

Higher Education Quality Evaluation Centre of Latvia

Evaluation Commission's Joint Report

Academic Bachelor Study Programme
at
BALTIC INTERNATIONAL ACADEMY

Computer-Aided Design in Microelectronics
Code 43481

Evaluation commission members:

Professor *em* **Jüri Kiho**, University of Tartu, Estonia

Professor **Aleksandras Targamadžė**, Kaunas University of Technology, Lithuania

Dr. **Modris Greitāns**, Institute of Electronics and Computer Science, Latvia

Visit date: June 1-2, 2010

The Evaluation Process

The Higher Education Quality Evaluation Centre of Latvia has invited three experts (the Evaluation Commission) from Latvia, Lithuania, and Estonia to review and evaluate the academic undergraduate study programme *Computer-Aided Design in Microelectronics* (code 43481, 120 CP) at the Baltic International Academy (further BIA). Two students proposed by Latvian Student Union participated in the evaluation process as observers: Ēriks Zaharans and Jānis Zaharans (second year undergraduate students in the study programme *Physics* at the Latvian University).

The programme is organized under supervision of As. Prof. I. Lemberskis, the Director of the study programme.

The Evaluation Commission visited BIA Tuesday and Wednesday, June 1 and 2.

The Evaluation Commission first met leading staff of BIA and the study programme (BIA Rector As. Prof. A. Vocišs, BIA Senate Chairman Prof. S. Buka, Vice-rector for Studies Doc. L. Jermolajeva, Programme Director As. Prof. I. Lemberskis). A. Vocišs presented a brief overview of BIA and the general issues and problems related to development of BIA and its programs. I. Lemberskis gave a rather detailed description of the particular programme to be evaluated. Certain general objectives and issues of the programme were discussed. S. Buka highlighted the rationale and motivation of opening the programme just at BIA three years ago.

After that the Evaluation Commission met 10 teachers involved in and responsible for courses of the programme. Those were staff members teaching mandatory courses which were not directly related to computer aided design and microelectronics. The teachers expressed very positive opinion about the students' attitude towards studies in the programme. The organisation of studies and quality assurance issues were discussed.

The Evaluation Commission also conducted interviews with students (4 first-year, 4 second-year and 1 third-year student). The meeting was carried out in an active and constructive atmosphere. The main points of the discussion concerned the students' opinion of which kinds of courses were more or less relevant for the academic programme. The students expressed mainly positive opinions about the programme; it was stressed that studying in small groups has very positive impact, though, on the other hand, causes lack of students' social communication. They admitted that the main attractiveness of the programme was fully Russian-based instruction and communication at BIA. There was a complaint about time-table: on some days courses begin in late afternoon. The students had no clear vision about character of their future work.

On the second day of the site visit the Evaluation Commission inspected some premises and learning resources, namely: lecture rooms, a computer lab, library. The computer hardware in the lab is adequate, the software resources need further updates. The library resources are insufficient for the study programme.

The Evaluation Commission also met social partners: representatives of future employers from two companies: Nicolai Mirzagitov (CARO Electronics Ltd ElgertaGroup, Director),

Aleksandras Zaslavskis (AS ALFA PRAR Riga Semiconductor Plant, Marketing Director). The representatives were satisfied with the programme and expressed an interest in further co-operation with BIA, regarding implementation of the programme. They were not that much interested in recruiting graduates from undergraduate academic programmes.

At the conclusion of the visit, the Evaluation Commission conducted a meeting with the teaching staff and highlighted some of the strengths and weaknesses, opportunities and threats of the programme under review. The accreditation recommendation elaborated by the Evaluation Commission was offered at this final meeting.

During the site visit the Evaluation Commission acquainted with the following supplementary materials:

- Mission and the development plan of BIA
- Time-tables for the last fall and spring semesters
- List of course/project works and (sample) course/project works
- List of Bachelor papers (2) to be defended in spring 2010

List of methodical aids and manuals prepared by BIA staff for the programme was not presented; instead, the self-evaluation report was referred to.

The findings of the Evaluation Commission are reflected as follows; the self-evaluation report submitted by BIA, the observations made at the time of the visit, and the supplementary material received during the visit form the basis of these assessments.

Assessment of the Study Programme Computer-Aided Design in Microelectronics (code 43481)

Scale of the assessment: 4 (excellent), 3 (highly satisfactory), 2 (satisfactory), 1(unsatisfactory)

I Aims and objectives

Assessment: 2

Comment: Programme demand, purpose, aims and learning outcomes of the studies are not that reasonable and appropriate.

1. Possibility to understand, to reach and to control the aims, objectives and learning outcomes of the study programme. Coincidence of the accepted learning outcomes with the content and organization of the studies.

Assessment: 2

Comment: The goal of the programme is specified very briefly (Self-Evaluation Report, p 8). The aim “to prepare for ... Europe and other countries of the world competitive IT specialists” is far too ambitious and could be considered as unreachable. Assessment of correlations of learning outcomes of the programme with those of the subject level is not applicable: learning outcomes for the subjects (study courses) are not specified at all. It is impossible to decide whether learning outcomes of the programme level are sufficiently reflected in the learning outcomes of the subject level.

2. Ability of the study programme to achieve the four main goals of the higher education: personal development, support for democracy, creation and dissemination of knowledge, correspondence to the demands of the labour market. Conformity and synergy of the strategy and the aims of studies within the framework of the study programme. Realization of the vision and mission of studies with strategy, according to the opinions of main stakeholders – students, employers and professional organizations.

Assessment: 2

Comment: Personal development, support for democracy, creation and dissemination of knowledge have been addressed. Demand for the programme among applicants and employers are low. Also, it is not quite clear how BIA collects data on demand, how it responds to the changing situation in the labour market and the change in the demand for the programme.

II The content and organization of the studies.

Assessment: 2

Comment:

3. Compliance of the content of studies with the requirements for the degree and / or qualification, conformity with the European and national qualification framework. Compliance of the content of studies with the aims and objectives defined by the study programme.

Correspondence of the practice to the theory. Individual approach, recognition of prior learning and experience.

