RE-ACCREDITATION OF THE COLLEGE FOR APPLIED COMPUTER ENGINEERING, ZAGREB

Date of the site visit:

22 May 2012

July, 2012

COMPOSITION OF THE EXPERT PANEL

- Prof. Dr. Wladimir Bodrow, University of Applied Sciences, Berlin, Germany – chair

- Dr. sc. Dražen Vrhovski, VERN Polytechnic, Zagreb, Croatia

- Mr. sc. Goran Malčić, Polytechnic of Zagreb, Croatia

- Mr. sc. Vladimir Lebinac, Polytechnic Velika Gorica, Croatia

- Daniel Popić, student, Polytechnic of Zagreb, Croatia

Expert panel was supported by:

- Davor Jurić, prof., coordinator, Agency for Science and Higher Education

- Lida Lamza, MA, interpreter at site visit and report translator, Agency for Science and Higher Education

Contents

INTRODUCTION

Short description of the evaluated institution

The College for Applied Computer Engineering was founded in 2008 and works within Algebra Education Group, the leading ICT adult education system in the region. College were audited and accredited by different institutions in the past four years:

- Initial accreditation by the Agency for Science and Higher Education (ASHE), 2008
- Audit and certificate by FER's Faculty Council 2009/2010
- Dutch-Flemish NVAO, 2010
- External independent periodic quality assurance system evaluation 2011
- Accreditation Council of ASHE, 2011

All these accreditation activities underline the crucial interest of the College administration, staff, and students to improve the quality of education and based on it to grow the market value of the College in the region.

The initial accreditation of College's study program was issued by the Agency for Science and Higher Education after the recommendation by the National Council for Higher Education on June 16th, 2008, when the school received a temporary accreditation for the pursuance of professional study program in the field of applied computer engineering. Permanent accreditation for professional study program of Applied Computer Engineering was issued to the College on July 27th, 2010 by the Ministry of Science, Education and Sports.

The work of the Expert Panel

Some weeks before the three-day meeting in Zagreb every member of the panel received the materials about the procedure of re-accreditation and the Self-evaluation report of the College for Applied Computer Engineering. Based on this information provided by Agency for Science and higher Education Croatia and also information in the Internet all experts named above had the opportunity to prepare the activity.

In the first meeting on 20th of May the member of panel were instructed by the agency member about the special aspects of the accreditation procedure. Additionally the panel had the first discussion about the focus of accreditation regarding different criteria for assessment of quality of polytechnics and colleges. The members of the panel elected the chair and decided about their individual tasks during the accreditation.

Based on the discussion in the first meeting, every expert defined several criteria to be answered during the visit of college on Tuesday, 22nd of May, 2012. Following these criteria, panel members discussed the situation in the College with its administration, teachers, assistants, and students. During the visit to College for Applied Computer Engineering, members of the expert

panel made the short tour through the classes, lecture halls, library etc. and held meetings with the following groups:

- Representatives of the Managing Board, dean, heads of organisational units
- Working group compiled the Self-evaluation document
- Students
- Teaching Assistants
- Teachers

The information gathered in these very intensive but direct and friendly discussions were analysed afterwards in the expert meeting. The results of these discussions and analysis build the foundation for the listed below statements and advices ordered according to the predefined chapters.

DETAILED ANALYSIS BASED ON STANDARDS AND CRITERIA FOR RE-ACCREDITATION

1. Institutional management and quality assurance

College for Applied Computer Engineering is well established in the region and works within the Algebra Educational Group. College was accredited by several institutions before and is excellent organized and administrated.

Criteria 1.1 and 1.2
Regarding the criteria about institutional management and quality assurance the members of the accreditation panel agreed that all necessary managerial aspects are fully implemented. The administration conducts systematic strategic planning in line with College mission. The stakeholders, teachers, and students are involved in strategic planning. There exists efficient organisational structure which works according to the legal documents.

Criteria 1.3 and 1.4
College offers the study programs according its mission and Croatian Qualification Framework.

Criteria 1.5 and 1.6
College for Applied Computer Engineering has well established system for monitoring of study quality by each student. This allows the administration to control the learning process and support teachers and students in their activities. The access to digital information allows permanent controlling of all tasks to be realized in every subject. The Book of Regulations on Quality Assurance and/or the Book of Regulations on Quality Assurance are well known among teachers and other employees.

