

Estonian Higher Education Quality Agency

Joint Final Report

Virumaa College of the Tallinn University of Technology

Programs Assessed

1854 Informatics (Applied higher education)

Visit Dates

May 5, 2009

Expert Team

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Part I

General Overview

THE ASSESSMENT OF COMPUTER SCIENCE

The Estonian Higher Education Quality Agency has invited a team of experts to assess programs in Computer Science at the Tallinn University of Technology, Virumaa College of the Tallinn University of Technology, Tallinn University and Haapsalu College of the Tallinn University.

The expert team

- Prof. Dezső Sima, Budapest Tech, Hungary;
- Prof. Janis Grundspenkis, Riga Technical University, Latvia;
- Prof. Ernst W. Mayr, Technische Universität München, Germany;
- Dr. Erkki Pesonen, University of Kuopio, Finland.

The assessed programs:

TALLINN UNIVERSITY OF TECHNOLOGY
2079 Information and Communication Technology (PhD)

VIRUMAA COLLEGE OF THE TALLINN UNIVERSITY OF TECHNOLOGY
1854 Informatics (Applied higher education)

TALLINN UNIVERSITY
1605 Computer Science (BA)
1636 Teacher of Computer Sciences, ICT Manager (MA)

HAAPSALU COLLEGE OF THE TALLINN UNIVERSITY
3361 Applied Computer Science (Applied higher education)

The programme of the visit

The assessments took place during the period May 3-10, 2009. Sunday evening 3 May, the Committee had a meeting with the staff of the Estonian HE Quality Agency. An outline was given of the task of the Committee and the general situation of Estonian Higher Education.

Monday 4 May the Tallinn University was visited. Tuesday 5 May the Virumaa College of the Tallinn University of Technology was visited. Wednesday 6 May the Tallinn University was visited. Thursday 7 May the Haapsalu College of the Tallinn University was visited.

The programme and working method

Prior to the beginning of the visits, the Committee had a general discussion about the task as seen by the Committee, about the standards, formulated by the Accreditation Centre and the frame of reference for the assessment as seen by the Committee. At the same time the self-evaluation reports were discussed.

The programmes of the visit had in general the same format:

- meeting with the leaders/heads of the institutions
- discussion with the writers of the self-evaluation reports
- interviews with groups of students of the different programmes in small groups
- interview with academic staff of the different programmes in small groups
- interviews with important Committees
- on-site visits of facilities

During the one major part of each visit the Committee tried to assess especially the organisation of the programmes, the way the curricula had been designed, the way the quality is being assured, the qualification of the staff, the research activities and all other points the programmes had in common. The Committee formally had to report on 5 programmes.

What follows are the findings of the Team (Part II), its conclusions (Part III), and its accreditation recommendations (Part IV). In Part II, the findings are relative to the "Requirements for accreditation of curricula of institutions of applied higher education" (Approved by the regulation of the Government of the Republic of Estonia No 265 of 23 October 2003).

Part II

Findings

GENERAL FINDINGS AT THE VIRUMAA COLLEGE OF THE TALLINN UNIVERSITY OF TECHNOLOGY

I. MANAGEMENT OF EDUCATIONAL POLICY

1. **Mission of the institution. Implementation of educational policy** (Reg. - The institution has clearly formulated mission. Units develop instructions, plans, policy, and procedures according to it. Responsibilities for each area are formulated clearly).

The mission of Virumaa College is clearly formulated and is in compliance with the mission of the Tallinn University of Technology (TUT). Responsibilities of all academic units of TUT, including the college, for each area of activities are formulated explicitly.

2. **Conformity of the curriculum with professional standard and requirements and international trends. Tasks and activities of academic unit** (Reg. - Formulated objectives of a curriculum comply with professional standard and requirements of international legislation regulating the profession. Units collaborate in curriculum implementation).

The curriculum has been developed in accordance with the Institutions of Professional Higher Education Act, the University Act of the Republic of Estonia and Standard of Higher Education. Collaboration of units in curriculum implementation takes place.