Assessment: 2

Comment: Provided that the main goal is to prepare specialists in CAD in microelectronics, missing signal processing subjects in the curriculum is certainly a deficiency. One of the potential employers pointed out the need to introduce chapters about solid state electronics. However, more general and relevant would be the course “Physical Foundations of Electronics”. The expert Commission has no evidence about applying any systematic recognition of prior learning and experience.

4. Consistency of the study programme and its parts with the demands to create the common European education space, including the comparison (benchmarking) with at least two study programmes from EU countries. Compliance with the requirements of the legislation.

Assessment: N/A

Comment: The Evaluation Commission was not given sufficient and complete information about this issue.

5. Qualification and professionalism of the academic staff members.

Assessment: 3

Comment: Qualification and professionalism of the program leader I. Lemberskis are outstanding, significantly exceeding those of others.

III Assessment of teaching and learning.

Assessment: 3

Comment: Rationality of the staff composition is a real concern. Qualification of teachers meets the requirements set out by regulations, and seems sufficient for attaining the aims and learning outcomes of the programme. However, distribution of teachers’ workload is far from normal: according to study courses descriptions (Self-Evaluation Report, Appendix 1) one staff member (Ass. Prof. Igor Lemberskis) teaches 16 subjects, 66 CP in total (> 50% of 120 CP). (According to the Self-Evaluation report, page 29 he teaches 10 subjects, ~40 CP in total.) The negative consequences for teaching quality are obvious.

6. Modern methodology of teaching, a clear statement of results to be expected, problem solving, use of computers, internet, audiovisual and multimedia equipment.

Assessment: 2

Comment: Somewhat old-fashioned methodology and methods of teaching are a concern. None of e-learning environments is used.

7. *Counselling and guidance for students, academic supervision and consultations of the teaching staff, increasing of the students' motivation to study.*

Assessment: 4

Comment:

8. *Methods to assess the knowledge, skills and attitudes (acquired in the course of studies possibility to solve problems), their objectivity, conformity with learning outcomes, use to improve the studies. Comparison of the experts assessment of the level of the students' achievements with the prescribed in the study programme level of the students' achievements.*

Assessment: 4

Comment:

IV The management and support of the studies

Assessment: 3

Comment:

9. *Respect of the principles of democracy, clear definition of the relations among representatives of the administration, academic staff and students.*

Assessment: 3

Comment: The Chair of Programme Council is I. Lemberskis; no other (regular) staff member is involved in the Programme Council.

10. *Cooperation with other higher education establishments, research institutions, international organizations; exchange of staff and students with other higher education establishments.*

Assessment: 3

Comment: International exchange of staff and students could be more active. Cooperation with other leading higher education institutions in LR running similar programs should be enhanced.

11. *Methodological, informational and technical resources and facilities of the study programme.*

Assessment: 2

Comment: Methodological resources need to be addressed. Development kits should be introduced.

V Research (creative) activities of the staff and the students

Assessment: 2

Comment:

12. *Involvement of the academic staff in the research (creative) activities, up to date character and connection with the content of the study programme, publication of the results of research in recognized international editions (including exhibitions, performances etc.) and / or practical use, innovative activities.*

Assessment: 2

Comment: Very few of staff (except I. Lemberskis, V. Streļčonoks) research activities are directed to the main focus (design, informatics) of the study programme.

13. *Involvement of the students in the research (creative) activities, up to date character and connection with the aims and learning outcomes of the study programme, involvement of the students in national and international research and creative (art) activities (projects).*

Assessment: 1

Comment: Students are not involved in research – a deficiency (especially disapproved in case of an academic study programme).

VI Quality assessment and mechanisms to ensure it

Assessment: 3

Comment:

14. *Annual self-assessment of the study programme, evaluation of the strengths and weaknesses, changes, plans and possibilities for the development, continuously action of the system of self-evaluation and quality improvement. Compliance of the internal quality assurance system with ENQA Standards and Guidelines.*

Assessment: 3

Comment: Employers are not actively involved in programme development, none of them is included into the Programme Council.

15. *Perspectives (potential possibilities) of successful work of graduates according to their acquired qualification.*

Assessment: 2

Comment: Obviously, most of the students – the future graduates – are oriented towards the programmer's profession rather than the designer's one. The potential employers show quite passive attitude towards the programme and graduates (only two companies were represented at the meeting with employers).

16. *Readiness of students to further education and personal development. Opportunities and financial guarantees to continue studies in the case of closure of the programme, its re-organization or other changes.*

Assessment: 4

Comment: A contract (with ISMA) of guarantee to continue education in case of liquidation exists.

SWOT-List

Strong points

- High qualification and professionalism in research and teaching of the programme leader.
- Successful international EU projects.
- Premises, facilities, rooms, study environment in general.

Week points

- Insufficient reasoning of the uniqueness and rationale of the need for the programme.
- Some incompliance programme objectives with the programme content.
- Very small number of students (low demand among applicants). Failed efforts during recent years to promote the study programme and increase the number of the students in the programme.
- Staff workload (extremely uneven) distribution. Teaching relies enormously on one staff member.
- Study course descriptions are not perfect. Prerequisites not specified. Missing learning outcomes for subjects. It is impossible to decide whether learning outcomes of the programme level are sufficiently reflected at the subject level.
- Small number of methodical aids and manuals.
- Weak links to industry and to leading higher education and research institutions in LR.
- Narrow spectrum of CAD tools and missing development kits.
- Engineering rather than academic nature of students' works.

Opportunities

- Find resources to normalize staff composition.
- Further improve the study programme design and content, consider changes like increasing programme amount (from 120 CP to 160 CP), switching to professional programme etc.

Threats

- Very weak sustainability of the programme
- The “key person” (I. Lemberskis) leaves.
- Planned efforts to increase the demand among applicants for the programme fail.

Concluding remarks

The Evaluation Commission was in general satisfied with the evaluation process. The staff and students showed remarkable enthusiasm .