Criteria 1.7 and 1.8
College has formulated the formal rules of ethical behaviour in the teaching activities. But students the panel contacted at the campus were not able to communicate whether they know the rules for ethical behaviour and how they apply them in the daily practice. ***It is recommended therefore to communicate the rules of ethical behaviour to all students and instruct them about the application of these rules in their study practice.***

2. Study programmes

The name University College for Applied Computer Engineering is probably good for marketing but is rather not correct. University contain as a rule many Colleges with various programs. Both the provided levels of education - bachelor, master, and PhD - on the one side and the diversity of programs on the other are the presupposed decisive features for usage of the term University in the name of college. They are not fulfilled at the College for Applied Computer Engineering.

Criteria 2.1 and 2.2

Because of the strong contact to business and questionnaires' made the enrolment quotas are fitted to the needs of society. Cooperation with Algebra group allows the College sharing of available resources and qualified teaching.

Criteria 2.3 and 2.4
College offers the learning materials with detailed description of subjects. Both teachers and students follow the rules declared there. Within Algebra group College participates in evaluation of regular questionnaires' realized in business and fit the curriculum of the program accordingly.

Criteria 2.5 and 2.6
College sends students on professional practice in IT companies, which lasts 22 days. The student's obligation to perform professional practice in period of 22 days and the corresponding number of ECTS credits are defined by Guidelines, and not declared by the Regulations. ***It is recommended to define the student obligations for the execution of professional practice within the Regulations on professional practice and not by the Guidelines (The Guidelines are non-binding document, but only a recommendation). The number of ECTS credits has to be defined in curriculum.***

Criteria 2.7 and 2.8
The teachers in the department communicate their experience made with the students and discuss the possibilities of different didactical approaches to improve the learning outcomes. Students have access to digital resources needed for their learning activities and communication with others.

Criterion 2.9
The participation in projects in partner firms is mostly implemented and can be improved. Students work in partner firms in different projects. As a rule they use there the firm's equipment and tools. With comparable resources and capacities in the College such participation can be better prepared. ***Therefore it is recommended to extend the institutional resources (hardware and software) to enable the realization of research and development projects also in the College with broader participation of students. The co-operation with partner firms in such projects is presupposed.***

Criterion 2.10
The study programs are well fitted to market needs and implemented at high quality level.

3. Students

The implemented information system allows the administration to control the learning process by each student in every subject. So all part-exams will be evaluated by teachers and needed advices communicated to students.

Criteria 3.1, 3.2, 3.3, 3.4, and 3.5
Panel members agreed that all mentioned points are fully implemented and will be realized in the institutional activities and processes by administration, students, and teachers accordingly.

Criteria 3.6 and 3.7
Both points were qualified as mostly implemented. Some students do not know who is in Student Council, another never heard about the level of student standard. Obviously the documents are not communicated to every student at the college. ***It is recommended to communicate the information about activities and responsibilities of Student Council to every student in the college.***

Criteria 3.8 and 3.9
Most important information should be pointed out in the information packages for students. There is a lack of information for new students regarding further education and employment. ***It is recommended to organize the information meetings especially for the first semester regarding the education and further employment. Web or printed materials are considered as a part of such activity.***

Criterion 3.10
Contact with alumni is rather week and has to be improved. ***It is recommended to organize the students meetings with alumni to improve the information transfer about the employment opportunities etc.***

Criteria 3.11, 3.12, 3.13, and 3.14
Students contribute significantly to improve the learning at the college. All mentioned points are according to the panel member fully implemented.

Below are some ***suggestions articulated by students*** additionally to the discussion in the group meeting:

- Two weeks break before the mid-term exams should be reduced, according to students. The administration should discuss with them again about the mentioned aspect.
- Some students complained about the length of semester.
- Systems engineering specialization should contain more programming.
- College should try to attract more quality students.
- College could devote to students more individually.

It is recommended to prove the proposed suggestions together with students and Student Council and to make changes in agreement with representatives of all groups participated.

4. Teachers

College for Applied Computer Engineering employs faculty with adequate professional qualification. Some remarks regarding the Criteria are below.

Criterion 4.1
The documentation of self-analysis shows that certain teachers working as associate assistants have a formal education in which they gained less than 300 ECTS credits, which is not in accordance with the objectives set by the institution: when starting the specialized study program there would be teachers having lower qualifications than students

themselves. ***It is recommended to prove the qualification of teachers regarding mentioned point and if needed organize the further qualification for those who does not fulfilled the required level of education.***

Criterion 4.2
There is no document defining this tertiary education institution's strategy for the professional training of assistants having no formal education related to the curriculum of the courses they deliver instruction in. ***It is recommended to develop the institution strategy for professional training of assistants.***

Criterion 4.3
The self-analysis documentation shows that most teachers and associates do not have as much workload as their colleagues in the state polytechnics. It cannot be seen clearly which activities are included in the workload. ***It is recommended to delegate this point to members of the Self-evaluation working group and ask them to improve the documentation.***

Criterion 4.4
It is recommended especially for this tertiary education institution - in the future it has to have as many fully employed staff as possible, this will enclose a positive effect on the overall quality of education.

