COMPUTER ENGINEERING DEPARTMENT ACTIVITY REPORT - 2011/2012

For submission to the Epoka University,
Faculty of Architecture and Engineering

Tirana, June 2012

Department of Computer Engineering

Full Time Faculty Members

	Title	*Name Surname*
1.	Assist. Prof. Dr.	Albana Halili
2.	Assist. Prof. Dr.	Elton Domnori
3.	Assist. Prof. Dr.	Oğuz Altun
4.	Assist. Prof.	Vijaya Raju Mullagiri
5.	M.Sc.	Ahmed Fatih Ersoy
6.	M.Sc.	Elton Hoxha
7.	M.Sc.	İbrahim Mesecan
8.	M.Sc.	Igli Hakrama
9.	M.Sc.	Mukremin Ozkul
10.	B.Sc.	Ardi Xhelilaj

Part Time Faculty Members

	Title	*Name Surname*
1.	Prof. Dr.	Betim Çiço
2.	Assoc. Prof. Dr.	Bekim Fetaji
3.	Assist. Prof. Dr.	Arban Uka
4.	Assist. Prof. Dr.	Majlinda Fetaji
5.	M.Sc.	Edlira Kalemi

Contents

INTRODUCTORY KNOWLEDGE, MISSION AND GOALS

1.1 GENERAL

Computer Engineering covers a wide range of engineering applications from hardware, software, networking, system administration, database managements systems, etc. Computer Engineering is distinguished as being one of the latest engineering disciplines. It is involved to all sciences, being able to take those all more forward from their current positions by computerization.

1.2 MISSION

The mission of the Department of Computer Engineering is to educate the students to gain an understanding of the fundamentals of science and engineering so that they can develop solutions to Computer Engineering problems and enhance their computing, engineering, and research skills. It is aimed to especially emphasize teamwork, independent and innovative thinking and leadership qualities. In particular, the Computer Engineering Program aims to:

- Train the students to have theoretical background in basic sciences and engineering and to be equipped with necessary technical skills,
- Provide practical experience which will enable students to utilize and enhance their engineering knowledge,
- Promote students' self-discipline and self-assurance and the ability to learn on their own,
- Encourage team work, collaboration and development of interpersonal skills,
- Motivate the students towards contributing to the progress of science and technology,
- Teach the importance of ethical behavior in social and professional life,
- Produce graduates for the engineering and the business communities who are observant, inquisitive and open to new technologies for developing better solutions,
- Produce graduates for the engineering and business communities with integrity, determination, judgment, motivation, ability and education to assume a leadership role to meet the demanding challenges of the society.
- Develop students' competency in reading, writing and oral communication,
- The vision of the Department of Computer Engineering is to be a department whose graduates are highly preferred in worldwide IT industry and to gain a leadership position in Albania and Balkans.

1.3 PROGRAM

Computer engineering program is based on three year Bachelor Degrees. The first year of the program is mostly dedicated to the study of basic sciences and mathematics which provide the engineering fundamentals. The second and third year are mainly composed of basic engineering courses besides fundamental courses of computer engineering. Summer practice at the end of the second year and the courses at the last year aim to provide a Computer Engineering perspective to students.

Curriculum of the program includes elective courses, which give an opportunity to students to improve their professional skills according to their interests. Some courses are nontechnical and free elective courses, the remaining are computer engineering electives. The requirements for a Diploma in Computer Engineering include the completion of minimum of 180 ECTS credits of formal course work and 30 days of approved practical training.

1.4 JOB PPORTUNITIES

In the global industry, there is a strong demand for Computer Engineers particularly those who combine technical skills with good communication skills and team-work ability. Some but not all of the job opportunities can be summarized as follows:

- Working for companies such as banks, airline industries, government departments, consulting companies, and computer organizations that run large computer based systems, and firms specifying computer equipment for a certain application,
- Implementing data communication systems and Internet technologies,
- Designing and developing hardware components and interface cards for computer systems,
- Managing and working in high level software development projects,
- Maintaining and administering distributed databases and corporate local area networks.