There exists a certain controversy between the stated aims and the programme content. While a great amount of the content is devoted to computer programming, the objectives are focused very much on computer-aided design. Therefore the current title of the programme should be also considered as misleading (by the way, the earlier versions of the title did contain the phrase “computer programming”). According to students' and employers' expectations, the programme could have even more practical, engineering and non-academic orientation.

Notwithstanding the lacks, concerns and deficiencies mentioned above, it is highly likely that the programme staff together with the BIA administration can correct these problems, some of them in a short time period.

Recommendation for accreditation

The Evaluation Commission has the following recommendation regarding the study programme evaluated.

**Academic undergraduate study programme *Computer-Aided Design in Microelectronics*
(code 43481)**

Accreditation for two years

Riga, June 2, 2010

Aleksandras Targamadze

Modris Greitāns

Jūri Kiho

On behalf of the Evaluation Commission

Jūri Kiho

Evaluation Commission leader

Higher Education Quality Evaluation Center of Latvia

Evaluation Commission Member's Individual Report

Academic Bachelor Study Programme
at
BALTIC INTERNATIONAL ACADEMY

Computer-Aided Design in Microelectronics
Code 43481

Visit date: June 1-2, 2010

Evaluation Commission member

June 8, 2010

Professor *em* **Jüri Kiho**
University of Tartu

Overview

The Higher Education Quality Evaluation Centre of Latvia has invited three university experts from Latvia, Lithuania, and Estonia to review and make an accreditation recommendation for the study programme. Two observers proposed by the Latvian Student Union joined the group of experts.

The Evaluation Commission visited the Baltic International Academy (hereinafter BIA) during June 1 and 2.

First, the commission met leading staff of BIA and the programme director As. Prof. I. Lemberskis.

After that the Evaluation Commission met 10 teachers involved in and responsible for courses of the programme. Those were staff members teaching mandatory courses which were not directly related to computer aided design and microelectronics. The Evaluation Commission also conducted interviews with 9 students (4 first-year, 4 second-year and 1 third-year student). The meeting was carried out in an active and constructive atmosphere.

On the second day of the site visit the Evaluation Commission inspected some premises and learning resources, namely: lecture rooms, a computer lab, library. The Evaluation Commission also met social partners: representatives of future employers from two companies. The representatives were satisfied with the programme and expressed an interest in further co-operation with BIA, regarding implementation of the programme.

At the conclusion of the visit, the Evaluation Commission conducted a meeting with the teaching staff and highlighted some of the strengths and weaknesses, opportunities and threats of the programme under review. The accreditation recommendation elaborated by the Evaluation Commission was offered at this final meeting.

The findings of mine as a member of the Evaluation Commission are reflected in the supplement below. The self-evaluation report submitted by BIA, the observations made at the time of the visit, and the supplementary material received during the visit form the basis of these assessments.

In conclusion, I support the following recommendation:

Academic undergraduate study programme Computer-Aided Design in Microelectronics (code 43481) - accreditation for 2 years.

SUPPLEMENT

Expert: Jüri Kiho

Higher Education Institution: Baltic International Academy

Study Programme: Computer-Aided Design in Microelectronics

Note: The opportunity to deliver the programme in three languages (Latvian, Russian, English) is considered by BIA as one of the strengths of the programme. However, this opportunity is not realized yet; the instruction (and communication as well) is currently carried out in Russian.

I Aims and objectives

Assessment: 2

Comment: Programme demand, purpose, aims and learning outcomes of the studies are not that reasonable and appropriate.

1. Possibility to understand, to reach and to control the aims, objectives and learning outcomes of the study programme. Coincidence of the accepted learning outcomes with the content and organization of the studies.

Assessment: 2

Comment: The goal of the programme is specified very briefly (Self-Evaluation Report, p 8). The aim “to prepare for ... Europe and other countries of the world competitive IT specialists” is far too ambitious and could be considered as unreachable. Assessment of correlations of learning outcomes of the programme with those of the subject level is not applicable: learning outcomes for the subjects (study courses) are not specified at all. It is impossible to decide whether learning outcomes of the programme level are sufficiently reflected in the learning outcomes of the subject level.

2. Ability of the study programme to achieve the four main goals of the higher education: personal development, support for democracy, creation and dissemination of knowledge, correspondence to the demands of the labour market. Conformity and synergy of the strategy and the aims of studies within the framework of the study programme. Realization of the vision and mission of studies with strategy, according to the opinions of main stakeholders – students, employers and professional organizations.

Assessment: 2

Comment: In general, personal development, support for democracy, creation and dissemination of knowledge have been addressed. Demand for the programme among applicants and employers are low. Also, it is not quite clear how BIA collects data on demand, how it responds to the changing situation in the labour market and the change in the demand for the programme.

II The content and organization of the studies.

Assessment: 2

Comment:

3. Compliance of the content of studies with the requirements for the degree and / or qualification, conformity with the European and national qualification framework. Compliance of the content of studies with the aims and objectives defined by the study programme. Correspondence of the practice to the theory. Individual approach, recognition of prior learning and experience.

Assessment: 2

Comment: There exists a certain controversy between the stated aims and the programme content. While a great amount of the content is devoted to computer programming, the desired objectives are focused very much to computer-aided design. Therefore the current title of the programme should be also considered as misleading (by the way, the earlier versions of the title did contain the phrase “computer programming”). There is no evidence about applying any systematic recognition of prior learning and experience.

4. Consistency of the study programme and its parts with the demands to create the common European education space, including the comparison (benchmarking) with at least two study programmes from EU countries. Compliance with the requirements of the legislation.

Assessment: N/A

Comment: No sufficient and complete information about this issue was available.

5. Qualification and professionalism of the academic staff members.

Assessment: 3

Comment: Qualification and professionalism of the program leader I. Lemberskis are outstanding, significantly exceeding those of others.

III Assessment of teaching and learning.