3. **Curriculum council. Analysis and improvement of academic quality of curriculum** (Reg. - A unit (curriculum council) should exist, performing systematic analysis of academic quality of curriculum. Curriculum is modified where and when needed).

The College Council and the Curriculum Committee of the College ensures performance of systematic analysis of academic quality of curriculum. Proposals on curriculum development are made on the bases of results of student feedback, recommendations and requests made by industrial partners and by the teaching staff.

4. **A supervisory system to monitor the performance of faculty and students** (Reg. - A supervisory system exists to monitor the performance of faculty and students).

The monitoring of the performance of faculty and students occurs systematically..

5. **Participation and tasks of unit in providing education of curricula operated by other units** (Reg. - Structural unit's participation in providing education on the bases of curricula operated by other units is clearly defined).

This is clearly defined.

CONCLUSION RECOMMENDATIONS

1. In case of further growth of the number of study programmes the college should consider necessity to establish the curriculum council for IT curricula.

II. STUDENTS

1. Size and structure of student intake; average admission level; deficiencies of pre-university education (Reg. - Admission procedures and the conditions for suspension, continuation and completion of studies strictly correspond to regulations and are publicized).

During the last three years the admission number to the study programme of Informatics has been stable (around 50). Rate of competition in admission varies between 3.5 and 2.2. In year 2008 it was 2.7. The admission is based on the results (marks) of the leaving certificate of upper secondary school. Applicants having passed national examinations in Mathematics or Physics are granted additional points, as well as graduates from vocational secondary schools who continue their education in the domain of previous studies. Conditions for suspension, continuation and completion of studies are clearly defined and students are aware of them.

2. Advising and guidance services offered to student candidates (Reg. - Adequate, complete and well-organized advising is offered to student candidates).

Different forms of advising and guidance are used especially for the first year students. The college provide remedy training in Physics and Mathematics. First year students have to take the compulsory course "Organization of Studies". Each student gets the Student's ABC Book containing the most essential information. A tutor from among teachers is appointed to every student group. The college activities targeted towards advising and guidance services offered to student candidates are unclear.

3. Monitoring and assessment system of student achievement (Reg. - System exists to monitor student achievement; unit uses results to improve curriculum).

An adequate monitoring system exists. The reasons of student drop-outs are analysed. Questionnaires filled out electronically are used to get feedback from students at the end of each course. Feedback from alumni and potential employers is got during seminars and informal meetings but not on regular bases. The supervisor of practical training fills in feedback form with evaluation student's work during practical training.

4. Possibilities for student mobility and credit transfer (Reg. - Possibilities exist for student mobility and credit transfer).

The college has a long-term strategic plan of sending students to study abroad but till now this process is not sufficiently managed, and only one student has taken this opportunity.

5. Activity of student bodies. Students' role in academic councils and in self-assessment.

The student council of the college exists. Two students are members of the Council of the College and representatives of Virumaa College in the Student Council of TUT.

CONCLUSION RECOMMENDATIONS

1. The college should put more attention to advertising the curriculum to potential applicants and advising student candidates.
2. The number of students for studies abroad should be increased in the nearest future.

III. THE CURRICULUM

- 1. Curriculum conformity with requirements of the Standard of Higher Education, a professional standard, international legislation and with latest developments in labour market** (Reg. - Curriculum complies with requirements of the Standard of Higher Education, a professional standard and international legislation, and takes into account industrial and economical developments in Estonia and Europe).

The curriculum complies with the applicable standards and requirements. However, the goals of the courses need to be described in more detail and in an outcome-oriented manner. The curriculum takes into account the requirements of the regional labour market and the IT related industries and employers in the area.

- 2. Aims and objectives of the curriculum, their correspondence to the institution goals and educational policy and graduation requirements** (Reg. - Curriculum objectives are clearly formulated and must reflect graduation requirements. Name and content of a curriculum are in accordance with the objectives of the curriculum).

The curriculum objectives are clearly formulated and communicated. Graduation requirements are also stated clearly. As already said above, the description of the teaching goals for the modules and courses have to be adapted and made outcome-oriented (most of them at present are not).

- 3. Curricula for continuing education** (Reg. - Curriculum for continuing education reflects requirements of labour market).

