

**ALYTUS COLLEGE**

**Informatics Study Programmes**

**FINAL REPORT**

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## *Profile of Programmes of Informatics study field*

<b>Title of Study Programme</b>	Programming for Computers	Programming for Computers
<b>State code</b>	65309P102	65309P102
<b>Kind of study<sup>1</sup></b>	NU	NU
<b>Mode of study<sup>2</sup> (duration in years)</b>	FT(3)	PT(4)
<b>Volume of study programme in credits</b>	120	120
<b>Degree and (or) professional qualification to be awarded</b>	Programmer	Programmer
<b>Programme registration date, order No.</b>	21-06-2001, No. 1026	25-06-2002, No. 1181

### **1. Introduction**

Alytus College (AC) is located in Alytus, “the capital of Dzūkija” in South Western Lithuania. It has over four decades history of providing a specialist professional education according to the regional needs (in 1960 established as *Alytaus mechanikos technikumus*, from 1972 *Alytaus Polytechnikumas*). It is currently providing a number of higher non-university study programmes.

There are currently two Faculties – Faculty of Management and Faculty of **Technologies**. There are six Departments: **Informatics and Mathematics**, Administration and Management, Marketing and Sales, Finance and Accounting, Foreign Languages and Transport Engineering. The departments coordinate the applied research and assure the implementation of the course objectives.

Practical training, acquisition of academic and applied research skills, and career possibilities is delivered by **eight Centres** which are charged with one common goal – to form skills of **entrepreneurship**. The Centres are: **Information** (learning resources including Internet and Foreign Language Rooms as well as Special Resources facilities including CISCO Lab), Business Practical Training Company „H&A export company“, Distance Learning, Business Innovation, **Applied Research**, Publishing, and Career.

The Alytus College is currently involved into implementation of a number of **projects** which will help to **improve delivering of the Informatics-related education**:

- “Improvement of Alytus College activities, modernizing learning environment and improving study infrastructure“ (source of funding is not specified in the self-assessment document, presumably own resources) – involves improvement of the relevant IT resources for teaching and applied research;

<sup>1</sup> NU – Non-university studies; U – Undergraduate studies; M – Master studies;  
 SP – Specialised Professional studies; I – Integrated studies;

<sup>2</sup> F – Full-time; PT – Part-time (Extramural).

- "Development of Alytus College implementing innovative study programmes and improving quality of studies" (BPD2004-ESF-2.4.0-01-04/0066 – presumable state funded).

## 2. Aims and goals of the Study Programme

Aims and goals of the study programme are stated in the self-assessment document.

## 3. Analysis of the Programme

### 3.1. Study programme *Programming for Computers* (Full-time studies)

#### 3.1.1 Structure, contents and study methods

**The Package of General Professional Education courses (33 credits)** includes studies of Fundamental sciences (Mathematics, Informatics), Humanities (Standards of Language, Foreign Languages, Philosophy) and Social sciences (Psychology, Management, Micro and Macro Economics, Law).

#### Comments:

- Mathematics – generally OK, could be better oriented to the Computer Graphics in the following years (e.g. by allowing a special set/route of courseworks for Informatics students);
- Introduction to Informatics – content is OK and generally this kind of skills/knowledge is expected from the secondary school graduates before they enter to the Higher Education Institution (HEI). However, it seems that the large differences in IT-skills among the entrants to HEIs is a problem across many EU countries (e.g. city vs. village education).
  - Taking into account that a content of this module is very similar to the ECDL it is very advisable to consider further integration of this module with ECDL programme and may be even establishing of the ECDL training/examination centre at the College;
  - Obtaining an ECDL certificate is very valuable for the students of all disciplines across the College;
  - Finally, better differentiation/specialisation is advisable (e.g. by allowing a special set/route of exercises/courseworks for Informatics students and those who already have ECDL-equal skills).

**The package of Acquisition Programmer's Qualification modules (44 credits)** can be divided into two groups:

- Core Computer Science/Informatics modules (there are comments to some modules):
  - Computer Architecture
  - Operating Systems