Assessment: 3

Comment: Rationality of the staff composition is a real concern. Qualification of teachers meets the requirements set out by regulations, and seems sufficient for attaining the aims and learning outcomes of the programme. However, distribution of teachers' workload is far from normal: according to study courses descriptions (Self-Evaluation Report, Appendix 1) one staff member (Ass. Prof. Igor Lemberskis) teaches 16 subjects, 66 CP in total (> 50% of 120 CP). (According to the Self-Evaluation report, page 29 he teaches 10 subjects, ~40 CP in total.) The negative consequences for teaching quality are obvious.

6. Modern methodology of teaching, a clear statement of results to be expected, problem solving, use of computers, internet, audiovisual and multimedia equipment.

Assessment: 2

Comment: Somewhat old-fashioned methodology and methods of teaching are a concern. None of e-learning environments is used.

7. Counselling and guidance for students, academic supervision and consultations of the teaching staff, increasing of the students' motivation to study.

Assessment: 4

Comment:

8. Methods to assess the knowledge, skills and attitudes (acquired in the course of studies possibility to solve problems), their objectivity, conformity with learning outcomes, use to improve the studies. Comparison of the experts assessment of the level of the students' achievements with the prescribed in the study programme level of the students' achievements.

Assessment: 4

Comment:

IV The management and support of the studies

Assessment: 3

Comment:

9. Respect of the principles of democracy, clear definition of the relations among representatives of the administration, academic staff and students.

Assessment: 3

Comment: The Chair of Programme Council is I. Lemberskis; no other (regular) staff member is involved in the Programme Council.

10. Cooperation with other higher education establishments, research institutions, international organizations; exchange of staff and students with other higher education establishments.

Assessment: 3

Comment: International exchange of staff and students could be more active. Cooperation with other leading higher education institutions in LR running similar programs should be enhanced.

11. Methodological, informational and technical resources and facilities of the study programme.

Assessment: 2

Comment: Methodological resources need to be addressed.

V Research (creative) activities of the staff and the students

Assessment: 2

Comment:

12. Involvement of the academic staff in the research (creative) activities, up to date character and connection with the content of the study programme, publication of the results of research in recognized international editions (including exhibitions, performances etc.) and / or practical use, innovative activities.

Assessment: 2

Comment: Very few of staff (except I. Lemberskis, V. Streļčonoks) research activities are directed to the main focus (design, informatics) of the study programme.

13. Involvement of the students in the research (creative) activities, up to date character and connection with the aims and learning outcomes of the study programme, involvement of the students in national and international research and creative (art) activities (projects).

Assessment: 2

Comment: Involvement of the students in the research activities should be further addressed.

VI Quality assessment and mechanisms to ensure it

Assessment: 3

Comment:

14. Annual self-assessment of the study programme, evaluation of the strengths and weaknesses, changes, plans and possibilities for the development, continuously action of the system of self-evaluation and quality improvement. Compliance of the internal quality assurance system with ENQA Standards and Guidelines.

Assessment: 3

Comment: Employers are not actively involved in programme development, none of them is included into the Programme Council.

15. Perspectives (potential possibilities) of successful work of graduates according to their acquired qualification.

Assessment: 2

Comment: Most of the students seemed to be oriented towards the programmer's profession rather than the designer's one. The potential employers show quite passive attitude towards the programme and graduates (only two companies were represented at the meeting with employers).

16. Readiness of students to further education and personal development. Opportunities and financial guarantees to continue studies in the case of closure of the programme, its re-organization or other changes.

Assessment: 4

Comment: A contract (with ISMA) of guarantee to continue education in case of liquidation exists.

Higher Education Quality Evaluation Center of Latvia

Evaluation Commission Member's Individual
Report

Academic Bachelor Study Programme
at
BALTIC INTERNATIONAL ACADEMY

Computer-Aided Design in Microelectronics
Code 43481

Visit date: June 1-2, 2010

Evaluation Commission member:
Professor Aleksandras Targamadze,
Kaunas University of Technology

June 6, 2010

The Accreditation Task

The Evaluation Commission consisted from representatives from Latvia, Lithuania, and Estonia and two observers proposed by the Latvian Student Union, visited the Baltic International Academy (hereinafter called “BIA”) 1-2 June, 2010. The team of experts met with the responsible for the programme staff and highlighted some of the strengths and weaknesses of the programmes under review. It also conducted interviews with a group of students. The Evaluation Commission was also provided with the opportunity to have a discussion with 2 representatives from Latvian industry (local IT companies).

This assessment is based on the study programme self-evaluation report, internal documents provided by the authorities of the University and oral information given by the leading staff of the University, including those responsible for the programme, a group of undergraduates and representatives from local IT companies. The material on study programme was presented fully, clearly and sufficiently.

Assessment of academic bachelor’s study programme “Computer-Aided Design in Microelectronics”

The scale for the assessment: 4 (excellent), 3 (good), 2 (satisfactory), 1 (unsatisfactory).

I Aims and objectives

Assessment: good (3)

1. Possibility to understand, to reach and to control the aims, objectives and learning outcomes of the study programme. Coincidence of the accepted learning outcomes with the content and organization of the studies.

Assessment: satisfactory (2)

Comment: The goal of the study programme is specified not sufficiently precise. The aim “to prepare for Europe and other countries of the world competitive IT specialists” is too ambitious. Learning outcomes for the study courses are not specified.

The main objectives of study programme are two: to equip the students with theoretical knowledge and practical skills in software developments, and to equip the students with theoretical knowledge and practical skills in design modern microelectronics equipment. The first objective is not reflected in the name of study programme, although majority of students intend to work for programmers.

2. Ability of the study programme to achieve the four main goals of the higher education: personal development, support for democracy, creation and dissemination of knowledge, correspondence to the demands of the labour market. Conformity and synergy of the strategy and the aims of studies within the framework of the study programme. Realization of the vision and mission of studies with strategy, according to the opinions of main stakeholders – students, employers and professional organizations.

Assessment: good (3)

Comment: Personal development, support for democracy, creation and dissemination of knowledge are solved in the programme good. It is not clear how BIA collects data on demand of specialists and how it responds to the changing situation in the labour market.

II The content and organization of the studies.

Assessment: good (3)

Comment: The study process is well organized. But I have comments.