Criterion 4.5
There is no document which defines the rules on professional training of teachers according to their qualifications, as they are defined in the mission of the College. Instead of the professional trainings some activities are carried out as agreed informally. ***It is recommended to define the rules for professional training of teachers as they defined in the mission of the College.***

Criterion 4.6
The rules and criteria defining the procedures of both hiring people and their advancing in qualifications are set clearly. The procedures are very well documented and carried out in a just way, allowing applicants to make complaints about the procedures.

Criterion 4.7
There is no document defining what both the excessive work overload and the excessive shortage of workload of certain teachers are based on; it is also unclear how the mentorship and consultation hours are validated. ***It is recommended to work out the rules for the workload of teachers also with respect to mentorship and consultation hours.***

Criterion 4.8
The College for Applied Computer Engineering takes care about the professional activities carried out by its teachers outside the institution, but there is no document defining rules on it. ***It is recommended to define the rule for professional activities of teachers outside of the College.***

5. Research and professional activity

Criteria 5.1 and 5.2

The College has developed a clear, realistic and sound strategy and has outlined the corresponding tools and measures to meet the strategic goals. There are formal policies governing professional research activities. Nevertheless, being a relatively small institution, in exercising these policies the staff and students rather use informal channels as they somewhat guarantee faster decision making. *It is recommended that the College encourages its employee to utilize formal policies and channels for governing research professional activities. To realize such research the administration has to prove and extend if needed the own capacities available in the College - technical and personal – to realize R&D projects also without participation of Algebra Ltd.*

Criterion 5.3

Being founded by the IT company Algebra Ltd. as a result of which staff members are utilized at both sides, it is hard to discriminate the research/professional work undertaken by the College and that of Algebra Ltd. *Given the size and age of the College, it is appreciated that resource sharing is more than a good method for ensuring quality teaching and financial stability. Nevertheless, the College has to work on discriminating itself from its founder and promote non-profit oriented values more.*

Criterion 5.4

Professional activities such as attending conferences are greatly supported. However, the expert panel has left with impression that most of these are a consequence of the funding company Algebra being a sponsor of a given conference (e.g. Microsoft Windows) rather than planned independently by the College to meet a certain strategic objective. *It is recommended that the Management encourages its employees much more to take a more proactive role in suggesting and opening up new channels for professional activities (e.g. joint paper publishing or poster presentations at international conferences etc.)*

6. International cooperation and mobility

Criterion 6.1

Inward mobility from students from the Faculty of Electrical Engineering and Zagreb Polytechnic is present. These students are attracted to continue their study at the College in different ways and the corresponding organizational preconditions to encourage any other inward mobility of students from other Croatian higher education institution exist. *It is recommended that further arrangements are made for acknowledgment of ECTS gained by students at IT-related Universities of Applied Sciences and colleges in Croatia other than, for instance, Faculty of Organisation and Informatics in Varaždin. Encouraging and facilitating inward international mobility should be developed parallel to the outgoing mobility (see: 6.2).*

Criteria 6.2 and 6.3

Students have no opportunity to complete some portion of their study abroad. The management has established some international cooperation and recently received the

Erasmus charter. From an institutional perspective, support for students and teaching staff to participate in staff/students exchange programs exists, and the students see themselves capacitated for studying abroad. *It is recommended that College continues to encourage students to exercise the Erasmus program as well as to utilize bilateral agreements contracted earlier. The College should further promote student mobility, other than mobility related to acquiring certain IT certificates abroad, by organizing public/student awareness campaigns, workshops and fairs. Further to Criterion 6.3 it is also recommended that the College develops tools and mechanisms for analysing the implementation of experience its staff has acquired through international exchange programs.*

Criterion 6.4
Despite being a relatively new at the market, the College is a member of many professional domestic and/or international organizations. In the former the College has taken an active role in developing the corresponding legislation to align the needs and status of privately owned Colleges with those of the public HEIs. *In addition to its active role in taking care of the legislative framework relevant to positioning privately owned HEIs at the Croatian HE market, is recommended that the Management also invest more effort in positioning the College accordingly in the professional context by initiating and intensifying relations and memberships to professional institutions in Croatia and abroad other than those originating from its founder Algebra Ltd.*