1.5 EDUCATIONAL AIMS AND OBJECTIVES

1.5.1 **Aim**

To produce graduates who have the potential to become future leaders of this profession. In their careers our graduates will,

- Work productively as Computer Engineers, including supportive and leadership roles on multidisciplinary teams,
- Communicate effectively, recognize and incorporate societal needs and constraints in their professional endeavors, and practice their profession with high regard to legal and ethical responsibilities,
- Engage in life-long learning, such as graduate study, to remain current in their profession and be leaders in our technological society.

1.6 PROGRAM OUTCOMES

CEN Outcomes (Program Competencies) according to ABET Criterion 3

"Computer engineering program must demonstrate that their graduates have: Program Competencies-

Program Learning Outcomes	
1	an ability to apply knowledge of mathematics, probability & statistics, computer science, and engineering as it applies to the fields of computer software and hardware,
2	an ability to design and construct a hardware and software system, component, or process to meet desired needs, within realistic constraints such as economic, environmental, social, political, ethical, health & safety, manufacturability, and sustainability,
3	an ability to function on multidisciplinary teams,
4	an ability to identify, formulate, and solve hardware and software problems using computer engineering principles,
5	an understanding of professional, legal, and ethical issues and responsibilities as it pertains to computer engineering,
6	an ability to effectively communicate technical information in speech, presentation, and in writing,
7	the broad education necessary to understand the impact of computing in a global, economic, environmental, and societal context,
8	a recognition of the need for an ability to engage in lifelong learning,
9	a knowledge of contemporary issues, and
10	an ability to use the techniques, skills, and modern hardware and software tools necessary for computer engineering practice.

1.7 CURRICULA OF COMPUTER ENGINEERING

Students are accepted to 3 years bachelor education after completing their 12 years high school education. All of the course syllabuses were revised and updated according to Albanian Government regulations and ABET criterion. Curricula of Computer Engineering Department are given below.

1 First Semester		Credits					Work Load Per Semester				
		Theory	Recit.	Tot.	Credits	ECTS	Lect.	Recit.	Field_S	Other	Total
MTH 101	CALCULUS I	3	2	5	4	7	48	32	90	5	175
PHY 101	GENERAL PHYSICS I	3	2	5	4	6	48	32	70		150
ENG 101	DEVELOPMENT OF READING AND WRITING SKILLS IN ENGLISH I	4	0	4	4	6	64	0	86		150
CEN 100	INTRODUCTION TO COMPUTER ENGINEERING	3	0	3	3	5	48	0	77		125
CEN 111	INTRODUCTION TO ALGORITHMS & PROGRAMMING	3	2	5	4	6	48	32	65	5	150
		16	**6**	**22**	**19**	**30**	**256**	**96**	**388**	**10**	**750**

2 Second Semester		Credits					Work Load Per Semester				
		Theory	Recit.	Tot.	Credits	ECTS	Lect.	Recit.	Field_S	Other	Total
MTH 106	DISCRETE MATHEMATICS	3	0	3	3	5	48	0	77		125
CEN 112	C AND C++ PROGRAMMING	3	2	5	4	7	48	32	95	0	175
MTH 102	CALCULUS II	3	2	5	4	7	48	32	95		175
PHY 102	GENERAL PHYSICS II	3	2	5	4	6	48	32	70		150
ENG 102	DEVELOPMENT OF READING AND WRITING SKILLS IN ENGLISH II	4	0	4	4	5	64	0	58	3	125
		16	**6**	**22**	**19**	**30**	**256**	**96**	**395**	**3**	**750**

3 Third Semester		Credits					Work Load Per Semester				
		Theory	Recit.	Tot.	Credits	ECTS	Lect.	Recit.	Field_S	Other	Total
CEN 281	ELECTRICAL & ELECTRONIC CIRCUITS	3	2	3	4	5	48	32	45	0	125
CEN 283	COMPUTER ORGANIZATION	2	0	2	4	5	32	0	93	0	125
CEN 213	OBJECT ORIENTED PROGRAMMING WITH JAVA	3	2	5	4	5	48	32	45	0	125
MTH 201	DIFFERENTIAL EQUATIONS	3	0	3	3	5	48	0	77	0	125
MTH 205	PROBABILITY AND STATISTICS FOR ENGINEERS	3	0	3	3	5	48	0	77	0	125
XXX xxx	ELECTIVE	3	0	3	3	5	48	0	77	0	125
		17	**4**	**19**	**21**	**30**	**272**	**64**	**414**	**0**	**750**