3. Compliance of the content of studies with the requirements for the degree and / or qualification, conformity with the European and national qualification framework. Compliance of the content of studies with the aims and objectives defined by the study programme. Correspondence of the practice to the theory. Individual approach, recognition of prior learning and experience.

Assessment: good (3)

Comment: All the study documents are in full conformity with the legal Acts of the Latvian Republic. The study programme is prepared according the State academic education standard and after the analysis of a one of study programme from Transport and Telecommunication institute (Latvia) and two study programmes from foreign universities.

During meeting with employers one of them noted that in the programme no course Physical Foundation of Electronics. I think that such course is necessary.

4. Consistency of the study programme and its parts with the demands to create the common European education space, including the comparison (benchmarking) with at least two study programmes from EU countries. Compliance with the requirements of the legislation.

Assessment: good (3)

Comment: The study programme is harmonized with the principles of the EU open education space and provides possibilities for students and the staff to participate in academic exchange programmes. This possibility is used not enough.

5. Qualification and professionalism of the academic staff members.

Assessment: good (3)

Comment: The study programmes are realized by a qualified staff. Part of the teachers have scientific degrees or/and academic titles and are work in the main workplaces. There is a good mix of young and experienced teachers. These are good indicators. I could come to the conclusion that the higher education establishment staff is rather well qualified.

In the field design of microelectronics devices there is only one teacher – prof. I. Lemberskis. He is very qualified but that is not enough, because is dangerous to build important part of study programme on just one person.

III Assessment of teaching and learning.

Assessment: good (3)

6. Modern methodology of teaching, a clear statement of results to be expected, problem solving, use of computers, internet, audiovisual and multi media equipment.

Assessment: satisfactory (2)

Comment: The evaluation commission observed a good beginning of e-learning method usage in the BIA (but not in this study programme). It uses e-learning and

video conference systems. For students of this study programme was using only recorded video conferences, majority of teacher's use slides, students are consulted through the internet. Modern technologies can be used more intensively.

7. Counselling and guidance for students, academic supervision and consultations of the teaching staff, increasing of the students' motivation to study.

Assessment: excellent (4)

Comment: Only 14 students are studying in this study programme. Therefore this situation is resolved better than normally in the other universities.

8. Methods to assess the knowledge, skills and attitudes (acquired in the course of studies possibility to solve problems), their objectivity, conformity with learning outcomes, use to improve the studies. Comparison of the experts assessment of the level of the students' achievements with the prescribed in the study programme level of the students' achievements.

Assessment: excellent (4)

Comment: The knowledge of students is evaluated in conformity with the documents, issued by the Latvian Ministry of Education and Science according 10-points system. This seems to vary depending on teachers or supervisors, but on the whole it seems to be carried out in a systematic way.

IV The management and support of the studies

Assessment: good (3)

9. Respect of the principles of democracy, clear definition of the relations among representatives of the administration, academic staff and students;

Assessment: good (3)

Comment: The interviews with students as well as with the staff did not reveal any deficiencies in this sense. During the meeting with the students they were active and their positive opinions about the BIA came out. However, the attempt to find out the problems was not so successful. The patriotic feeling they feel for the school where they study is probably a good thing, but a bit more impartial attitude could forward the improvement of the study process.

The Chair of Programme Council is I. Lemberskis. We don't find no other staff members are involved in the real work of Programme Council.

10. Cooperation with other higher education establishments, research institutions, international organizations; exchange of staff and students with other higher education establishments.

Assessment: satisfactory (2)

Comment: International cooperation with the higher education establishments is in the process. In the self-assessment report the BIA marks only cooperation with 2 Latvian and 5 foreign universities. It is not sufficient. The mobility of students has not started at all. The number of teachers, who participated in exchange programmes, is insufficient too (only prof. I. Lemberskis visited university in Czech Republic). Cooperation with other leading higher education institutions in Latvia running similar programs should be enhanced.

11. Methodological, informational and technical resources and facilities of the study programme.

Assessment: good (3)

Comment: Methodological, informational and technical resources and facilities of the study programme are sufficient. Computer basis is fully sufficient. Library resources can be wider. Methodological resources for design and microelectronics in the library need to be renewed. Development kits should be introduced.

V Research (creative) activities of the staff and the students

Assessment: satisfactory (2)

12. Involvement of the academic staff in the research (creative) activities, up to date character and connection with the content of the study programme, publication of the results of research in recognized international editions (including exhibitions, performances etc.) and / or practical use, innovative activities.

Assessment: satisfactory (2)

Comment: The large part of teachers carries out their own scientific research. But there aren't enough scientific papers in the prestigious periodical journals, especially included in the databases. Only prof. I. Lemberskis and prof. V. Streļčonoks research activities are directed to the design and informatics. The number of projects with industry is not enough.

13. Involvement of the students in the research (creative) activities, up to date character and connection with the aims and learning outcomes of the study programme, involvement of the students in national and international research and creative (art) activities (projects).

Assessment: unsatisfactory (1)

Comment: We don't find evidence that students are involved in research.

VI Quality assessment and mechanisms to ensure it

Assessment: good (3)

Comment:

14. Annual self-assessment of the study programme, evaluation of the strengths and weaknesses, changes, plans and possibilities for the development, continuously action of the system of self-evaluation and quality improvement. Compliance of the internal quality assurance system with ENQA Standards and Guidelines.

Assessment: satisfactory (2)

Comment: Students' survey at BIA is conducted on a regular basis at the end of each semester. The results of surveys are used for improving study programme. Anna Zemmele (3rd year student) is included in the council of study programme.

In the other hand, we don't find that students' progress is regularly analyzed and discussed at methodical meetings. We don't find materials about annual self-assessments of the study programme. Employers are not actively involved in programme development; none of them is included into the Programme Council.

15. Perspectives (potential possibilities) of successful work of graduates according to their acquired qualification.

Assessment: good (3)

Comment: There are no graduates of this study programme. From the discussions with employers the evaluation commission gets the impression that potentially graduates of this study programme will have good perspectives of successful work accordingly to their qualification in Latvia.