Criterion 6.5
There is some international oriented infrastructure (e.g. the Management reports a study program which the College is capacitated to deliver in English), further activities for attracting students from abroad need to be undertaken. The expert panel however appreciates that, being a relatively new College, it is hard to expect that such a College would already be recognized internationally and found its place at the European HEI map. The College however has got adequate resources to meet the above goal. *Hence it is recommended that, in addition to its professional activities undertaken jointly with Algebra Ltd, the College starts promoting itself in the region first and internationally by delivering English based courses and study programs.*

Criterion 6.6
The College has partly implemented cooperation in the EU Lifelong Learning Program via two groups of activities, first relevant to the Erasmus and the second relevant to the Leonardo da Vinci programs. *It is recommended that the College continues its activities on delivering the Lifelong Learning Program to the benefits of former students, the society and other stakeholders. One basis could be an effective Alumni club in the forthcoming years (after the first generation of theirs students graduate). The existing charter such as Erasmus program has to be promoted among the students and teachers and stimulated to be exercised.*

Criterion 6.7
Respectable initial cooperation through European projects exists at the College. Even though at the time of this writing European projects have yet to be approved and contracted, the College's EU institutional cooperation agenda seem to be sound and achievable. *It is recommended that the College continues with its activities in actively submitting its proposals to the EU funded projects. More effort should be invested in joint proposals.*

7. Resources: administration, space, equipment and finances

Because of the strong integration in the processes managed and organized by Algebra Ltd., College for Applied Computer Engineering has the stable background and resources to realize their projects in needed quality and continuity. The Economic Council supports both the administrative and teaching activities. Also students are well integrated in different structural and administrative decisions – e.g. there are three students among 12 members of Professional Council.

Criteria 7.1, 7.2, 7.3, 7.4, and 7.5 are fully implemented. The experience gathered in the last couple of years and strong cooperation within the Algebra Ltd. group build the basis for the professional activities in related areas.

Criterion 7.6
It is recommended to increase the library capabilities both regarding space and publications lest. This will allow students e.g. work in the group and or in the project team.

Criterion 7.7
At the College there are currently 19 fully employed staff members, 15 of which are teachers and assistants, and 4 are administrative, technical and support staff. This gives a ratio of non-teaching and teaching staff 21:79. *It is recommended that the ratio as well as the collaboration between the teaching and non-teaching staff could be fitted to the goals of the college and resources used especially in respect to the students' number in the next time.*

Criteria 7.8 and 7.9 are fully implemented just because of strong support provided by Algebra Ltd. group and good relation to the business.

FINAL REPORT AND RECOMMENDATIONS BY THE EXPERT PANEL FOR THE ACCREDITATION COUNCIL

ADVANTAGES (STRONG POINTS)

Resources for Teaching and Learning

The learning resources at the College for Applied Computing Engineering are very good. Noteworthy among others are the organization of teaching, learning facilities, documentation, and access to information technology. The library itself provides obligatory materials for all students to every subject, but could be improved by additional publications.

Support for Students

The institution provides good support to the students in their learning activities. This includes the documentation and controlling of the learning process by every student. Students are well involved in different administrative councils with strategic decisions regarding the development and the study at the College.

Relation to Business

The institution has very well developed and functioning relations to regional business. It builds a profound foundation for applied focus of education provided by the College. On the other side the strong connection to business allows the administration of the College a flexible fitting of their curriculum to the demand of business.

Student-Staff Ratios

With 231 Students and 14 teaching staff College for Applied Computing Engineering has approximately 16.5:1 student staff ratio.

DISADVANTAGES (WEAK POINTS)

Profiling of the College

Being in the fact the completely integrated part of the Algebra Ltd. College has not its own specific profile. Many teachers are employed by Algebra Ltd. and offer their lectures in the College. This improves the ROI but reduces the own independency and self-profiling.

College Resources
The IT resources and both the physical space and the collections in the library are fitted to the provided courses but limited.

Student's Participation in Projects
Only few students of College are involved in the realization of projects with business during their regular study. The only contact with practice takes place in the firms where they work in one or another project. This could be improved, if the College will have its own comparable resources direct in some R&D laboratory and will organize practice projects or parts of them in the own facilities.

