Minor Program

in

Information Technology

Kutaisi 2011
Name of the Academic Program:
Information Technology

Stage of Higher Education:
Bachelor's Degree Course

Language of Instruction:
Georgian

Program Prerequisites:
1. certificate of General Education, passing Unified National Examinations in Georgian, general skills, English language and an optional fourth subject, obtaining the status of a student of Kutaisi University
2. minimum “C” grade in the following modules:
   - Information Processing in a Modern Office
   - Mathematics for Economists 1;
   - Mathematics for Economists 2
3. 60% and above in the specialized test

Program Volume:
Overall volume of the program is 60 credits or 1500 hours.

General overview of the program:
Modern life is unimaginable without the use of information technology. Accessing and processing information in time is one of the major priorities. Nowadays even financial operations can be carried out without leaving home. However, avoiding risks in performing these operations requires high level of qualification of the software designer. In any area of human activity the use of information technology opens possibilities for reaching qualitatively new stages of development and solving tasks more efficiently.

The main aim of the Minor in “Information Technology”:
The program aims to provide future specialists with in-depth knowledge of the architecture and functioning of computers, introduce them to the issues involved in local network setup and operation, teach them modern programming languages, explain the potential problems with creating an independent program unit, review specific features of working with a data base and issues connected with web page design.

The overall aim of the program is achieved through completing the following tasks as part of the academic process:
• familiarizing the students with the principles and characteristics of operation of the key elements of computers, developing the skills required for setting up a local network and getting acquainted with specific features of operational systems;
• providing information on the essence of algorithms and methods of their creation, evaluation of problem complexity and optimal ways of creating algorithms for any solvable problem;
• analyzing the issues involved in building data structures;
• studying programming language specifications and operation of the codes created on their basis.

The course aims to
• introduce students to the challenges of setting up and operating computer systems and networks;
• give future specialists clear idea of various types of data bases and theoretical basis of the modern relational model; help students acquire practical skills in using data base design, unity and manipulation language;
• develop skills in using the main methods and rules of modern Object Oriented Programming (OOP); raise awareness of the three fundamental concepts in OOP: encapsulation, polymorphism and inheritance; study the features of the main objects in OOP;
• explore the essence of classes and study the issues related to creating new classes;
• discuss problems of creating applications linked with databases in OOP;
• review the main principles of graphic design on the basis of a modern professional graphic editor Adobe Photoshop;
• clarify the issues of creating up-to-date design for web pages, introduce basic technology and program packets for creating interactive internet sites; provide information on Hypertext Makeup Language, cascading style in formatting, scripting languages and personal server page;
• introduce the basics of VBA (Visual Basic for Application) and the ways of its application for more effective use of office programs;
• develop students’ team work skills for creating new software products;
• foster independent study and research skills oriented to new information technologies.

Course Outcomes:
The students successfully compelting the course will have the following competencies and skills:

1. **Knowledge**

Students will have knowledge of

• the architecture and functioning of computer systems and networks;
• the foundations of the theory of algorithms;
• structural or Object Oriented Programming methodology
• the principles of designing databases and database management;
• managing server databases using structural language;
• issues involved in creating static and dynamic Web-pages, managing its design as well as programming aspects
• principles of programming for office purposes.

1. **Applying knowledge**

   Students will be able to

   • discover problems at systemic, hardware or software levels and make adequate decisions;
   • design and set up a local network for the office;
   • optimize an algorithm for solving a practical task; break the task down into modules and creating a program code using structural or Object Oriented Programming methodology;
   • study the essence of the practical task, build a relational model and create a relevant database management system;
   • manage databases using a structural command language;
   • create static and dynamic web pages using various visual effects;
   • ensure that document processing in the office is automatized to a certain degree.

2. **Making judgements**

   ability to make independent decisions and develop relevant recommendations

3. **Communication Skills**

   ability to formulate their opinions on topical issues in oral and written form;

4. **Learning skills**

   ability to assess their knowledge of the material and explore the issues further;

5. **Values**

   raise students’ awareness of the ethics of participation in a debate, their ability to listen to and appreciate others’ points of view.

**Employment Opportunities**

Minor in “Information Technologies” is offered within the major program in “Business Administration”. Consequently, the modules taught as part of this program aim to refine the competencies developed within the Major program thus increasing the graduate’s competitive potential on the labor market and forming a foundation for a successful career.
**Teaching Methodology**

Teaching within the program will be conducted using modern methodology of teaching and learning as described in the didactic concept of KU. Applying independent, competitive and cooperative approaches in teaching, facilitating student interaction and planning a variety of academic activities ensures high level of student motivation, effectiveness of knowledge acquisition and development of social skills. This approach makes the academic process more enjoyable, varied and interesting (quality of knowledge acquisition, critical thinking) and comprehensive (skill building, information coverage). Alongside with traditional lectures practical trainings, group work, projects, case studies and other active methods of teaching are used.