But most of the students are oriented to professional carriers of programmer's, not designers'.

16. Readiness of students to further education and personal development. Opportunities and financial guarantees to continue studies in the case of closure of the programme, its re-organization or other changes.

Assessment: excellent (4)

Comment: There are no graduates of this study programme for accurately determine of their readiness to further education and personal development. But students have all possibilities for that.

The BIA have contract with ISMA of guarantee to continue education in the case of liquidation exists.

Concluding remarks

The Evaluation Commission was in general satisfied with the programme presented and evaluation process. It was also satisfied with the professional competence and qualifications presented by the staff of BIA. The students showed a serious determination toward their studies and a mature attitude regarding the importance of higher education.

Potentially graduates of this study programme will have good perspectives of successful work accordingly to their qualification.

However, the significant part of the content of study programme is oriented to programming, but great part of the objectives is focused to computer-aided design. Therefore we propose to examine the possibility to include in the name of study programme phrase "computer programming".

According to students' and employers' expectations, the programme could have even more practical, engineering and non-academic orientation.

Recommendation for accreditation

I agree with the conclusions of the Evaluation Commission and I recommend accrediting the academic bachelor's study programme "***Computer-Aided Design in Microelectronics***" (code **43481**) for two (2) years.

Kaunas, 8 June, 2010



Aleksandras Targamadze

Augstākās izglītības kvalitātes novērtēšanas centrs

Studiju programmas novērtēšanas komisijas eksperta individuālais ziņojums par

Baltijas starptautiskās akadēmijas
akadēmiskās augstākās izglītības bakalaura studiju programmu

**“ Mikroelektronisko čipu datorvadības projektēšana”
(kods 43481)**

Eksperta ārējās novērtēšanas vizītes datums: 2010.gada 1. un 2. jūnijs

Eksperta vārds, uzvārds: Dr.sc.comp. Modris Greitāns

Kopsavilkums

Augstākās izglītības kvalitātes novērtēšanas centrs izveidoja novērtēšanas komisiju tajā iekļaujot ekspertus Prof. em. Juri Kiho no Tartu universitātes (Igaunija), Prof. Aleksandras Targamadzi no Kauņas tehnoloģiskās universitātes (Lietuva), Dr.sc.comp. Modri Greitānu no Elektronikas un datorzinātņu institūta (Latvija), kā arī Latvijas studentu apvienības deleģētus novērotājus Jāni Zaharānu un Ēriku Zaharānu (LU FMF Fizikas specialitātes otrā kursa studenti). Pirms vizītes uz Baltijas starptautisko akadēmiju komisijas locekļi saņēma un iepazīnās ar studiju programmas “Mikroelektronisko čipu datorvadības projektēšana” akreditācijas materiāliem latviešu un angļu valodās. Nelielas neskaidrības izraisa atsevišķu terminu tulkojumi šajās valodās, tajā skaitā vārdu salikuma „datorvadības projektēšana” lietošana programmas nosaukumā latviešu valodā. Studiju programmas direktors ir As. prof. I. Lemberskis. Ņemot vērā, ka atbilstoši akreditācijas materiāliem As. prof. I. Lemberskis ir saistīts ar apmēram 50% no studiju kursu realizācijas (tajā skaitā praktiski visi galvenie ar specialitāti saistītie kursi), šo programmu zināmā mērā var uzskatīt par As. prof. I. Lemberska „autorprogrammu”.

Vizītes BSA laikā notika tikšanās ar tās vadību (rektors, mācību prorektors, senāta priekšsēdētājs u.c.), 10 studiju programmas pasniedzējiem, 9 studējošiem un 2 potenciāliem darba devējiem, kā arī notika iepazīšanās ar pieejamo apmācības bāzi (bibliotēku, lekciju telpu, datorklasi). Vizītes laikā tika pieprasīti un saņemti papildus materiāli (Stratēģija, nodarbību saraksti, kursa projektu piemēri, 2010.gada diplomdarba tēmu saraksts (divas tēmas).

Balstoties uz visu iepriekš minēto, pirms un vizītes laikā iegūtās informācijas izpēti sniedzu savu novērtējumu par studiju programmu Mikroelektronisko čipu datorvadības projektēšana”.

Novērtēšanas skala: 4(teicami), 3 (labi), 2 (apmierinoši), 1 (neapmierinoši).

I Mērķi un uzdevumi.

Novērtējums: ...2.....

Komentārs:

1. Studiju programmas mērķu, uzdevumu un **studiju rezultātu** skaidrība, sasniedzamība un pārbaudāmība. Paredzēto **studiju rezultātu** saskaņotība ar studiju saturu un organizāciju.

Novērtējums: 2.

Komentārs: programmas mērķi un uzdevumi ir noteikti neskaidri, jo programmas nosaukums, pašnovērtējuma ziņojuma ievaddaļas teksts un programmas saturs ir savstarpēji pretrunīgi. Nosaukums runā par čipu projektēšanu, ievaddaļa par elektronikas inženierzinātni, bet programmas saturs faktiski atbilst datorzinātnei (programmēšanai). Lai sasniegtu izvirzīto mērķi – „sagatavot Latvijas, Eiropas un pasaules darba tirgum konkurētspējīgu IT speciālistu, kurš varētu gan darboties dažāda veida uzņēmumos, gan arī turpināt izglītību maģistrantūras un doktorantūras programmās zinātniskā un pedagoģiskā darba veikšanai.” studiju procesā netiek dotas pietiekamas un sistēmiski uz mērķi orientētas nepieciešamās zināšanas. Paredzamā studiju rezultāta saniešana pie pastāvošās studiju organizācijas un studiju satura var būt problemātiska.

2. Studiju programmas atbilstība četriem galvenajiem augstākās izglītības mērķiem (personības, demokrātiskas sabiedrības un zinātnes attīstības uzdevumu risināšana, darba tirgus prasību apmierināšana). Studiju **stratēģijas un mērķu** savstarpējā saskaņotība studiju programmas ietvaros. Studiju nākotnes **vīzija**, studiju misijas pildīšana, ņemot vērā studējošo, darba devēju un profesionālo organizāciju viedokli.

