca 5-minute walk from Mlinarska), with the capacity each of 22 seats with computers and 30 seats without computers. Besides these, other nearest spaces the students can use are:

- University School of Medicine, Šalata 3b, Zagreb (distance - cca. 10min by tram),
- Students' Centar, Savska str., Zagreb.( distance - cca 20min by tram),
- National and University Library, Hrvatske bratske zajednice str.4, Zagreb (distance - cca 25min by tram)
- 'Andrija Štampar' School of Public Health, Rockfellerova 4, Zagreb.(walking distance - cca. 10min)

The students of the University of Applied Health Studies can use the services provided in students' restaurants at several locations; for example, at University School of Medicine (the capacity of 120 seats), the Students Center in Savska Street (the greatest seating capacity), and also in nearby food stores and small restaurants, both in the Ksaver building and near Mlinarska Street.

The photocopying shop (the area about 20 m2) is located near the main entry into the University of Applied Health Studies area. There the students can buy teaching materials and a certain number of textbooks, and use the service of photocopying

All the students in Zagreb (those coming from other parts of Croatia) have the opportunity to be accommodated in one of the five students' homes. Some of them have restaurants, computer rooms, fitness halls, and opportunities for other sports or leisure activities. The students of the University of Applied Health Studies can also use the nearby school playgrounds The students' homes in Zagreb can accommodate the total of 7160 students.

The swimming course for the students of the University of Applied Health Studies is organized in Utrine swimming pool. Through the course in basic motor transformations the students gain knowledge about basic physical and health culture. There is a fitness room in the main building in Mlinarska Str. And the students are free to use is at any time.

### *Care for students with special needs*

According to admission rules, the students who have successfully completed four-year general or vocational high school education and who have appropriate psychophysical capacities, can apply for admission to the University of Applied Health Studies. The candidates need to submit medical certificate stating that there are no contra-indications for the selected profession, issued by the licensed school health physician, who followed-up the students through their secondary school

For the study program of laboratory medical diagnostics, the medical certificate should contain additional information about visual acuity and differentiation of colors issued by licensed ophthalmologist

For the study program of radiological technology the candidate should have and extra medical check-up confirming that the student can work in the zone of ionizing radiation (there is no need for karyogram).

The main building of the University of Applied Health Studies in Mlinarska str. is equipped with the elevator that is appropriate for the use of students in wheelchair and other types of disability

With the purpose to motivate students to learn more and have better study results, The University of Applied Health Studies announces every year the contest for its most successful students. According to the contest rules and Book of Rules on Reward Issued by the Dean, the best students are awarded with certificates of merit and financial bonus for the purchase of books. The Dean's reward is given to one student of the second academic year and one of the third academic year for their study achievements. The following conditions need to be satisfied to apply for the reward:

1. Full-time students of the 2nd and 3rd study years
2. Full-time students with more than 4.5 average score in the previous study year
3. Full-time students who have not repeated any of the study years

### *The possibility of life-long educational program*

At the University of Applied Health Studies there is a long tradition of life-long education programs for health professionals of different profiles. The greatest number of various seminars was held in collaboration with Croatian Ministry of Health and Social welfare. The seminars were organized for health professionals and collaborators in the system of health care and social welfare

In 1997, based on collaboration with National Health Insurance Agency and Ministry of Health and Social Welfare, courses for continuing training for all nurses in Croatia working in primary health care institutions were organized at the University of Applied Health Studies.

In 2004 the first three educational seminars were carried out as part of the project called "Kindness is the beginning of every treatment". The main topic was "Communication skills in the activities of health professionals". The training was organized in accordance with the principle of "educating the educators" and there participated the team of medical staff from a selected hospital (e.g. general, special, regional); upon completion of training they had to implement the same education in their hospitals. The medical professionals were included in a team: medical doctor – specialist in psychiatry, psychologist, and senior nurse. The total of 180 participants from 60 hospitals was included in the three seminars. The seminar leaders were teachers and external collaborators of the University of Applied Health Studies, professionals in the fields of psychology and psychiatry. The action included fliers, posters and brochures that were freely distributed to all health institutions and were also available on web page of the Ministry of Health and Social Welfare. The seminars were continued in autumn 2005, while in 2006 the evaluation seminar was held in special hospitals

for project leaders in hospitals and the extent of the undertaken training and evaluation results were presented. Collaboration between health institutions seminar participants was very good and they all expressed the desire and the need to continue with this type of training.

The next extensive cycle of continuing education program was carried out in collaboration with the same Ministry in 2007 and included professional staff employed at the institutions for care of the mentally ill in Croatia. The title of the seminar was “Communication skill in working with the mentally ill”. Three equal seminars were held in three regions. The participants were social workers, nurses, occupational therapists, and other health professionals. The total number of participants was 92 and they were from 23 institutions and 17 regions.

A series of professional workshops and seminars was held for physiotherapists and occupational therapists in collaboration with foreign schools of higher education and several associations. The details are given in the chapter on international collaboration.

Some teachers/instructors of the University of Applied Health Studies are from time to time involved in short programs of life-long learning for health and other professionals in collaboration with different nursing associations: Croatian Association of Nurses, in 2003 and 2004; Croatian Chamber of Nurses – 2004; Croatian Association of Nurses and Medical Technicians in Neurology – 2005, 2006; Ministry of Family, Defenders, and Inter-Generation Solidarity – 2006; Homes for the Elderly and the Disabled – 2007, 2008; the Zagreb City Administration – 2008; etc.

The impacts of short programs for life-long training are of great importance for three basic reasons: 1. Professional staff gain new knowledge and skills. 2. They have the opportunity to exchange experiences with their colleagues from other institutions or other professions. 3. The participants are for some time separated from the usual working environment, they change their everyday routine and it helps them to relax and reduce stress, to which they are daily exposed; all of it results in their being refreshed when returning to everyday working routine. Positive effects and satisfaction of seminar participants are confirmed by the evaluation of the training program, regularly performed on completion of every seminar

Space facilities, equipment and professional instructors make it possible for the University of Applied Health Studies to regularly and successfully carry out various types of life-long education programs.

# 3. TEACHING AND TEACHERS (INSTRUCTION AND INSTRUCTORS)

### *The structure of teachers/instructors and collaborators*

Table 3: Administration, maintenance and auxiliary staff in relation to the number of teachers/instructors and external collaborators

| YEAR | Administration, maintenance, and auxiliary staff | Number of students | Number of teachers and external collaborators | No. of students per one employee in administration and other | No. of employed teachers and collaborators per one employee in administration and other |
|---|---|---|---|---|---|
| 2005 | 22 | 2628 | 570 | 119,45 | 25,90 |
| 2006 | 30 | 1804 | 561 | 60,13 | 18,7 |
| 2007 | 33 | 2487 | 544 | 75,36 | 16,48 |
| 2008 | 31 | 2444 | 624 | 78,83 | 20,12 |

As shown in Table 3 the number of administration, maintenance and auxiliary staff increased from 2005 to 2008, and to a certain degree followed the needs of working with students, teachers and collaborators. However, considering the number of students, the number of teachers and collaborators, the space occupied by the two buildings (Mlinarska str. and Ksaver), the number of employees in administration, maintenance and auxiliary segments is still insufficient.