RECOMMENDATIONS FOR IMPROVEMENT OF QUALITY

1) Management of the Higher Education Institution and Quality Assurance
- It is recommended to communicate the rules of ethical behaviour to all students and instruct them about the application of these rules in their study practice.(Criterion 1.8)

2) Study Programmes
- It is recommended to define the student obligations for the execution of professional practice within the Regulations on professional practice and not by the Guidelines (The Guidelines are non-binding document, but only a recommendation). The number of ECTS credits has to be defined in curriculum. (Criterion 2.6)
- It is recommended to extend the institutional resources (hardware and software) to enable the realization of research and development projects also in the College with broader participation of students. The co-operation with partner firms in such projects is presupposed. (Criterion 2.9)

3) Students
- It is recommended to communicate the information about activities and responsibilities of Student Council to every student in the college. (Criterion 3.7)
- It is recommended to organize the information meetings especially for the first semester regarding the education and further employment. WEB or printed materials are considered as a part of such activity.(Criterion 3.9)
- It is recommended to organize the students meetings with alumni to improve the information transfer about the employment opportunities etc. (Criterion 3.10)
- It is recommended to prove the suggestions articulated by students together with students and Student Council and to make changes in agreement with representatives of all groups participated. (Discussion of Standard 3)

4) Teachers
- It is recommended to prove the qualification of teachers regarding mentioned point and if needed organize the further qualification for those who does not fulfilled the required level of education. (Criterion 4.1)
- It is recommended to develop the institution strategy for professional training of assistants. (Criterion 4.2)
- It is recommended to delegate this point to members of the Self-evaluation working group and ask them to improve the documentation. (Criterion 4.3)
- It is recommended especially for this tertiary education institution - in the future it has to have as many fully employed staff as possible, this will enclose a positive effect on the overall quality of education. (Criterion 4.4)
- It is recommended to define the rules for professional training of teachers as they defined in the mission of the College. (Criterion 4.5)
- It is recommended to work out the rules for the workload of teachers also with respect to mentorship and consultation hours. (Criterion 4.7)
- It is recommended to define the rule for professional activities of teachers outside of the College. (Criterion 4.8)

5) Research and Professional Activity

- It is recommended that the College encourages its employee to utilize formal policies and channels for governing research professional activities. To realize such research the administration has to prove and extend if needed the own capacities available in the College - technical and personal – to realize R&D projects also without participation of Algebra Ltd. (Criteria 5.1 and 5.2)
- Given the size and age of the College, it is appreciated that resource sharing is more than a good method for ensuring quality teaching and financial stability. Nevertheless, the College has to work on discriminating itself from its founder and promote non-profit oriented values more. (Criterion 5.3)
- It is recommended that the Management encourages its employees much more to take a more proactive role in suggesting and opening up new channels for professional activities e.g. joint paper publishing or poster presentations at international conferences etc. (Criterion 5.4)

6) International Cooperation and Mobility
- It is recommended that further arrangements are made for acknowledgment of ECTS gained by students at IT-related Universities of Applied Sciences and colleges in Croatia other than, for instance, Faculty of Organisation and Informatics in Varaždin. Encouraging and facilitating inward international mobility should be developed parallel to the outgoing mobility (Criteria 6.1 and 6.2).
- It is recommended that College continues to encourage students to exercise the Erasmus program as well as to utilize bilateral agreements contracted earlier. The College should further promote student mobility, other than mobility related to acquiring certain IT certificates abroad, by organizing public/student awareness campaigns, workshops and fairs. Further to Criterion 6.3 it is also recommended that the College develops tools and mechanisms for analysing the implementation of experience its staff has acquired through international exchange programs. (Criteria 6.2 and 6.3)
- In addition to its active role in taking care of the legislative framework relevant to positioning privately owned HEIs at the Croatian HE market, is recommended that the Management also invest more effort in positioning the College accordingly in the professional context by initiating and intensifying relations and memberships to professional institutions in Croatia and abroad other than those originating from its founder Algebra Ltd. (Criterion 6.4)
- It is recommended that, in addition to its professional activities undertaken jointly with Algebra Ltd, the College starts promoting itself in the region first and internationally by delivering English based courses and study programs. (Criterion 6.5)
- It is recommended that the College continues its activities on delivering the Lifelong Learning Program to the benefits of former students, the society and other stakeholders. One basis could be an effective Alumni club in the forthcoming years (after the first generation of theirs students graduate). The existing charter such as Erasmus program has to be promoted among the students and teachers and stimulated to be exercised. (Criterion 6.6)
- It is recommended that the College continues with its activities in actively submitting its proposals to the EU funded projects. More effort should be invested in joint proposals. (Criterion 6.7)

7) Resources, Administration, Space, Equipment and Finance

- It is recommended to increase the library capabilities both regarding space and publications lest. This will allow students e.g. work in the group and or in the project team. (Criterion 7.6)
- It is recommended that the ratio as well as the collaboration between the teaching and non-teaching staff could be fitted to the goals of the college and resources used especially in respect to the students' number in the next time. (Criterion 7.7)