Novērtējums:2.....

Komentārs: Nelielais studējošo skaits sekmē individuālu darbu ar katru studējošo, tas pozitīvi sekmē personības izaugsmi. Pastāvošais viena dominējošā pasniedzēja stāvoklis ierobežo akadēmisko brīvību, jo studējošiem ir ierobežota radošo un pētniecisko darbu tēmu izvēle. Uz

tikšanās bija ieradušies tikai divi potenciālie darba devēji no CARO Electronics (elektronisko komponentu tirgotājs) un AS ALFA PRAR (pusvadītāju ražotājs), un abiem faktiski bija maza ieinteresētība pēc šīs studiju programmas beidzēju iesaistes savos uzņēmumos. Tāpēc nav pārlicības, kas šī studiju programma ir saskaņota ar darba tirgus prasību apmierināšanu.

II Studiju saturs un organizācija.

Novērtējums:2.....

Komentārs:

3. Studiju satura atbilstība iegūstamajam grādam un/vai kvalifikācijai, **kvalifikāciju ietvarstruktūras** prasībām. Studiju satura atbilstība studiju programmas mērķiem un uzdevumiem.

Prakses atbilstība un saistība ar teorētisko daļu. Individuālā pieeja, iespēja apstiprināt iepriekš iegūto izglītību un pieredzi.

Novērtējums: ...2.....

Komentārs: Lai atbilstu studijas programmas nosaukumam un pašnovērtējuma ziņojumā izvirzītiem mērķiem, studiju programmu būtu nepieciešams papildināt ar tādiem priekšmetiem kā „Signāli un sistēmas”, „Signālu ciparapstrāde”. Studiju procesā studentiem nav pieejami attīstītājrīki (*development kits*), līdz ar to tikai nosacīti var runāt par praktisko daļu tieši čipu projektēšanas sadaļā.

4. Studiju programmas un tās atsevišķu daļu saskaņotība ar Latvijas un Eiropas kopējās izglītības telpas veidošanas prasībām, tai skaitā izmantojot salīdzinājumu ar vismaz 2 ES valstu studiju programmām. Atbilstība Latvijas Republikas normatīvajiem aktiem.

Novērtējums: ..2.....

Komentārs: Pašnovērtējuma ziņojumā ir dots salīdzinājums ar Vilnius Gediminas Technical University (VTU, Lietuva) un University of Newcastle (UNL, UK) programmām, kas tāpat pēc programmas veidotāju domām ir tuvāk atbilstošās. Taču salīdzinošā tabulā var redzēt, ka mikroelektronikas priekšmetu grupas (atbilstoši nosaukumam tā ir galvenā programmas orientācija) procentuālā daļa ir vairāk kā divas reizes mazāka par salīdzinājumam piedāvātām studiju programmām.

5. Akadēmiskā personāla kvalifikācija un profesionalitāte.

Novērtējums:2.....

Komentārs: Akadēmiskā personāla sastāva kvalifikācijas līmenis nevienmērīgs. Ir izteikts „līderis” As.prof. I. Lemberskis, kuram ir plašas un savā jomā kvalificētas zināšanas. Programma sevi pozicionē kā multi-valodu, tomēr tiekoties ar pasniedzēju kolektīvu neradās pārlicība par visa pasniedzēju kolektīva spēju kvalitatīvi sazināties trijās – latviešu, krievu un angļu valodās.

III Studijas un zināšanu novērtēšana.

Novērtējums: ...3.....

Komentārs:

6. Modernas studiju metodes, studijās sagaidāmo rezultātu skaidrs izklāsts, problēmu risināšana, datoru, multimediju un interneta izmantošana.

Novērtējums:2.....

Komentārs: Vērtējot studiju kursu aprakstus to mērķu izklāsts ir ļoti vispārīgs, bet konkrēti sagaidāmie rezultāti nav doti vispār. Izmatotās metodes ir pamatā orientētas uz teorētisko apmācību, praktiskie un laboratorijas darbi tiek veikti tikai uz datora. Atbilstoši akreditācijas materiāliem lekcijas notiek tikai krievu valodā.

7. Palīdzība studentiem, akadēmiskā personāla konsultācijas, akadēmiskā vadība un studēšanas motivācijas paaugstināšana.

Novērtējums:4.....

Komentārs: Maza studiju grupa dod daudz iespēju individuālam darbam.

8. Zināšanu, prasmju un studiju procesā iegūto spēju veikt noteiktus uzdevumus novērtēšanas metožu objektivitāte, saistība ar studiju rezultātiem un izmantošana studiju procesa pilnveidošanai. Eksperta novērtētā studentu sasniegumu līmeņa salīdzinājums ar studiju procesā noteikto sasniegumu līmeni.

Novērtējums:4.....

Komentārs:

IV Studiju nodrošinājums un vadība.

Novērtējums: ...2.....

Komentārs:

9. Demokrātijas principu ievērošana studiju programmas vadīšanā, skaidri noteiktas administrācijas pārstāvju, akadēmiskā personāla un studentu savstarpējās attiecības.

Novērtējums:3.....

Komentārs: Liela studiju programmas direktora dominante.

10. Sadarbība ar citām izglītības iestādēm, zinātniskajām institūcijām, starptautiskām organizācijām, akadēmiskā personāla un studentu apmaiņas ar citām augstskolām.

Novērtējums: ...2.....

Komentārs: Ļoti vāja sadarbība Latvijas ietvaros ar tādām programmai radniecīgām izglītības institūcijām kā RTU DITF un ETF, LU DF un FMF, VeA IPC un zinātniskiem institūtiem - Elektronikas un datorzinātņu institūts, LU Matemātikas un informātikas institūts u.c. Būtu vēlams uzsākt sadarbību ar LEtERA. Lai sadarbotos starptautiskā līmenī čipu projektēšanas jomā būtu vēlams iesaistīties EURO PRACTICE projektā.