**Assessment**

Assessment implies measuring an object, event or a process against pre-defined criteria. The main purpose of assessment is to determine the quality and results of student learning with regard to the aims and parameters of the academic program. For measuring students' success the program uses the criteria of assessment that determine whether the students have developed skills necessary to solve problems in the business context, whether they are capable of formulating prerequisites and conditions, research questions, conclusions and recommendations, if they can organize their own work, report on their findings and conclusions and provide arguments in their defense. Summative as well as formative (providing feedback) assessment is used.

The system of assessment aims to provide a qualitative descriptor of students’ results as measured against the aims and parameters of the academic program.

The structure of assessment in each module/discipline comprises two elements – intermediate and final assessment – with certain percentage attached to each of them. Intermediate assessment may also contain several components each carrying certain percentage. A grade is calculated from the sum of both elements of assessment considering their percentage. Minimum pass grade is 51.

An examination is an instrument of assessing students’ knowledge and it aims to reveal the degree to which students have familiarized themselves with the given module or course.

All tests are administered in written form.

**Prerequisites for allowing students to take a final examination:**

- Students are allowed to take examinations if sum total of mid-semester exams and maximum grade of the final exam is 51 points minimum.
- Preparing papers, presentations, etc. This implies that students who have not handed in their papers or any coursework are not allowed to take the final examination until they complete all these assignments even if in other components they have reached the pass grade.
- Complying with the requirements of the KU Statute and conditions of contracts.
The System of Assessment

Student performance is assessed on a scale of points, maximum final grade in each module being 100 points. A student’s overall grade is not based only on the results of the final exam. It is derived from the results throughout the course.

This system of assessment recognizes 5 types of passing grade.

- 91% of maximum grade and over – A (excellent)
- 81% of maximum grade and over – B (very good)
- 71% of maximum grade and over – C (good)
- 61% of maximum grade and over – D (average)
- 51% of maximum grade and over – E (satisfactory)

There are 2 fail grades:

- 41-50% of maximum grade – FX (unsatisfactory), means that some more work is required to pass and the student has the right to retake the exam once after independent study. In this case the student must retake the examination in the same semester within 1 month but not earlier than in 10 days after the end-of-semester examination.
- 41% and lower of the maximum grade – F (fail) means that considerable further work is required and the student has to study the module again.

The program at KU is considered completed if the student accumulates the number of credits required by the program and successfully defends Bachelor’s dissertation.

GPA Calculation at Kutaisi University

<table>
<thead>
<tr>
<th>GPA</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
<td>higher than 91%</td>
</tr>
<tr>
<td>3.7</td>
<td>85 - 91%</td>
</tr>
<tr>
<td>3.3</td>
<td>81 - 84.9%</td>
</tr>
<tr>
<td>3.0</td>
<td>75 - 80.9%</td>
</tr>
<tr>
<td>2.7</td>
<td>71 - 74.9%</td>
</tr>
<tr>
<td>2.3</td>
<td>61 - 70.9%</td>
</tr>
<tr>
<td>2.0</td>
<td>51 - 60.9%</td>
</tr>
<tr>
<td>1.7</td>
<td>41 - 50.9%</td>
</tr>
<tr>
<td>1.3</td>
<td>30 - 39.9%</td>
</tr>
<tr>
<td>1.0</td>
<td>20 - 29.9%</td>
</tr>
<tr>
<td>0.0</td>
<td>0.0 - 19.9%</td>
</tr>
</tbody>
</table>

GPA for individual modules:

GPA for individual modules is calculated according to the table above. For instance, if a student has accumulated 88 points, their GPA is 3.7
Calculating Cumulative GPA

At the end of the term or an academic year a student’s cumulative GPA is calculated according in the following way

Cumulative GPA = total number of grade points / accumulated number of credits

Total number of grade points = individual GPA * course credit

For example, if you did 2 3-credit courses earning 88 points (GPA 3.7) and 78 points (GPA 3.0) for them, cumulative GPA for these two courses will be:

Total number of grade points = (3.7*3 credits) + (3.0*3) = 11.1 + 9.0 = 20.1
Cumulative GPA = 20.1 / 6 = 3.33

Material and Technical Resources

The university has adequate material and technical resources for implementation of the academic program: lecture rooms, a library, offices of the academic personnel, information and communication technologies, all the facilities and equipment needed for the program.

Human Resources

Otar Shengelia - Senior Teacher
Ineza Shengelia - Teacher
Ketevan Chelidze - Invited staff
Melkisedek Jinjikhadze - Invited staff