Currently not available. The college should consider introducing appropriate courses for this purpose. This request was also expressed by representatives of several companies.

- 4. Subject structure, group balance, options and diversity of curriculum** (Reg. - Curriculum is based on cumulative entirety of all subjects and enables students to obtain level of general, specialized, and professional education with sufficient competitiveness in labour market).

The composition of the curriculum in terms of breadth, balance, and flexibility is more than adequate. It offers students many possibilities in terms of specialization, but also in general areas of higher education and in social skills.

- 5. The students' face-to-face work and independent study** (Reg. - Optimal proportion of lecture and independent study is available with sufficient materials to develop good learning habits).

Since there are about 20 hrs/week of classes, there is enough time for independent studies. However, many students also work on a job, and thus can allot much less time to their independent studies than would actually be necessary.

- 6. Problem-solving tasks of the curriculum** (Reg. - Curriculum involves problem-solving tasks and creativity at all levels).

Different teaching styles and assignments (seminar presentations, problem sets, team projects) are used to challenge and develop the creativity and problem-solving capabilities of the students.

- 7. The conditions and procedure for the completion of studies** (Reg. - Graduating and defending procedures are clear, made public and guarantee objective evaluation).

The conditions are clearly stated and published. They also allow for adequate action in case of problems and give students actually quite some flexibility. The fact that in some years there was quite a substantial number of dropouts seems to be owed to two main reasons: First, some

students prefer to work for companies before actually finishing their degrees, and second, a few students lacked the necessary background in mathematics and/or physics (or failed to acquire it). To improve the situation, remedial courses are being held.

- 8. Quality assurance system covering the curricula and the provision of education** (Reg. - Quality assurance system exists and objectives and main activities thereof are defined in writing. Curricula prepared have been compared to analogical curricula in foreign countries and the differences have been analysed).

There is no explicit comparison of the program with similar institutions elsewhere (including abroad). While an internal process has been established for ongoing course improvement (including student feedback), the feedback from local industrial partners should be strengthened. For example, an advisory board could be set up.

CONCLUSION RECOMMENDATIONS

1. Rewrite module descriptions to reflect learning outcomes
2. Establish/improve continued education measures
3. For QA, improve feedback from industry (e.g. set up advisory board)

IV THE EDUCATIONAL (TEACHING) PROCESS

- 1. Teaching methods used. Classroom and individual study organisation.**
Developments of teaching methods (Reg. - Modern teaching methods used and adaptable to deliver knowledge in a most rational manner).

The mix of teaching methods appears adequate and up-to-date. Methods need to be developed to cope with the problem that many students spend a large amount of time working for companies (mainly for financial reasons).

- 2. Computers and licensed software used in teaching and learning** (Reg. - Computers and licensed software extensively used in teaching and learning).

The students should be encouraged and guided to better use the library and the resources available there. The availability of textbooks should be improved.

- 3. Development of practical skills of students** (Reg. - Educational process involves activities and tasks appropriate to acquiring professional skills in practice).

Because of the practical orientation of the curriculum, much emphasis is put on practical skills, and the students are offered many opportunities. The design of the curriculum also takes these goals into account.

- 4. Assessment of student achievements and examination methods** (Reg. - Student assessment is objective and based on goals of program. Assessment methods developing social competence exist. Objective and flexible examination procedures exist. A system for resolving protests exists).

Student assessment is performed in various ways, including written and oral exams, but also combinations with practical or project work. There have been no complaints concerning fairness or the refusal to offer help in case of problems. Since the classes in the college are rather small, these processes are based on the close relationship between staff and students.

CONCLUSION RECOMMENDATIONS

1. Improve usage of library

V. ORGANISATION OF STUDIES

- 1. Rationality of study organisation. Academic calendar** (Reg. - Organisation of studies is based on a detailed academic calendar. Organisation of studies assures rational use of student's time and creates conditions for best achievement).

A detailed academic calendar is available on the net of the TUT.

- 2. Attainability and quality of information about studies' organisation. Counselling and registration for studies and examinations** (Reg. - Organisation of studies is clearly defined and public. Students receive good advice and sufficient/timely information on organization and content of studies).