- Programming C++
- Computerized Information Systems
- Data Structure and Algorithms
- Mathematical Statistics
- Programme Engineering
  - Better title for this module is “Software Engineering”;
  - This module shall follow ACM/IEEE recommendations about Software Engineering curricula.
- Basics of Computer Networks
  - Content is OK as a very introductory module compulsory to anybody studying Informatics, however, students who would be interested to continue studies at Universities shall be clearly told that this module will not prepare them to any serious Engineering study programme such as Communications Engineering, Computer Network Engineering, etc.
- Computer Graphics I
  - Content is pretty much focused on drawing using AutoCAD tool and some AutoLisp programming rather than Computer Graphics per se – thus, title of the module is not really fully informative and something like “Introduction to Computerised Drawings” would better reflect the current content;
  - OpenGL seems to be one of the most popular graphics libraries and it is not reflected in the content of the module.
- Information Search Systems/Information Security
- Creation of Websites
  - Better title is “Server-side Programming”; more explicit use of the Open Source server software is very much advisable.
- Databases
  - Better title is “Introduction to Databases” or “Databases I”;
- Layout/ Technology of Object Modeling
  - Better title is “Computerised Publishing Technology”.
- Additional modules – not really relevant to the core of the profession and shall be relocated or made electives:
  - Basics of Business Planning
  - Marketing – more relevant to E-commerce specialisation
  - Finance and Management Accountancy

### **The package of Specialisation I: Data Base Systems:**

- Programming VB
  - Title such as “Rapid Applications Development” better reflects the aims of this module. The fact that currently it is delivered using VB on Wintel platform may change in the future but the main concepts could be the same. Thus, applying of more general approach and reducing dependence on the Microsoft products is very much advisable (e.g. what about Open Source alternatives).
- Object Programming
  - Better title is “Windows Programming”.
- Automated Data Control
  - Better title for this module is “Databases II”
- Computerized Finance Accountancy
  - Better title is “Enterprise Data Modelling for Accounting”

### **The package of Specialisation II: Technologies of Electronic Commerce:**

- Electronic Commerce
  - The content of this module is focused on the learning outcomes of the type “know something about XYZ” rather than “make e-commerce system for XYZ type of industry”;
  - Better title is “Introduction to E-commerce”;
  - A module such as “Introduction to E-commerce” is better suitable for the general part of the study programme;
  - Specialised module on “E-commerce Programming Technologies” would be a very useful addition.
- Programming (JAVA, PERL)
  - The content of this module is mostly suitable to the e-commerce area but it rises a few questions:
    - Why Java ONLY for E-Commerce? It is better to introduce it for all Informatics programmes;
    - Why Perl [and also Python!] is not taught as a part of the “Server-side Programming”;
    - If Java is “the chosen language” of the College/Faculty then why there is no modules such as “Introduction to Programming (with Java)”[in many HEIs such introductory Java course is taught as an “object-less” structural subset of Java] and “Advanced Java Programming” (mostly content of this module with all necessary objects/libraries/links to databases/Internet applications/etc);

- Obviously, it rises a question about a place of module “Programming in C++” in the study programme.
- Internet Marketing
- Computer Graphics II
  - Module is mostly focused on the graphical design with tools such as Photoshop and CorelDraw – thus, it is definitely not acceptable as a “Computer Graphics II” but shall be renamed to something like “Applied Graphics Authoring” (at the Universities such types of modules are generally taught at the level not higher than at the year 2);
- Economics of Information Processing
  - It is obvious that if this type of knowledge is obtained by the graduates of any Higher Education Institution preparing IT-specialists then it will make them much more useful to many types of the potential employers. In a case of Alytus College it is especially true for those students who are “practice-oriented”. This subject is very much dependant on the country’s economy, laws and other regulations;
  - This subject shall be compulsory amongst the modules in a **package of Acquisition Programmer’s Qualification modules**;
  - However, current programme is not reflecting any aspects of the EU economics as well as any EU and Lithuania data privacy regulations acts.

Thus, it is obvious that current programme of studies was created according to the needs as it was seen in 2000 but current market changes as well as aspects of the relations between Alytus College and partner Universities are requiring to re-consider some of the details of this generally successful programme.

### **3.1.2 Execution of studies and support for students**

There are no specific problems rised by the students. There are a few [very visible construction] projects in progress which hopefully will improve delivering of the Informatics studies in this institution.

### **3.1.3 Variation in the number of students**

This topic was not considered by the Group. Current numbers of students in each year of studies is pretty small and stable (but generally can be considered as sustainable for running of this programme of studies) and this probably reflects regional needs.

### **3.1.4 Teaching staff**

Students have expressed high satisfaction with support they are getting from the teaching staff. This programme is not a part of the University studies where expectations of active research by the staff members is typical. Thus, there are no specific comments on the teaching staff.