It should also be pointed out that only 19 of them are on pay roll of the Ministry of Science, Education and Sports, while the salaries for the remaining 12 employees are reimbursed from extra income of the University of Applied Health Studies.

### *Teaching load of the teachers/instructors and external collaborators*

Teaching loads refer to carrying out of direct teaching process (i.e. lectures, seminars, clinical practice) and to preliminary exams, written and oral exams, mentoring for final and diploma papers, participation in committees and boards for final and diploma exams.

The standards and norms for total teaching activities are defined by Collective Contract for Science and Higher Education (Collective Contract, Official Gazette no. 101/02; Annex no. 81/02; Annex no. 203/03; and Annex 3, Official Gazette no. 28/06), and the Book of Rules of Internal Organization of the University of Applied Health Studies.

The number of preliminary exams, written and oral exams depends on the number of students registered for a given course and it not possible to equalize the loads of all teachers and collaborators when different types of exams are concerned. In order to equalize the teachers' load in mentoring the final and diploma papers, the theses for final paper are given on web pages of the Institution and recommendation is given to teachers to accept mentoring for about 20 papers in one academic year. As regards the number of teachers in individual study programs, the students have at their disposal quite a large number of theses to choose. Teaching load is also related to preparation of teaching materials and texts

### *The number of students in groups for lectures, seminars, clinical practice, and other*

The number of students in groups for lectures, seminars, clinical and other practice is defined by article 20 of the University of Applied Health Studies Book of Studying Rules, and Regulations on financing basis for higher education at public institution of higher education (Official Gazette no. 25/96 and 28/99); they depend on the total number of students per study program.

Lectures can be given to a group of 30 to 110 students for lectures to full-time students and to a group of 90 to 130 part-time students. Seminar groups are from 25 to 35 students. Methodological and applied kinesiology exercises are performed in groups of 20 students. Laboratory practice and field work practice is performed in the groups of 20 students, where efforts are made to have one teacher/instructor per 10 students. Clinical practice is performed in groups of 6 students, while special clinical practice is performed in groups of 4 students.

Lectures to a group of up to 100 students enable positive interaction between teacher and students and an appropriate environment for theory teaching.

In seminars and clinical and other practice the teaching contents are better discussed and deeper dealt with; apart from that, working in smaller groups enables the students to actively participate in the teaching process and stimulates problem-oriented approaches.

Different types of practice are performed in groups of 4 to 10 students and in different types of practice rooms: laboratories, diagnostic rooms in radiology and radiotherapy, nuclear medicine units, rehabilitation centers, social welfare institutions, and other. Small groups enable the students to acquire the needed skills as planned by curricular program, and they are good for creating positive communication and atmosphere. Small groups also make it possible for the teachers/instructors to analyze their students' achievements at a closer range.

### *Professional improvement of teachers/instructors and external collaborators*

Professional and scientific continuing education of teachers and collaborators is one of the basic prerequisites for the improvement of the teaching process. In this regard at the University of Applied Health Studies all forms of professional and scientific continuing training are supported, financially or in terms of time off, particularly those having direct positive impacts on the teaching process. All teachers and collaborators are stimulated to continue their education at the highest possible levels. Resources are ensured from extra income of the Institution, while those studying at graduate professional specialization study programs do not pay tuition fee if fully employed at the University of Applied Health Studies. The instructors having completed only a three-year undergraduate study programs are especially stimulated to continue at two-year graduate professional specialization study programs in order to ensure appropriate professional teaching staff for the needs of the University of Applied Health Studies. The plan is to reach the agreement with general universities inappropriate fields at which a certain number of our teachers/instructors could continue their education on higher specialization or doctoral degrees.

Professional training is usually achieved through participation in various educational seminars and courses, through active participation in professional meetings, domestic and abroad. Acquisition of professional periodicals and other reference literature for modernization of teaching processes in ensured.

Professional training is additionally valued in the course of re-election of teachers in appropriate teaching and scientific ranks.

Of the total number of teachers/instructors employed at the University of Applied Health Studies, 58 of them are register in Croatian Register of Scientists of the Ministry of Science, Education and Sports. Thirteen (13) of them are fully employed at the University of Applied Health Studies. Of all the fully employed, 32 have expressed their intentions to

graduate at doctoral studies in Croatian institutions of higher education, such as: Zagreb University School of Medicine, Zagreb University Faculty of Philosophy, Zagreb University School of Natural Sciences and Mathematics, University School of Kinesiology, University School of Education and Rehabilitation, University School of Nutrition and Technology.

***The number and quality of web pages for individual study programs***

As required by the herewith enclosed table to be filled with the relevant data for auto-analysis, we feel it our duty to explain the reasons for not doing it as requested.

At the University of Applied Health Studies in Zagreb six undergraduate study programs are performed at which, in the three academic years, about 250 courses are held. Also, as some of our teachers/instructors lecture on more than one course in more than one study program, the creation of a web page for individual subjects would make no sense. Our teachers/instructors have their own personal teaching web pages at which they provide all the needed information for courses at which they teach. Today there exist 54 open teaching web pages at the central server of the University of Applied Health Studies

Furthermore, since 2003 the University of Applied Health Studies has started using the ISVU system, all the requested data under items 3, 4, and 5 have long been made public. Hence, the item 3 is completely described within the pages of our Institution study programs, and all of these arise from curricular plan and ISVU program. The data for items 4 and 5 are available to the students via the ISVU “studomat”, while the consultation schedules, e-mail addresses of teachers, and phone numbers are clearly seen on web pages of the Institution.

In relation to item 8, the University of Applied Health Studies has recognized the need for interactive communication with students and has established open code systems, the so-called CLAROLINE (http://claroline.zvu.hr/) and MOODLE (http://moodle.zvu.hr/), within which our teachers/instructors will prepare on-line editions of materials for their courses. More extensive application of these systems is expected in the 2009/10 academic year.

# 4. PROFESSIONAL AND SCIENTIFIC RESEASRCH ACTIVITIES

***The contents and type of professional and scientific or research projects active in the past 5 years***

*Professional project*

From January 31st 2004 to June 26th 2004 professional project was carried out under the title “Additional education of occupational therapists in the field of substance abuse control and rehabilitation of addicts”. The code of the project is 251-379/02/03/60/01; it was approved of by the Government of Croatia Office for Drug Addicts; project director: Dr. Dubravka Šimunović, Occupational Therapy Department; the project was carried out at Advanced School of Nursing (today’s University of Applied Health Studies).