11. Studiju programmas metodiskais, informatīvais un materiāltehniskais nodrošinājums.

Novērtējums:2.....

Komentārs: Bibliotēkā pieejamie materiāli programmas specialitātes priekšmetos ir mazā skaitā, daļēji novecojuši, kā arī lielā mērā tikai krievu valodā. Nepietiekams materiāltehniskais nodrošinājums praktisko un laboratorijas darbu veikšanai (ļoti trūcīgi rīki datorizētai čipu projektēšanai, nav attīstītājrīki projektu realizēšanai praktiskos čipos).

V Personāla un studentu zinātniskās pētniecības (radošais) darbs.

Novērtējums:1.....

Komentārs:

12. Akadēmiskā personāla iesaistīšanās zinātniskās pētniecības (radošajā) darbā, zinātniskās pētniecības darbu tematikas aktualitāte un saistība ar studiju programmas saturu, pētniecības darbu publicēšana starptautiski pieejamos un recenzējamajos izdevumos (izstādēs, skatēs, uzvedumos utml.) un/vai praktiskā izmantošana, iekļaušanās inovatīvā darbībā.

Novērtējums:2.....

Komentārs: No iesniegtiem datiem izriet, ka tikai ļoti maza daļa no akadēmiskā personāla iesaistās zinātniskos pētījumos, kuru rezultāti tiek publicēti.

13. Studentu iesaistīšanās zinātniskās pētniecības (radošajā) darbā, zinātniskās pētniecības darbu tematikas saistība ar studiju mērķiem un sagaidāmajiem studiju rezultātiem,

studentu iesaistīšanās nacionālos un starptautiskos pētnieciskos un radošos (mākslinieciskos) projektos.

Novērtējums: ...1.....

Komentārs: Sarunas ar studentiem parādīja, ka viņi neiesaistās zinātniskās pētniecības darbā. Tas ir pilnīgi nepieņemami programmai, kura ir akadēmiskā studiju programma.

VI Kvalitātes nodrošinājums un garantijas.

Novērtējums: ...2.....

Komentārs:

14. Ikgadēja studiju programmas vājo un stipro pušu, izmaiņu, attīstības iespēju un plānu apspriešana, iekšējās pašnovērtēšanas un kvalitātes pilnveidošanas sistēmas **nepārtraukta** darbība. Iekšējās kvalitātes nodrošināšanas sistēmas atbilstība ENQA izstrādāto *Eiropas standartu un vadlīniju kvalitātes nodrošināšanai augstākajā izglītībā (ESG)* prasībām.

Novērtējums:nv.....

Komentārs: No pieejamiem materiāliem neesmu kompetents spriest par ikgadēju SVID analīzi un kvalitātes pilnveidošanas sistēmas nepārtrauktu darbību.

15. Absolventu **iespējas** (nākotnes perspektīvas) veiksmīgi strādāt apgūtajā specialitātē.

Novērtējums:1.....

Komentārs: No sarunām ar studentiem un uzaicinātiem potenciāliem darba devējiem neradās priekšstats, ka kādam no absolventiem pēc beigšanas būtu skaidras iespējas strādāt pie datorizētas čipu projektēšanas. Tam pietrūkst arī praktiskās iemaņas, kuras vajadzētu iegūt studiju laikā savus projektus realizējot ar attīstītājriķu (*development kits*) palīdzību.

16. Studentu **sagatavotība** tālākai kvalifikācijas pilnveidošanai un personības attīstībai, studiju **turpināšanas iespējas** un **finansiālās garantijas** studiju programmas likvidācijas, reorganizācijas vai citu izmaiņu gadījumā.

Novērtējums:2....

Komentārs: Formāli ir vienošanās ar ISMA par studiju programmas turpināšanu, bet praktiski, ņemot vērā, ka programma pēc būtības ir As.prof. I.Lemberska „autorprogramma”, ISMA būs gandrīz neiespējami nodrošināt līdzvērtīgu studiju programmu.

Rekomendācija:

Atbalstu novērtēšanas komisijas kopējo ieteikumu un rekomendēju akreditēt studiju programmu „Mikroelektronisko čipu datorvadības projektēšana” uz diviem gadiem, kuru laikā būtu nepieciešams ņemt vērā ekspertu izteiktos ieteikumus studiju programmas uzlabošanai.

Papildus ieteikumi:

1. Skaidrāk definēt vai studiju programma ir orientēta uz elektronikas inženierzinātņu vai datorzinātņu (programmēšanu), lai atbilstoši orientācijai studiju programmas pilnveidošanā censtos iesaistīt atbilstošo jomu profesionāļus.
2. Uz klausot studentu un potenciālo darba devēju viedokļus, pārdomāt nepieciešamību pārveidot programmu par profesionālo studiju programmu.
3. Rast iespējas studentus un pasniedzējus aktīvi iesaistīt zinātniski pētnieciskajā darbā.
4. Modificēt pasniedzēju sastāvu, lai tas būtu viendabīgāks gan no kvalitātes līmeņa, gan no kursu pasniegšanas sadalījuma viedokļa.
5. Apsvērt iespēju studiju programmā iekļaut kursus saistītus ar signālu sistēmām un signālu apstrādi. Tas ir nepieciešams gan elektronikas inženierzinātnes, gan datorzinātnes orientācijas gadījumos.

6. Ne tikai vārdos, bet arī darbos nodrošināt multi-valodu iespēju studiju programmas apgūvē.
7. Noteikti iegadāties un izmantot studiju procesā čipu projektēšanas attīstītājrīkus, ar kuru palīdzību studenti var praksē pārliecināties par savu projektu darboties spējām.
8. Bibliotēkā nodrošināt daudz plašākā klāstā mācību materiālus šīs programmas galvenajos priekšmetos.
9. Apsvērt iespēju iesaistīties EUROPRATICE programmā.
10. Veidot aktīvu sadarbību ar līdzīgām Latvijas studiju programmām, zinātniskiem institūtiem, paplašināt sadarbību ar nozares uzņēmumiem.

/Modris Greitāns/

Rīgā, 2010.gada 11.jūnijā