Students have plenty of information about their study, including a Compulsory course on "Organization of studies" and a Students ABC-book.

Before beginning of each semester the timetable is available both on the information board of the College and on the website of the college. Detailed descriptions of the subjects as well as the organisation of lectures, seminars and individual work are available also on the web page of the College, as well as the regulations concerning the studies.

Four hours a week are scheduled for counselling by each member of the staff.

- 3. Students study loads and independent work** (Reg. - Student study loads are appropriate and take into account independent study too).

Study loads are distributed rather evenly between the semesters in the range of 19-24 CP with an average load of about 20 CP and let enough time for independent study (approximately 20 h/week).

- 4. The improvement of study organisation. Analysis of student success and failures** (Reg. - Organisation of studies is continuously improved by systematic analyses of student success and failures).

The drop-out rate of the first year (approximately 15-20 %) is analysed and appropriate measures to address students' difficulties were taken (remedial teaching in mathematics, physics, extra classes in Estonian).

- 5. System for analysing and evaluating student progress, study loads and results** (Reg. - System for analysing and evaluating student progress, study loads and results exists. Recommendations of curriculum council and student council are taken into account).

The Academic Department of the College is continuously monitoring students' results and progress and initiates appropriate measures if needed.

- 6. Technology to register and to monitor students study results** (Reg. - Institution implements modern means of information technology to register and to monitor their study results).

The College uses an information system to register students' study results.

- 7. Co-operation relationships to organise practical training** (Reg. - Institution has co-operation relationships to organise practical training).

Since 2008 there exists an electronic registration system that enables enterprises to apply for student trainees and students to register for practical training via internet.

CONCLUSION RECOMMENDATIONS

1. -

VI. TEACHING STAFF

1. Quantity, qualification and experience of academic staff and conformity to the requirements of the Institutions of Applied Higher Education Act and the Standard of Higher Education. Full-time and part-time personnel rate. Teaching workload. Sufficiency of teaching staff for curriculum accomplishment and development.

Adequacy of complementary staff (Reg. - Sufficient faculty exists with needed qualifications. The members of teaching staff meet the requirements of the Institutions of Applied Higher Education Act. and the Standard of Higher Education. Faculty systematically improve their qualifications taking part in applied research and development, seminars and conferences and continuing education).

The teaching staff meets the requirements of the Institutions of Applied higher education Act and the Standards of Higher Education; 100 % of the courses are taught by teachers having a completed higher education, more than 75 % of the curriculum is taught by teachers having the MA level, practical courses are held by teachers having at least 3 years of work experience and more than 50 % of the curriculum is given by lecturers whose workload is at least 51 %. However, the number of lecturers providing informatics specific subjects is rather low (just 5 full time lecturers). This number should be increased in the future to allow reducing the teaching load in terms of subjects taught and increasing the time for course improvement.

2. Staff policy and regulations (Reg. - Institution has policies of academic promotion, division of duties and renewal of personnel).

The academic staff is selected in an open competition for a period of 5 years.

The College encourages staff development by providing grants to participate in training courses (approximately 10 000 EEK/year/staff member). All members of the staff have undergone e-learning training in the WebCT environment.

The academic staff is involved in research only in connection with their Masters or PhD-thesis.

CONCLUSION RECOMMENDATIONS

1. The College should manage to employ more informatics related teaching staff in order to allow to better follow the very rapid evolution in the field of informatics.
2. The College should manage to involve teaching staff into research or development work beyond master and PhD thesis work to foster staff evolution and staff competencies.

VII PRACTICAL TRAINING

1. The organisation of practical training (Reg. - Clearly formulated objectives oriented to acquiring professional skills).

The curriculum includes practical training in different stages of studies: first year, second year and third year. The first training takes place in the college laboratories, the third year practice takes place in a company. In these trainings the students learn step-by-step different professional skills, which are needed at labour market

2. The supervision of practical training (Reg. - Competent supervisors conduct practical training in conditions corresponding to actual working process).