The objective of the project was to provide for additional education of occupational therapists and to train them in prevention, rehabilitation, and re-socialization activities in working with drug addicts in institutions and outside of them. The project was carried out in the form of a series of educational activities, e.g. lectures, seminars, workshops, the purpose of which was to improve the knowledge and skills of occupational therapists in theirs working with drug addicts.

*Scientific projects financed by Ministry of Science, Education and Sports*

The University of Applied Health Studies is registered with the Register of Ministry of Science, Education and Sports and scientific institution and since 1993 it has been carrying out research projects approved by the Ministry. Scientific and research projects financed by the Monistry mostly deal with the studies of the aging process, a longitudinal research approach aimed at finding out the relations between psychosocial factors and health, i.e. the quality of living in old age.

Since 2001 -2006 the project: "Health, psychosocial and regional characteristics of elderly population” was carried out; the project no.: 0217001, project director: Prof. Dr. Mladen Havelka; institution: University of Applied Health Studies (then: Advanced School of Nursing). The objective of the project was to develop the model of evaluation of holistic care for the elderly and their families in local communities, the model that would be adjustable to different and changing needs of senior citizens so that they would be able to receive all the needed services rapidly and efficiently. The study sample included 2911 senior citizens in Croatia.

Since 2007 – now: project title: “Biological, psychological and social factors of life expectancy and health status in old age”; project no.: 217-0000000-2491; project director: Prof. Dr. Jasminka Despot Lučanin; institution: University of Applied Health Studies. The objective of the project is to contribute to better understanding of circumstances that have impact on life expectancy, and the relation between biological and psychosocial factors. The purpose is further to find out whether there is relation between risk factors for cardiovascular diseases (psychosocial and biological) and decline in cognitive functions in the old age, and to try to define the method of early detection of risk groups among the elderly. The study sample comprises 580 senior citizens in Zagreb, who will be longitudinally followed-up and tested again at the beginning of 2010.

The quality of activities performed within these projects was approved by reviewers whose task was to assess the project proposals and the obtained results upon completion of the project, according to the standard criteria for research assessment. The results are

visible in papers published in professional and scientific, home and foreign, journals, textbooks and manuals. All the projects could be directly applied in everyday professional practice.

***Journals and quotation rates in comparison with other institutions***

The teachers/instructors of the University of Applied Health Studies publish their papers in many journals and professional magazines in Croatia and abroad, mostly in the fields of biomedicine and social sciences. Based on CROSBI data (the data is not complete in the section Tables to Accompany Auto-Analysis: Teachers/Instructors), from 2003 to 2008 the following texts were published: 14 books and 28 chapters in books, 51 scientific papers, 46 professional papers, 67 summaries in symposia proceedings, 31 complete papers in symposia proceedings, and 34 diploma papers, M.A. papers and doctoral theses. Quotation rates are varied, depending on type of publication or journal. It is not easy to make comparisons with other institutions, but the University of Applied Health Studies is definitely on top of the list in comparison with other similar institutions of higher professional education in Croatia.

***The influence of home economy, services and public administration***

All the above projects could be directly applied to everyday professional practice. The study results are applied in the activities with the elderly, mostly by non-governmental agencies, homes for the elderly, institutions for the prevention of drug abuse and rehabilitation of drug addicts, and in the training of different professional profiles: in the field of healthcare system, psychology, social work, civil cervices and public administration; the students of the University of Applied Health Studies, of Zagreb University Faculty of Philosophy, Zagreb University Croatian Studies, and of other universities also benefited from the projects. Great emphasis is put on informing the general public about the investigated problems in order to increase their sensitivity to the problems of specific population groups who live in our close vicinity, primarily through public media (TV, radio, newspapers, internet, flyers and posters

***The follow-up of the extent and quality of professional and research activities***

Of the total number of full-time employed teachers and external collaborators of the University of Applied Health Studies, 58 are registered in the Ministry of Science Education and Sports Register of Scientists. Of all the fully employed teachers and collaborators, 32 have expressed their intention to complete their doctoral studies in institutions of higher education in Croatia. One of the follow-up methods of the extent and quality of professional and scientific activities is obligatory election and re-election of teachers into a given teaching and scientific rank, for it is indeed the principle criterion of progress

The Department of Research and Science of the University of Applied Health Studies, was organized with the purpose of providing for continuing professional and scientific training of teachers in the following way: assisting the teachers to better coordinate their research activities and harmonize them with their teaching loads; stimulating the teachers to plan their future research in terms of including cooperation with greater number of teachers, sub-departments, and study groups; helping the teachers to publish their research results either as papers for publication in professional journals or as teaching materials.

***Opportunities for promotion***

Despite a relatively small number of research staff fully employed at the University of Applied Health Studies, and modest financial and material support, collaboration with other institutions involved in scientific studies, other scientists, and the expected support by the Ministry, is very useful and should always be encouraged.

Harmonization of the ration between teaching norms and scientific research in overall work load of teachers/instructors would be helpful in achieving greater efficacy, not only in

the teaching process but also in research activities, whether these are scientific or professional

## 5. INTERNATIONAL ACTIVITIES

***The objectives to be achieved through international***

Developmental objectives of the University of Applied Health Studies include international collaboration aimed at exchange and professional training of teachers, non-teaching staff, and the exchange of students. The following are the principal goals:

a) accepting guest lecturers from abroad for professional training of our teachers/

b) going abroad of our teachers/instructors for professional training

c) students' exchange – both ways;

d) improvement of teaching standards through modernization of study programs and institutional structure.

From 2003 to 2009 our Institution established collaboration with similar institutions in Bosnia and Herzegovina and Slovenia, and also with similar institutions of higher education in some other European countries

In accordance with developmental objectives, the representatives of our Institution were included in all the existing information seminars about the EU programs directed toward the establishment of international collaboration in the fields of science and higher education on invitation of several agencies of The Ministry of Science, Education and Sports. For example:

- "Video-conference on scientific research and development programs and EU initiatives", 2004; FP programs and all the following video-conferences about scientific research and developmental programs and initiatives by EU 2004.
- Tempus info day – 2004 and other seminars following this program
- Erasmus seminar – 2008 and 2009.

In 2005 the University of Applied Health Studies participated as consortium member in the application for TEMPUS Joint European Project as part of Quality Management Project. The University of Applied Sciences in Wildau, Germany, submitted the project proposal under the title, "Quality Improvement of Student Support Services at Universities of Applied Sciences in the Republic of Croatia" (the project director was Mr. Prof. Dr. Herbert Sonntag, University of Applied Sciences, Wildau). Unfortunately, the project never received the needed finances.

The most significant improvement in international collaboration occurred in March 2009. The University of Applied Health Studies applied for the ERASMUS program of mobility of teachers and students as part of the EU Commission program for life-long learning), the so-called, Erasmus University Charter http://eacea.ec.europa.eu/llp/funding/2009/call_erasmus_university_charter_addendum_en.htm).