### **3.1.5 Strengths and Weaknesses of the Programme**

#### **Strengths**

1. The programme is mostly satisfying regional demand in term of skills of graduates;
2. Introducing of the European Credit Transfer System have made the process of studies more flexible. Since 2002 the students of PC Study Programme have been taking part in international student Exchange programmes.
3. Programme of studies has demonstrated reflectiveness to the labour market dynamics - two specializations were introduced such as “Data Bases” and “Electronic Commerce”. It seems that the current course structure will allow to add more specializations if needed.
4. Students are equipped by the wide professional education rather than narrow specialised knowledge area training – it helps them to adapt in the various fields of professional activities.
5. The self-assessment document is stating that “the PC study programme is concerted with that of VGTU Informatics Engineering university programme, thus ensuring continuity of studies”.

#### **Weaknesses**

1. The Study programme does not give enough credits for students’ individual work and training their research skills (e.g. specialization course projects). This can be improved by introducing a special modules with credits (and marked reports) for various activities such as industrial placements as well as course projects.
2. Too many subjects per semester. This rises an issue of the deepness of studies.
3. The self-assessment document is stating that “International companies and joint ventures have not been sufficiently used as host organizations for students’ practical training (it is important for Lithuania at the time of integrating to the EU)”. This is a very good point to any other institution but in the case of Alytus College it is rather positive point because they are looking at the addressing of this issue.
4. Research activity of the teaching staff is very limited (as judged by the publications).

### **3.2. Study programme Programming for Computers (part-time, (extramural) studies)**

This programme is running the same set up as the full-time version (with obvious differences due to delivering mode, contact hours per year, etc.). Thus, comments about programme’s organization, etc. are the same as to the full-time programme. Distance learning facilities for extramural studies include using of WebCT what is pretty standard for many EU countries. Student numbers on this programme are growing what can be creating problems in the future – thus, needs careful planning.

## **4. General assessment of the programmes within the study field**

### **4.1 Recommendation to the higher education institution**

- It is highly recommended that modules are assigned codes which reflect ownership of the module by the Department which delivering it as well as a level (year) of teaching. It will make it much easier to overview coherency of the programme based on the codes of the delivering Departments. Also, when program of studies is changing significantly it is advisable to allocate new codes to the new versions of modules because it will help to manage study process if there still are students (e.g. part time) who have to be taught according to their original (old) programme - it is much more obvious which version of a module students are taught. For example:
  - IM101 “Introduction to Informatics” – owned by the Department of Informatics and Mathematics, is taught in year 1
  - MS201 “Marketing” – owned by the Department of Marketing and Sales, is taught in year 2;
  - In some cases in could be also useful to have indication of the Semester in the year:
    - IM111 “Introduction to Informatics” in Semester 1 of year 1;
    - IM121 “Introduction to Informatics” in Semester 2 of year 1;
    - IM131 “Introduction to Informatics” in Semester 1 and Semester 2 of year 1 (e.g. when there is both September and February intake);
  - Additionally, in a case of close collaboration with Universities it would be advisable to take full content of the modules from University programme for delivering at the College and have clear “translation table” which is mapping University and College module codes. It will help students to get Accreditation of the Previous Experience and Learning (APEL) when they are transferring to the University programme.
- Comments regarding individual modules are described in the document above.

## 8.2. Proposal on accreditation

Alytus College non-university study programme *Programming for Computers* (state code 65309P102) is given full accreditation.

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# STUDIJŲ KOKYBĖS EKSPERTŲ TARYBA

## POSĖDŽIO PROTOKOLAS

2007-04-20 Nr. 7-3

Vilnius

Posėdis įvyko 2007 m. balandžio 20 d.

Posėdžio vieta: Vilnius, Studijų kokybės vertinimo centras

Posėdžio laikas: 14<sup>00</sup> – 16<sup>30</sup> val.

Posėdžio pirmininkas Algirdas Čižas

Posėdžio sekretorė Rasa Šmergelienė

Dalyvavo Tarybos nariai: Algirdas Eduardas Čižas, Vytautas Daujotis, Rimantas Jankauskas, Onutė Junevičienė, Angelė Kaušylienė, Justas Nugaras, Juozas Kulys, Marijonas Rimantas Urbonavičius, Pranas Žiliukas, Daina Lukošūnienė.

Posėdyje taip pat dalyvavo: Studijų vertinimo skyriaus vedėjas A. Šerpatauskas.

### **DARBOTVARKĖ:**

<...>

1. Informatikos krypties studijų programų išorinio išsamiojo vertinimo išvados.

<...>

### **NUSPĖSTA:**

<...>

1.20. Pritarti ekspertų grupės siūlymui Alytaus kolegijos studijų programą *Programavimas kompiuteriams* (65309P102) akredituoti be sąlygų.

Už šį sprendimą balsavo visi 10 dalyvavusių Tarybos narių.

<...>

Posėdžio pirmininkas

A. Čižas

Posėdžio sekretorė

R. Šmergelienė