The last practice takes place in enterprises and is supervised by a teacher from the college and a supervisor from the company. Tri-partite practical training agreement is signed by student, college and industrial partner stating the duties, tasks, rights and responsibilities of all partners. Students undergo the training in different enterprises of the field of IT.

- 3. Accordance of the content of practical training with objectives and professional requirements** (Reg. - Content of practical training is in accordance with objectives and content of professional standard and international legislation and directs students to acquire and use up-to-date working methods).

The work is usually project based and is similar to the work that graduates usually do. The employers have been very satisfied with regard to the students.

CONCLUSION RECOMMENDATIONS

1. -

VIII LEARNING ENVIRONMENT AND RESOURCES

- 1. Adequacy of the number of study rooms, and amount of inventory, equipment and learning resources. Conformity with health-protection and safety requirements** (Reg. - Appropriate number of study rooms, and amount of inventory, equipment, educational and scientific literature. Study rooms in conformity with health-protection and safety requirements).

The college building is quite old, but new computer labs and other laboratories are well equipped with up-to-date facilities. The number of rooms is adequate. College uses WebCT e-learning environment and web-pages actively in studies. There is also a library in the hostel building with some scientific literature.

- 2. Adequacy of number of laboratories, training rooms and bases for practical training** (Reg. - Number of laboratories, training rooms and bases for practical training is appropriate for achieving the objectives of curriculum).

The number of computers and computer laboratories is good. Most of the software is educational versions.

- 3. Library organisation and usage. Availability of textbooks, learning materials, scientific literature, special (professional) issues. Access of students to information networks** (Reg. - Library contains all compulsory literature. There are competent workers and technical aids necessary for serving. Student counselling exists).

The college is a part of Tallinn University of Technology and can use all the library facilities of TUT, including e-libraries. The possibilities to use literature are good, though the amount of literature at the local library is quite small. Teachers usually provide the learning materials to students by e-learning environments.

- 4. Existence of recreational facilities and other non-educational services (food, housing, mental, medical et al). Access of students to information technology resources** (Reg. - Rooms needed for student welfare, hygiene, rest and for independent study exist. Students have access to information technology resources).

The college has a canteen in the college building and a very nice hostel located in the same building as the library.

- 5. Facilities for teaching staff** (Reg. - Members of the teaching staff with a 51% work load, a contract of joint curricula or a contract between educational institutions have the possibility to work in the rooms of institution at the same time).

Five members of academic staff are employed part-time. They all participate in the development activities of the college. Also some lectures from TUT are available by video-conferencing systems.

6. Internal data network and connections with non-institutional networks (Reg. - Internal data network and connections with non-institutional networks exist).

There is a wireless network for students in the college and also in the hostel.

7. Facilities to photocopy study materials (Reg. - Operative and accessible facility to photocopy study materials).

Students usually get their study materials in electronic form.

8. Resource management efficiency (Reg. - Competent personnel deal with maintenance, development and repair of learning environment).

There are two technical services officers who take care of the laboratory equipment.

9. Long-term development plan to improve the condition of learning environment (Reg. - Long-term development plan to improve the condition of learning environment exists).

The college every year evaluates the needs for renewing computers and other equipments of the learning environment. The renewing has been funded by development funds.

CONCLUSION RECOMMENDATIONS

1. Collections of the local library could be improved to cover more IT-journals and books.

IX. FEEDBACK AND QUALITY ASSURANCE

1. Existence of quality assurance system and its efficiency. Role of student feedback (Reg. - Quality assurance is based on assessments by students on education, professional career of graduates, and employers' satisfaction with theoretical knowledge and practical skills of graduates).

In this small college teachers get feedback straight from the students. An electronic anonymous feedback system is used in all courses. Feedback from alumni is also collected regularly. The college has regular meetings with the local industry. The feedback from students, alumni and enterprises is used in the development of the curricula.

2. Contacts with potential employers representatives and professional associations. Contacts with alumni. Analysis of obtained information. Investigation of public opinion about institution and study programme (Reg. - Unit gathers enough information about working career of graduates regarding employer satisfaction of educational level, knowledge, and skills. Unit gathers data systematically and uses it to improve the quality of the program).

See above.