The participation in the program enables making bilateral agreements with institutions of higher education in EU having similar study programs.

We also applied for the program of mobility to the Agency for Mobility and EU Programs, with the purpose to enable the mobility of teachers in 2009/10 academic year. Recently we have received confirmation for the application, no. HR-09-ERA-MOB-ZVU-009.

The current web page of the University of Applied health Studies is being redesigned in English, and so the brochure containing basic information about our study programs that would be available to foreign partners and students in other European countries

***The number of professional and scientific papers resulting from international collaboration***

The information is presented in teachers' bibliographies.

***International collaboration of teachers and students***

*At the level of our Institutions the following are the forms of international collaboration:*

*In 2003 collaboration was established with similar institutions in Mostar,* Sarajevo (Bosnia and Herzegovina), Maribor and Ljubljana (Slovenia). The plan is to encourage collaboration with other European countries and to apply for the TEMPUS program for the development of study programs and management in institutions of higher education

***With regard to individual study programs the international collaboration is as follows:***

*Nursing*

Study visits of teachers from instutions of higher education from European and other countries; e.g.: Susana Loazia Miranda, Departamento Ciencias de la Salud, Universitad de Magallanes; Chile; Alma Miles, St Luke's Hospital School of Nursing at Moravian College i Jackie Younger Papworth Hospital from Cambridge, UK (2003 – 2007).

Collaboration with the Centre for Health Promotion, University of Toronto, Canada with the objective of professional training was planned in 2003, but could not be realized. In 2004 and 2005 visit by the representatives of University of the West of England, UK; the possibility of teachers' training and students' exchange are currently being discussed

Study visit of Mr. Eric Broussine, a senior lecturer, with his 4 students from University of the West England, the Faculty of Health and Social Care, Bristol, UK. In the lecture on "Learning Disabilities in Nurses' Education" the study concept and elementary structure of study program were presented. The conclusion was that it is possible to continue with collaboration and in this regard each institution will issue its own letter of intent about the details of collaboration so that relevant bodies of each institution can give their approval. More about can be found on internet: http://hsc.uwe.ac.uk/staff/public/profile.aspx?username=e-broussine

In 2005, a senior lecturer at the Sub-Department of Health Psychology (Ms. Mirna Kostović Srzentić, M.A.) was on a two-month study visit in USA, at the University of California San Diego, the Developmental Cognitive Neuroscience Laboratory.

The University of Applied Health Studies and Saimaa University of Applied Sciences, Finland, signed an agreement on collaboration in 2008 enabling the mobility of teachers and collaborators of the two institutions. As part of this collaboration three nursing students from South Karelia University of Applied Sciences, Faculty of Health Care and Social Services, Lappeenranta (www.scp.fi), Finland, came to our Institution in March 2009 to have their three-month clinical practice at our teaching bases (Zagreb hospitals and health centers). The objectives of clinical practice are defined in the MEMORANDUM ON EXCHANGE STUDENTS and can be summarized as follows:

-Fulfill the curricular plan and program as agreed by the institutions;
-Learn about nursing education in nursing studies in Croatia;
-Visit local health and nursing care organizations (hospitals, home care services);
-Learn about the role of a nurse in the process of providing health and nursing care;
-Learn about collaboration between different health care departments;
-Learn about the role of Croatian Red Cross;
-Learn about cultural and social background in Croatia.

Permanent active participation of nursing teachers/instructors in international professional organizations is as follows: Ms. Sonja Kalauz, M.A., senior lecturer, head of Management in Nursing, the graduate study program, is member of FEPI Working Group on Education, Training and Competences 2007, and member of FEPI Working Group on European Ethic Codes in Nursing 2007-2008 (established in 2004, FEPI is the European Federation of Regulatory Bodies and Competent Authorities for Nursing, in Bruxelles, Belgium).

Four lecturers of the Sub-Department of Health Psychology are members of European Health Psychology Society; one of them is Croatian delegate of the Society (Prof. Dr. Jasminka Despot Lučanin).

Since 2000, once a year the University of Applied Health Studies organizes Conference of Nurses with International Participation.

*Occupational Therapy*

Since 1998 the University of Applied Health Studies, with its occupational study program is member of the ENOTHE - European Network of Occupational Therapy in Higher Education – the organization established by EU Commission as part of the Socrates thematic network programs, the general purpose of which is to harmonize all European education programs in the field of occupational therapy. It is needed in order to improve the profession of occupational therapy at European level.

Collaboration in international projects:

- Since 2001, ENOTHE: Tuning an Enlarged Europe, East-West-Central Group

- 2005. Application for research project: “Participation in leisure time activities of occupational therapy students in Croatia with specific reference to cultural and economic environment” (project no. 40196/890004); project director: Prof. Dr. Dubravka Šimunović.

-International Congress of Occupational Therapists, Vienna, 2005; http://www.udc.es/grupos/cndeuto/docs/Enothe/Report_Vienna_Sept_05_PAPER.pdf

- 2006 – participation in the project ENOTHE: Terminology Group – Translation Protocol for Consensus Definitions;
- 2007. Application for the project: ENOTHE-MUNDUS, European Network of Occupational Therapy in Higher Education and in Global Perspective (Application no. 230507).

Since 2001/02 collaboration was established between the University Of Wales College of Medicine, UK, and University of Applied Health Studies, the Occupational Therapy Study Program (bilateral letter of agreement signed in 2001); and Llandough Hospital Cardiff, Wales, UK, in terms of students’ exchange in summer months during four years, visits of our teachers to clinical centers in Cardiff, visits of foreign lecturers, and organization of annual professional workshops in collaboration with Croatian Society of Occupational Therapy

Other collaboration:

- 2002 – block-workshop: Theory and philosophy of occupational therapy and organization of students’ clinical practice (Ms. Gail Boniface, Senior Lecturer, Ms. Ruth

Crowder Lecturer/Fieldwork Leader, University of Wales College of Medicine, Cardiff, UK)

- 2003 - guest lecturer Ms. Jane Haite, OT (3 blocks of lectures): Occupational Therapy and Drug Addictions;
- 2006 – 1 – workshops in occupational therapeutic skills in the following fields: Introduction into the occupational therapy for wrist disorders – construction of splints; Treatment of edema ad Assessment of wrist sensibility; Occupational therapy in neurology; Occupational therapy in mental health – the application of cognitive-behavioral therapy in occupational therapy; Laughter therapy.
- 2007- 2 - workshops in occupational therapeutic skills in the following fields: Wrist therapy in neurological patient – Wrist therapy; Occupational therapy in neurology – occupational therapeutic assessment and treatment of neurological patient; Occupational therapy in mental health – Validation therapy, Laughter therapy
- 2007- the course ”Construction of splints” – Congenital deformities; Spastic and rheumatoid arthritis. The workshops were held by Ms. Margareta Persson, senior lecturer in occupational therapy at M.A. study program for occupational therapists, the wrist therapy, at Örebro University in Malmö, Sweden.

