



Report from the Georgian Technical University

National Polytechnic University of Armenia
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Overall achievements

- ✓ *Analyzes of existing curricula in embedded systems at GTU;*
- ✓ *Review of syllabi in Embedded Systems curricula for the purpose of their change/modification;*
- ✓ *Research of the existing employment market using a questionnaire developed for DesIRE;*
- ✓ *Survey of students;*
- ✓ *Analyzes of the questionnaires;*
- ✓ *Preparations of a document “Analytical report on embedded System Curricula”;*



Overall achievements

- ✓ *Development of the e-learning environment for project DesIRE on the bases of LMS MOODLE;*
- ✓ *Participation in the Summer courses in Nitra, Slovakia;*
- ✓ *Selection of the motivated and gifted students to work with the software PTC Creo and Altium Designer;*
- ✓ *Implementation of new courses in the new curriculum of control systems and automation, according to syllabuses developed within the DESIRE project.*



Background

Since 2007 there are the joint international projects between Georgian Technical University and Technical University of Kaiserslautern, Germany (“Embedded Systems in education of Georgia”, Phase I and II).

During these projects two our professors (Associate Professor Ia Mosashvili and Invited Associate Professor David Mkheidze) are trained and then they have implemented new courses in GTU. The projects are funded by Volkswagen foundation. The lecture courses, practical works and laboratories are identical to German materials, which are learning at Kaiserslautern Technical University.



Background

Within the frame of those projects there were developed the following courses:

- ✓ *Fundamentals of Digital Systems*
- ✓ *Architecture of Digital systems I*
- ✓ *Architecture of Digital Systems II*
- ✓ *Computer modeling of digital systems*
- ✓ *Digital systems Lab I*
- ✓ *Digital systems Lab II*



New/Modified Curricula

Within the frame of project Desire there were implemented new/modified syllabi in the new curricula “Control Systems and Automation”:

- ✓ *Digital signal processing (new course)*
- ✓ Remote Labs and Virtualization (new course)
- ✓ *Digital system design (modification of course)*
- ✓ *Microcontrollers (modification of course)*
- ✓ Sensors, Actuators and Interfacing (modification of course)
- ✓ ECAD electronic design, ALTIUM (new course)



New/Modified Curricula

The following modules we are planning to embed in other curricula, namely in curricula of the Information Systems (at the Master level):

- ✓ New teaching approaches in Engineering;
- ✓ Soft Skills for engineers;



New/Modified Curricula

At the moment there is no Master program in Embedded Curricula, but we have a program Control of Technical Systems.

At the moment three Master thesis are preparing in the field of Embedded Systems and it is planned to use PTC Creo and Altium Designer in their work.



Plan of implementation of Project Modules

- ✓ *Microcontrollers 30h – David Mkheidze*
- ✓ *Digital System Design 30h – Ia Mosashvili*
- ✓ *Sensors, Actuators and Interfacing 30h – Ketevan Kotrikadze*
- ✓ ECAD electronic design, ALTIUM, 40 h – Ia Mosashvili
- ✓ Digital Signal Processing 60h – Nodar Narimanashvili
- ✓ Remote Labs and Virtualisation (60h + 45h) – Ia Mosashvili

- ✓ New teaching approaches in Engineering;
- ✓ Soft Skills for engineers;



Survey Results

- ✓ *Digital signal processing;*
- ✓ Remote Labs and Virtualization;
- ✓ *Digital system design;*
- ✓ *Microcontrollers;*
- ✓ Sensors, Actuators and Interfacing;
- ✓ ECAD electronic design, ALTIUM;
- ✓ C for Embedded Systems;
- ✓ Soft Skills for engineers;
- ✓ Management and Marketing for Engineers;



Activites

- ✓ Creation of the Expert Pannel for the DesIRE project at GTU;
- ✓ On-line participation in the Regional Meeting in Kiev, May, 2014
- ✓ Participation in Summer Course in Nitra, September, 2014
- ✓ After the Summer Course in Nitra we conducted the first round of trainings for members of our staff. There were 12 participants including Master students, who are going to continue their education and earn PhD Degree at GTU;
- ✓ Dissemination of the project results
 - GTU web-page;
 - at the Education Fair;
 - Presentation at the local conference “



Tempus

Des



Dissemination





Local Project Team

- Departments of Control Systems;
- Department of Information Systems
(Economics with Informatics)



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