3. Relationships with foreign educational institutions (Reg. - Relationships with foreign educational institutions exist).

The college has relations to some foreign educational institution by ERASMUS programs. Some teachers have participated in exchange.

CONCLUSION RECOMMENDATIONS

1. The English skills of the teaching staff should be further improved to facilitate foreign exchange.

2. The college could support MSc studies of alumni in TUT by offering lectures of TUT courses by video-conferencing.

Part III

Accreditation Conclusions

- 1.** In case of further growth of the number of study programmes the college should consider necessity to establish a curriculum council for IT curricula.
- 2.** The college should put more attention to advertising the curriculum to potential applicants.
- 3.** The number of students for studies abroad should be increased in the nearest future.
- 4.** Rewrite module descriptions to reflect learning outcomes.
- 5.** Establish/improve continued education measures.
- 6.** For QA, improve feedback from industry (e.g. set up advisory board).
- 7.** Collections of the local library could be improved to cover more IT-journals and books
- 8.** Improve usage of library.
- 9.** The College should manage to employ more informatics related teaching staff in order to allow to better follow the very rapid evolution in the field of informatics.
- 10.** The College should manage to involve teaching staff into research or development work beyond master and PhD thesis work to foster staff advancement and staff competencies.
- 11.** The English language skills of the teaching staff should be further improved to facilitate foreign exchange.
- 12.** The college could support MSc studies of alumni in TUT by offering lectures of TUT courses by video-conferencing.

Part IV

Accreditation Recommendations

ADVICE ABOUT ACCREDITATION

The Committee assessed one program at the Virumaa College of the Tallinn University of Technology.

In the opinion of the Committee the following accreditation advice is given:

1854 Informatics (Applied higher education): full accreditation

Abbreviated Checklist for Evaluation Experts
(Curricula)
Standards for Accreditation of Curricula of Institutions of Applied Higher Education in Estonia
 (Regulation – Government of the Republic of Estonia – 2003)

Institution: Virumaa College of the Tallinn University of Technology

Curriculum: 1854 Informatics

Expert: _____ Visit Dates: May 5, 2009

Requirement I: Management of Educational Policy

Requirements (Criteria)	Met	Concern	Not Met
1. The institution has clearly formulated mission. Units develop instructions, plans, policy, and procedures according to it. Responsibilities for each area are formulated clearly.	X		
2. Formulated objectives of a curriculum comply with professional standard and requirements of international legislation regulating the profession. Units collaborate in curriculum implementation.	X		
3. A unit (curriculum council) should exist, performing systematic analysis of academic quality of curriculum. Curriculum is modified where and when needed.	X		
4. A supervisory system exists to monitor the performance of faculty and students.	X		
5. Structural unit's participation in providing education on the bases of curricula operated by other units is clearly defined.	X		

Comments: _____

Requirement II: Students

Requirements (Criteria)	Met	Concern	Not Met
1. Admission procedures and the conditions for suspension, continuation and completion of studies strictly correspond to regulations and are publicized.	X		
2 Adequate, complete and well-organized advising is offered to student candidates.	X		
3. System exists to monitor student achievement; unit uses results to improve curriculum.	X		
4. Possibilities exist for student mobility and credit transfer.	X		

Comments: _____

Requirement III: Curriculum

Requirements (Criteria)	Met	Concern	Not Met
1. Curriculum complies with requirements of the Standard of Higher Education, a professional standard and international legislation, and takes into account industrial and economical developments in Estonia and Europe.	X		
2. Curriculum objectives are clearly formulated and must reflect graduation requirements. Name and content of a curriculum are in accordance with the objectives of the curriculum.		X	
3. Curriculum for continuing education reflects requirements of labour market.	X		
4. Curriculum is based on cumulative entirety of all subjects and enables students to obtain level of general, specialized, and professional education with sufficient competitiveness in labour market.	X		
5. Optimal proportion of lecture and independent study is available with sufficient materials to develop good learning habits.	X		
6. Curriculum involves problem-solving tasks and creativity at all levels.	X		
7. Graduating and defending procedures are clear, made public and guarantee objective evaluation.	X		
8. Quality assurance system exists and objectives and main activities thereof are defined in writing. Curricula prepared have been compared to analogical curricula in foreign countries and the differences have been analysed.	X		