*Physiotherapy*

As a result of changes in social circumstances in Croatia around the 90-ies of the past century, attitudes have also changed regarding the need for higher quality of education of physiotherapists. The important initiative concerning high quality physiotherapy study programs was the Canadian/Croatian project “Rehabilitation in Community” carried out in 1996. At that time, as part of the collaboration, Ms. Gordana Grozdek Čovčić, M.A., a senior lecturer in physiotherapy and head of the sub-department of physiotherapy study programs at our Institution, visited the School of Physiotherapy of Queens University in Kingston, Canada.

In 1997 the world Confederacy for Physiotherapy organized international conference with the purpose of informing the participants about harmonization of education of physiotherapists. The representatives of our physiotherapy study program participated at that conference.

As a result of significant efforts, professional contacts, study visits and final approval issued by the Croatian National Council for Higher Education, in 1999 a three-year undergraduate professional study in physiotherapy began at the University of Applied health Studies. The education can be continued at a higher level, i.e. the graduate specialization level aimed at acquiring higher levels of physiotherapeutic skills and concepts through internationally recognized courses: the Bobath concept, the Vojta PNF, manipulative techniques, etc.

To be able to put into effect all the above efforts it is important to establish close collaboration between the University of Applied Health Studies and its Physiotherapy Study Program, and schools of higher education in physiotherapy in European and other countries. It would help improving the quality of undergraduate and graduate specialization and doctoral studies in Croatia and abroad

In 2004 a representative of our Physiotherapy Study Program visited the Department of Physiotherapy of Innsbruck University Surgical Clinic, Austria.

In 2009 – a one-day study visit by the head of Physiotherapy Study Program and President of the Congress Organizing Committee was organized to Ljubljana University Physiotherapy Study Program. The purpose of the visit was the organization of the 1st International Congress of Physiotherapy, Zagreb – Ljubljana, in February 2009.

The teachers/instructors and students of Physiotherapy Study Program participate in the following activities:

- Organization of 20th annual assembly of European Academy for Developmental Rehabilitation in Zagreb, June 2008 (EACD);
- 6th Annual International Conference on Fitness Training for Athletes, Zagreb, February 2008;
- 2009 – 1st International Congress of Physiotherapy, Zadar, April 2009.
- and other forms of collaboration.

With regard to the organization of international courses for physiotherapists dealing with specific concepts and techniques in the profession (e.g., Bobath, Vojta, PNF, etc.), collaboration was established with McKenzie Internatonal Institute through their first branch office in Croatia; with IBITA (International Bobath Instructors Training Association); IPNFA (International PNF Association); and EMLA (European Medical Laser Association).

In 2008 the teachers/instructors at Physiotherapy Study Program participated in international course: "Feldenkrais method – consciousness through motion", held in Zagreb in March.

International contacts have been established on a permanent basis through 2008 and 2009 with the following members of Professional Board of the 1st International Congress of Physiotherapy:

Prof. Dr. Marie Donaghy (Edinburgh, UK);
Gill Brook, PT (Bradford, UK);
Beata Carriere, PT (USA);
Dr. Urška Puh, PT (Slovenia);
Ms. Darija Ščepanović, M.A. in PT (Slovenija),
Amra Mačak Hađiomerović,PT (BIH).

*Environmental Health Engineering*

Since 2003 plans have been made to establish collaboration with teachers of similar institutions of higher education in Ljubljana, Slovenia, and Sarajevo (BH), with the purpose of harmonizing the study programs. In 2005, collaboration was established with the School of Higher Education in Health Professions in Ljubljana through mutual study visits and with Ljubljana Institute of Environmental Health Engineering

*Radiological Technology*

In 2003 and 2004 collaboration was established between teachers/instructors in the program of Erasmus Radiography Network, and Higher Education Network for Radiography in Europe, with the purpose of being harmonized with the European educational standard and teachers' and students' exchange. Croatian members have the status of associate members since there has not yet been opened the possibility of formal full participation in the ERASMUS program.

***Students' exchange***

In the period from 2001 to 2003 the total of 6 occupational therapy students participated in students' exchange within the collaboration with University of Wales College of Medicine Occupational Therapy Department, and Llandough Hospital Cardiff, Wales, UK. In 2003 two final year students of occupational therapy from Cardiff, had their clinical practice in two hospitals in Zagreb: Special Hospital for Children with Neuro-Developmental and Motor Difficulties, Zelengaj; and Children's Clinical Hospital

On May 21st 2008, a group of 20 students and 2 teachers from the nursing study program of St Xavier University, Chicago, USA (Charlene Bermele and Carol Kostovich) visited our Institution. As part of their last semester they analyzed nursing studies and health care system in Croatia. After theory courses and during their final year excursion they wanted to learn about the current situation in Croatia. During their visit the students gave a brief lecture about the health system, nursing education, experiences gained during clinical practice, licensing procedures and professional organizations of nurses in USA. As it was American students who described the nursing profession in USA, the Croatian students presented current situation with nursing profession in Croatia.

### *The needs and possibilities of international collatoration*

Collaboration with international organizations, and particularly those involved in the promotion of higher professional education, should be continued and further encouraged for all professional study programs at the University of Applied Health Studies.

The application for students' and teachers mobility within ERASMUS program for 2009/10 would make it much easier, although still not to a proper extent, since in the first course only one-way exchange is possible – i.e. only for our students and teachers to go abroad, but not for foreign students and teachers to have lectures in Croatia.

## 6. BUILDING AND EQUIPMENT

### *The existing space: lecture rooms and laboratory rooms*

The total area needed for the performance of study programs in any institution depends on a number of elements that are important with regard to the structure and study program. First of all these are the number of students and employees, the optimal extent of each study program, standards for basic teaching space, furniture, structure of teaching contents, etc.

Having the above in mind it is important to adjust the existing space capacity and plan the new ones in order to satisfy minimum conditions for the organization of study programs through the perspective of life-long learning.

The majority of theory courses are held in central building of the University of Applied Health Studies in 38 Mlinarska Street. The average utilization rate per room is 40 hours weekly, although it is much greater when part-time students have their lectures. All the lecture rooms are equipped with multi-media facilities. Practically all of them satisfy the standard of 1m2 per student. A number of theory courses are held at institutions with which we have agreements on collaboration. As some of these are not fully equipped in terms of computers and other facilities, we have ensured several lap-tops and LCD projectors. A number of these classrooms were equipped with multi-media facilities by our Institution from its extra outcome.

### *The space in teaching bases*

The University of Applied Health Studies has more than 50 teaching bases in Zagreb, i.e. institutions with which agreements have been signed about mutual collaboration. With regard to diversity of the institutions, their teaching rooms, halls, or laboratories also differ. Among the largest collaborating institutions are the following:

clinical hospitals Dubrava, “Sisters of Mercy”, Rebro, “Holy Spirit”, and other clinics and hospitals, health centers, kindergartens, institutes, homes for the elderly and the disabled, societies and other. As most of the practice is performed in health institutions, the ensuring of optimal teaching conditions is within the responsibility of institution itself. In teaching bases the students are organized in groups and are supervised by teaching assistants (tutors, or mentors) from the University of Applied Health Studies. In the case of special clinical practice, one tutor supervised four students, in regular clinical practice the group if of six students, etc, in accordance with the Collective Agreement and active legal regulations.

In one of our greatest teaching bases, the Rebro Clinical Hospital, 6 years ago reconstruction was made of the so-called Education Center, which comprises one amphitheatre lecture hall (200 seats capacity), and 4 minor lecture rooms (30-100 seats). Apart from that, all the clinical units have newly equipped seminar rooms with 50 to 60 seats

In Dubrava Clinical Hospital, our greatest teaching base the study program in radiological technology is carried out at the Unit of Diagnostic and Intervention Radiology. The Unit is 3000 m2 large and has 36 rooms with the up-to-date radiological equipment (traditional and digital X-ray devices, etc.).

***Status and functionality of computers***

There is one fully equipped computer room with 20 seats at the University of Applied Health Studies. Besides this room, there are 20 more computers distributed in the entry hall of the Institution, and the students can use them to approach the ISVU system, for browsing in databases and for writing seminar papers. For the purpose of multi-media teaching process there are 18 computer kits, among which there are 8 mobile PC kits, including laptops and LCD projectors. The remaining 10 are stationary computers and stationary LCDs. The equipment is constantly upgraded and modernized

***Teachers’ rooms***

The number and standard of the teachers’ rooms is appropriate for the needs of our teachers/instructors, such as: consultations with students, preparation of lectures, and other obligations arising from the status of full-time employment. In no.209 Ksaver building there are practice rooms for different courses and some teacher use them also as their rooms for consultations with students.

In clinical bases there are no free rooms for teachers, so that having consultations with students is there rather limited.

***The area and equipment of rooms used for professional or scientific research only***

The University of Applied Health Studies has several rooms that are used only for the purpose of professional activities. These are the three rooms fully equipped for practice of skills in physiotherapy and occupational therapy, and one room fully equipped for the practice of nursing skills. The computer practice room is equipped with 21 computers. For other types of professional activities, 12 laboratories of Croatian Institute of Public Health are at their disposal. The labs are used for obtaining clinical material, microbiological strains, etc. Smaller groups of students also use these laboratories during their clinical practice. Also, they can be used for the needs of diploma, or final papers of students. These laboratories are sufficient for the teaching process involving all fields of microbiology

The teachers/instructors of the University of Applied Health Studies who are employed at clinical hospitals carry out their research activities at their diagnostic units during the routine hospital activities or out of the hospital routine.

***Library space and working hours***

Library of the University of Applied Health studies occupies the room of 33 m2 and comprises the total of 1562 titles of books and 12 titles of domestic and foreign journals. It is open for students from 13.00 to 17.00 on Mondays and Wednesdays, and from 9.00 to 13.00 on Tuesdays and Thursdays. Special care is taken in providing for the obligatory literature our students need for their courses. The students' fund of books includes the textbooks, manuals and basic reference books (encyclopedias, lexicons, dictionaries, etc.). The students can also use all other materials kept in the library. They can lend the books or read them in the library.

The students can also freely use the Central Library of the University School of Medicine (Šalata), and the two branch libraries (in Rebro Clinical Hospital, and Petrova Maternity Clinical Hospital), and the library located in "Andria Štampar" School of Public Health. These libraries are special ones by their type (biomedical literature) and they are the most important source of biomedical information in Croatia. They are open libraries and accessible to everyone who needs any biomedical information. The central library at University School of Medicine in Šalata occupies the space of about 1500 m2, and about 150 m2 in Rebro. There are 4 reading rooms in Šalata library and one in Rebro. The reading room can be used simultaneously by 140 people. In "Andrija Štampar" library there are 67 seats. There are 22 librarians employed in these libraries. The Central Library ensures internet connection by 17 computers and the "Andrija Štampar" library by 23 computers.

***Library informatization***

For everyday activities the commercial library system MetelWin (Point from Varaždin) is used. The system enables standard running of a library. It is linked to the ISVU system and makes it possible for the students to use their X-card as identity document. It also enables on-line announcement of journals and browsing through databases in our web page. (http://www.zvu.hr/sluzbe/knjiznica/knjiznica.htm).

The library also informs the students and employees about all database systems the approach to which is ensured by the Ministry of Science, Education and Sports.

***Students' standard at the Institution***

A Department for Students' Questions has been established at the University of Applied Health Studies, to which the students can refer their requests and complaints and suggestions regarding the studying process but need not be necessarily related to teaching. The students can also ask for psychological counseling if having problems with the study. The head of the Department is one of the teachers of the Institution.

***Final remark***

It is clear enough that we at the University of Applied Health Studies cannot be satisfied with the space and equipment that is at our disposal, and we have for years repeatedly informed the Ministry in charge of our institution and have submitted many proposals on how to improve the situation

Only a few years ago, the University of Applied Health Studies was included in the project of biomedical center in Šalata; the plan was to construct new buildings for

University School of Dental Medicine, University of Applied Health Studies, and additional new buildings of University School of Medicine. Unfortunately, the was not realized

After that, the University of Applied Health Studies tried to get the approval of the Ministry of Science, Education and Sports to purchase the real-estate by the firm Monting, in Kišpatićeva Street in Zagreb, in close vicinity to Rebro Clinical Hospital, which would be almost ideal in terms of improving the teaching process and contributing to overall development of our Institution. Unfortunately, the Ministry did not approve of that, although all the other negotiations with the owner of the real-estate were successfully completed.

Currently it would be possible to solve the problem of insufficient space for our study programs by constructing a new building within the complex of “Sisters of Mercy” Clinical Hospital in Vinogradska Street in Zagreb. During their regular sessions the professional boards of both institutions have come to an agreement for such a venture. The other necessary activities have also been undertaken: geodesic project and feasibility study, which are soon to be submitted to Croatian Government, which should discuss the request by the “Sisters of Mercy” Clinical Hospital to allocate the building lot within the hospital complex to the University of Applied Health Studies for construction of their new building. The Government should bring final decision.

In a three-year financial plan the following amounts are planned to be allocated for the construction of new business premises:

- in 2009 - 5.300 000,00 kn;
- in 2010 - 19.440 000,00 kn;
- in 2011 - 18.720 000,00 kn.