Comments: _____

Requirement IV: Educational (Teaching) Process

Requirements (Criteria)	Met	Concern	Not Met
1. Modern teaching methods used and adaptable to deliver knowledge in a most rational manner.	X		
2. Computers and licensed software extensively used in teaching and learning.	X		
3. Educational process involves activities and tasks appropriate to acquiring professional skills in practice.	X		
4a. Student assessment is objective and based on goals of program. Assessment methods developing social competence exist.	X		
4b. Objective and flexible examination procedures exist. A system for resolving protests exists.	X		

Comments: _____

Requirement V: Organisation of Studies

Requirements (Criteria)	Met	Concern	Not Met
1. Organisation of studies is based on a detailed academic calendar. Organisation of studies assures rational use of student's time and creates conditions for best achievement.	X		
2. Organisation of studies is clearly defined and public. Students receive good advice and sufficient/timely information on organization and content of studies.	X		
3. Student study loads are appropriate and take into account independent study too.	X		
4. & 5. Organisation of studies is continuously improved by systematic analyses of student success and failures. System for analysing and evaluating student progress, study loads and results exists. Recommendations of curriculum council and student council are taken into account.	X		
6. Institution implements modern means of information technology to register and to monitor their study results.	X		
7. Institution has co-operation relationships to organise practical training	X		

Comments: _____

Requirement VI: Teaching staff

Requirements (Criteria)	Met	Concern	Not Met
1a. Sufficient faculty exists with needed qualifications.	X		
1b. The members of teaching staff meet the requirements of the Institutions of Applied Higher Education Act.	X		
1c. The members of teaching staff meet the requirements of the Standard of Higher Education.	X		
1d. Faculty systematically improve their qualifications taking part in applied research and development, seminars and conferences and continuing education.		X	
2. Institution has policies of academic promotion, division of duties and renewal of personnel.	X		

Comments: _____

Requirement VII: Practical Training

Requirements (Criteria)	Met	Concern	Not Met
1. Clearly formulated objectives oriented to acquiring professional skills.	X		
2. Competent supervisors conduct practical training in conditions corresponding to actual working process.	X		
3. Content of practical training is in accordance with objectives and content of professional standard and international legislation and directs students to acquire and use up-to-date working methods.	X		

Comments: _____

Requirement VIII: Learning Environment

Requirements (Criteria)	Met	Concern	Not Met
1. Appropriate number of study rooms, and amount of inventory, equipment, educational and scientific literature. Study rooms in conformity with health-protection and safety requirements.	X		
2. Number of laboratories, training rooms and bases for practical training is appropriate for achieving the objectives of curriculum.	X		
3. Library contains all compulsory literature. There are competent workers and technical aids necessary for serving. Student counselling exists.	X		
4. Rooms needed for student welfare, hygiene, rest and for independent study exist. Students have access to information technology resources.	X		
5. Members of the teaching staff with a 51% work load, a contract of joint curricula or a contract between educational institutions have the possibility to work in the rooms of institution at the same time.	X		
6. Internal data network and connections with non-institutional networks exist.	X		
7. Operative and accessible facility to photocopy study materials.	X		
8. Competent personnel deal with maintenance, development and repair of learning environment.	X		
9. Long-term development plan to improve the condition of learning environment exists.	X		

Comments: _____

Requirement IX: Quality Assurance

Requirements (Criteria)	Met	Concern	Not Met
1. Quality assurance is based on assessments by students on education, professional career of graduates, and employers' satisfaction with theoretical knowledge and practical skills of graduates.	X		
2. Unit gathers enough information about working career of graduates regarding employer satisfaction of educational level, knowledge, and skills. Unit gathers data systematically and uses it to improve the quality of the program.	X		
3. Relationships with foreign educational institutions exist.		X	

Comments: _____

Requirements (Criteria)	Met	Concern	Not Met
I	X		
II	X		
III	X		
IV	X		
V	X		
VI	X		
VII	X		
VIII	X		
IX	X		

Further Observations