# 7. MONITORING OF THE QUALITY OF STUDYING

### *The strategy of quality monitoring*

The quality monitoring strategy accepted at the University of Applied Health Studies is based on the assumption that ensuring quality includes a wide range of procedures and monitoring of different types of indicators, and not the mere control, evaluation and follow-up of the teaching process, but rather its continuing modification and improvement

The tradition of quality monitoring of the teaching process is a relatively long one, i.e. since 1987 evaluation of teaching process through the students' surveys has been carried out. A few years later, for reasons of emphasizing the importance of quality teaching at professional study programs in institutions of higher education in the field of health studies, a vice-dean was appointed whose primary task was to enhance the quality. Later on a Committee for Quality Monitoring was established with clear intent to extend the idea on the importance of quality.

### *The competences of professionals who have completed the study program at University of Applied Health Studies in comparison with professionals from similar studies in Europe*

The quality of studying at our Institution can be seen through the status of our Institution when compared with other similar ones. Namely, regardless of the increase in the quality of teaching in all health studies in Croatia, there is still a great number of students who want to complete their professional health studies at our University of Applied Health Studies no matter where they began studying. When teachers/instructors are concerned, our teachers or professional subjects are always wanted and highly welcome as teachers in other institutions of higher professional education in the field of health studies. The document on professional study completion issued by our Institution is well accepted even abroad.

### *Study efficacy in view of completion rates and duration of studying*

The students of the University of Applied Health Studies have shown satisfactory passing rates and they complete their studies in reasonable time, particularly when compared with completion and passing rates of students in other institutions of higher education in Zagreb.

### *Participation of students in teaching quality analysis*

The tradition of using students' surveys in the process of collecting information that would help in the improvement of different study aspects at the University of Applied Health Studies is a relatively long one. The examples of data analysis results are presented here. The surveys are performed twice in each academic year.

The evaluation data are kept with utmost care and discretion. The Dean, vice-dean, head of study program and head of sub-department, apart from the teacher involved, are the only persons who have the right to see the obtained analysis results

## *Evaluation of general conditions of studying at University of Applied Health Studies*

*Table 3: Results of students' evaluation for 2005/2006 academic year N=6348*

| | M | C | D |
|---|---|---|---|
| Presence at teaching classes | 2,53 | 3 | 3 |
| Interest in the contents discussed at the beginning of the course | 2,39 | 2 | 3 |
| The most frequent grade in index so far | 3,73 | 4 | 4 |
| The grade you expect of this course | 3,80 | 4 | 4 |
| Shows good knowledge of the course content through teaching | 2,53 | 3 | 3 |
| Professionally and readily answers all the questions | 2,39 | 2 | 3 |
| By proper examples and exercises facilitates understanding of the course content | 3,73 | 4 | 4 |
| Explains/demonstrates the teaching content clearly and easy to understand | 3,80 | 4 | 4 |
| The class is well structured and the time rationally used | 3,80 | 4 | 5 |
| Clearly defines teaching goals and what he/she expects of the students | 3,85 | 4 | 5 |
| By using teaching aids and modern technology improves the teaching quality | 3,59 | 4 | 5 |
| Good communication skills, creates nice and easy working atmosphere | 3,72 | 4 | 5 |
| Relates to students correctly and with respect | 3,79 | 4 | 5 |
| High motivation for work and fulfillment of work requirements | 4,01 | 4 | 5 |
| Teaches regularly and on time | 3,79 | 4 | 5 |
| General grade for the teacher | 3,99 | 4 | 5 |
| Objectives and requirements of the course were well defined | 4,06 | 4 | 5 |
| The course offers insight into key contents and enables their understanding | 3,90 | 4 | 5 |
| The obligatory literature is useful for understanding of the course content | 3,91 | 4 | 5 |
| The amount of teaching content corresponds to the amount of time | 3,85 | 4 | 5 |
| The course enables insight into the importance of the field and possibility of its applicatio | 3,66 | 4 | 5 |
| Lectures were adequately accompanied by seminars, practice, etc. | 3,82 | 4 | 5 |
| Practice and seminars enable the development of skills and their application in practice | 3,75 | 4 | 5 |
| Organization of course encourages the student to active participation | 3,66 | 4 | 5 |
| General grade for the course | 3,80 | 4 | 5 |

*M = arithmetic mean; C = central value; D = dominant value*

### *Table 4: 2007/2008 academic year – winter semester, N = 4218*

| | M (veleučilišta) | C | D |
|---|---|---|---|
| Presence at teaching classes | 2,61 | 3 | 3 |
| Interest in the contents discussed at the beginning of the course | 2,29 | 2 | 2 |
| The most frequent grade in index so far | 4,43 | 5 | 5 |
| The grade you expect of this course | 4,31 | 5 | 5 |
| Shows good knowledge of the course content through teaching | 4,06 | 4 | 5 |
| Professionally and readily answers all the questions | 4,05 | 4 | 5 |
| By proper examples and exercises facilitates understanding of the course content | 3,88 | 4 | 5 |
| Explains/demonstrates the teaching content clearly and easy to understand | 3,92 | 4 | 5 |
| The class is well structured and the time rationally used | 3,62 | 4 | 5 |
| Clearly defines teaching goals and what he/she expects of the students | 3,82 | 4 | 5 |
| By using teaching aids and modern technology improves the teaching quality | 3,91 | 4 | 5 |
| Good communication skills, creates nice and easy working atmosphere | 4,23 | 5 | 5 |
| Relates to students correctly and with respect | 4,02 | 4 | 5 |
| High motivation for work and fulfillment of work requirements | 4,14 | 5 | 5 |
| Teaches regularly and on time | 4,14 | 5 | 5 |
| General grade for the teacher | 3,99 | 4 | 5 |
| Objectives and requirements of the course were well defined | 4,00 | 4 | 5 |
| The course offers insight into key contents and enables their understanding | 3,95 | 4 | 5 |
| The obligatory literature is useful for understanding of the course content | 3,63 | 4 | 5 |
| The amount of teaching content corresponds to the amount of time | 3,79 | 4 | 5 |
| The course enables insight into the importance of the field and possibility of its applicatio | 3,87 | 4 | 5 |
| Lectures were adequately accompanied by seminars, practice, etc. | 3,86 | 4 | 5 |
| Practice and seminars enable the development of skills and their application in practice | 3,78 | 4 | 5 |
| Organization of course encourages the student to active participation | 3,69 | 4 | 5 |
| General grade for the course | 3,84 | 4 | 5 |

*M = arithmetic mean; C = central value; D = dominant value*

***Table 5: Total 2007/2008 academic year – winter semester, N=1285***

| | M | C | D |
|---|---|---|---|
| Teaching classes are held regularly and at accurate time | 4,69 | 5 | 5 |
| The amount of new knowledge | 4,39 | 5 | 5 |
| Adequate presentation of contents with regard to students' level of knowledge | 4,41 | 5 | 5 |
| Extent of teacher's preparation for class | 4,60 | 5 | 5 |
| Approachable to students | 4,58 | 5 | 5 |
| Overall impression about the quality of teaching | 4,50 | 5 | 5 |

*M = arithmetic mean; C = central value; D = dominant value*

***Table 6: Total 2007/2008 academic year – summer semester, N = 3152***

| | M (veleučilišta) | C | D |
|---|---|---|---|
| Presence at teaching classes | 2,51 | 3 | 3 |
| Interest in the contents discussed at the beginning of the course | 2,32 | 2 | 3 |
| The most frequent grade in index so far | 4,44 | 5 | 5 |
| The grade you expect of this course | 4,37 | 5 | 5 |
| Shows good knowledge of the course content through teaching | 4,22 | 5 | 5 |
| Professionally and readily answers all the questions | 4,19 | 5 | 5 |
| By proper examples and exercises facilitates understanding of the course content | 4,12 | 4 | 5 |
| Explains/demonstrates the teaching content clearly and easy to understand | 4,14 | 4 | 5 |
| The class is well structured and the time rationally used | 3,93 | 4 | 5 |
| Clearly defines teaching goals and what he/she expects of the students | 4,07 | 4 | 5 |
| By using teaching aids and modern technology improves the teaching quality | 4,17 | 5 | 5 |
| Good communication skills, creates nice and easy working atmosphere | 4,38 | 5 | 5 |
| Relates to students correctly and with respect | 4,29 | 5 | 5 |
| High motivation for work and fulfillment of work requirements | 4,34 | 5 | 5 |
| Teaches regularly and on time | 4,37 | 5 | 5 |
| General grade for the teacher | 4,21 | 4 | 5 |
| Objectives and requirements of the course were well defined | 4,22 | 5 | 5 |
| The course offers insight into key contents and enables their understanding | 4,19 | 4 | 5 |
| The obligatory literature is useful for understanding of the course content | 4,02 | 4 | 5 |
| The amount of teaching content corresponds to the amount of time | 4,13 | 4 | 5 |
| The course enables insight into the importance of the field and possibility of its applicatio | 4,19 | 4 | 5 |
| Lectures were adequately accompanied by seminars, practice, etc. | 4,18 | 5 | 5 |
| Practice and seminars enable the development of skills and their application in practice | 4,14 | 5 | 5 |
| Organization of course encourages the student to active participation | 4,10 | 4 | 5 |
| General grade for the course | 4,13 | 4 | 5 |

*M = arithmetic mean; C = central value; D = dominant value*

***Table 7: Total 2007/2008 academic year– summer semester, N = 1551***

| | M | C | D |
|---|---|---|---|
| Teaching classes are held regularly and at accurate time | 4,54 | 5 | 5 |
| The amount of new knowledge | 4,36 | 5 | 5 |
| Adequate presentation of contents with regard to students' level of knowledge | 4,35 | 5 | 5 |
| Extent of teacher's preparation for class | 4,45 | 5 | 5 |
| Approachable to students | 4,42 | 5 | 5 |
| Overall impression about the quality of teaching | 4,39 | 5 | 5 |

*M = arithmetic mean; C = central value; D = dominant value*

## 8. FINANCES

It is a public institution of higher education providing for professional study programs in the health fields, founded be the Republic of Croatia.

In accordance with article 90 of the Institution's Statute it is financed from the following sources:

- Annual Budget of the republic of Croatia; in accordance with the defined capacity, price of individual study program, and quality assessment based on evaluation
- The Institution's own extra income earned on free market in accordance with the definition of the Institution's basic activities
- Direct investment of individuals and other legal sources
- Donors
- Other sources, as regulated by the legal acts and the Statute.

The annual Financial Plan is the document agreed on by the Management Board of the Institution and is proposed by the Dean

The Office of Accounts is organized as defined by the Act on State Budget (Official Gazette, 96/03), Regulations on budgetary accountancy and plan of accounts (Official Gazette, 27/05 and 127/07), and Regulations defining financial reports and budgetary accountancy (Official Gazette, 27/05 and 2/07).

According to Regulations on Accountancy the income is approved of on the principle of money circulation, i.e. earnings in the report period

The total income in 2006 was 25.044.775 kn; in 2007 it was 28.026.636 kn.

Budgetary income for 2006 was 13.028.162 k; in 2007 it was 13.460.959 kn, which is an increase of 3.22%.

In the structure of budgetary income the greatest amount refers to salaries of the employed, followed by business costs, external collaboration, construction, equipment, and investment maintenance

The income earned at the market through the performance of the Institution's basic activities, i.e. the income defined by special regulations amounted to 11.998.650 kn in 2006; and to 14.542.545 kn in 2007, which is an increase of 17.49%.

In value parameters, the greatest amount is due to tuition fees as defined by special regulations: for both undergraduate and graduate study programs.

Budgetary resources account for 52.01% of the total Institution's income in 2006 and for 48.02% in 2007.

The degree of independence (autonomy) and flexibility of finances of the Institution is regulated by legal acts and regulations on the organization of the activities and it satisfies the needs of our Institution.

The most important segment of income is that defined by special regulations, as shown in item 5 of the accompanying table; namely, 5.1. – tuition fees for undergraduate and graduate studies, which amount to 10 395 123 kn in 2006; and to 12.728.852 kn in 2007. These tuition fees refer to the so-called studying for "personal needs", and they are paid directly by the students

In 2006, the extra income of 50.000 kn was obtained for scientific and professional projects, and 77.727 kn was rental income. .

Other significant sources are: income from qualification procedures, registration of students, publications, and reimbursements.

It should be pointed out that the University of Applied Health Studies did not change the amount of tuitions fees since 2005, and the increased income of 18.33% in 2007 is due to the opening of new study programs.

The income obtained in the market us used as defined by the Book of Rules on the method of distribution of extra income obtained in the market through the carrying out of the

Institution's basic activities and is spent on business financing and improvement of teaching and other activities. The same is with income obtained by rental of non-financial assets (computer equipment, office furniture, classroom equipment, etc. The obtained resources are further used in building repairs and purchase of computer programs. A certain amount is spent for salaries of the employed and their material rights, particularly for those who are not on pay lists of the Ministry of Science, Education and Sports, i.e. whose salaries are not reimbursed by the budgetary resources.

Part of income is used for continuing education of the teaching staff, study visits, authors' fees, honorary teachers, and other compensations, as well as for material costs, since the resources allocated by the State Budget are not sufficient.

The lack of resources earned in the market would have strong negative effects on the functionality and quality of performance of basic activities of the University of Applied Health Studies, and especially in view of the basic mission of the Institution and its future perspectives.

With the principle objective of functionality and efficacy of the teaching process it is indispensable to have greater financial resources, both from the State Budget, but from non-budgetary activities as well

Through increased budgetary income the University of Applied Health Studies could much more significantly contribute to adequate education of professional health staff in accordance with EU Directives, especially in view of development of biomedical fields and the need of harmonization of the Croatian higher education in pre-admission negotiations The implementation of the needed activities would results in greater number of newly employed professional teaching staff and would facilitate further professional upgrading.

## 9. Annex

1. Annex 1.: Tables to Accompany Auto-Analysis of the University of Applied Health Studies