4 Fourth Semester		Credits					Work Load Per Semester				
		Theory	Recit.	Tot.	Credits	ECTS	Lect.	Recit.	Field_S	Other	Total
CEN 254	DATA STRUCTURES	3	0	3	4	5	48	0	77	0	125
CEN 282	DIGITAL DESIGN	3	2	5	4	5	48	32	45	0	125
CEN 222	WEB TECHNOLOGIES	2	2	4	3	5	32	32	61	0	125
CEN 252	DATABASE MANAGEMENT SYSTEMS	2	2	4	3	5	32	32	61	0	125
MTH 204	NUMERICAL ANALYSIS	3	0	3	3	5	48	0	77	0	125
XXX xxx	ELECTIVE	3	0	3	3	5	48	0	77	0	125
		16	**6**	**22**	**20**	**30**	**256**	**96**	**398**	**0**	**750**

5 Fifth Semester		Credits					Work Load Per Semester				
		Theory	Recit.	Tot.	Credits	ECTS	Lect.	Recit.	Field_S	Other	Total
CEN 300	SUMMER PRACTICE	0	0	0	NC	5	0	0	125	0	125
CEN 303	ANALYSIS OF ALGORITHMS	2	2	4	3	5	32	32	61	0	125
CEN 323	WEB PROGRAMMING	2	2	4	3	5	32	32	61	0	125
CEN 381	MICROPROCESSORS AND MICROCOMPUTING	3	2	5	4	5	48	32	45	0	125
CEN 361	COMPUTER NETWORKS	2	2	4	3	5	32	32	61	0	125
XXX xxx	ELECTIVE	2	2	4	3	5	32	32	61	0	125
		11	**10**	**21**	**16**	**30**	**176**	**160**	**414**	**0**	**750**

6 Sixth Semester		Credits					Work Load Per Semester				
		Theory	Recit.	Tot.	Credits	ECTS	Lect.	Recit.	Field_S	Other	Total
CEN 306	OPERATING SYSTEMS	3	0	3	3	5	48	0	77	0	125
CEN 302	SOFTWARE ENGINEERING	2	2	4	3	5	32	32	61	0	125
CEN 372	ARTIFICIAL INTELLIGENCE	3	0	3	3	5	48	0	77	0	125
CEN 390	SENIOR DESIGN PROJECT (THESIS)	0	0	0	3	5	0	0	125	0	125
CEN 344	COMPUTER GRAPHICS	3	0	3	3	5	48	0	77	0	125
XXX xxx	ELECTIVE	2	2	4	3	5	32	32	61	0	125
		13	**4**	**17**	**18**	**30**	**208**	**64**	**478**	**0**	**750**

TECHNICAL ELECTIVES		Theory	Practice	FU Credits	ECTS Credits
CEN 304	FUNDAMENTALS OF SYSTEM ADMINISTRATION	2	2	3	5
CEN 313	PROGRAMMING LANGUAGES	2	2	3	5
CEN 377	MANAGEMENT INFORMATION SYSTEMS	3	0	3	5
CEN 378	INTRODUCTION TO E-BUSINESS/E-COMMERCE	2	2	3	5
CEN 400	INDUSTRIAL PRACTICE / TERM PROJECT	0	0	0	6
CEN 401	RESEARCH METHODS	4	0	4	6
CEN 402	RESEARCH METHODS	3	2	4	7.5
CEN 411	ADVANCED OBJECT ORIENTED PROGRAMMING	3	2	4	7.5
CEN 421	WEB ENGINEERING	3	2	4	7.5
CEN 424	XML AND WEB SEVICES	3	0	3	5
CEN 441	INTRODUCTION TO COMPUTER GRAPHICS	3	0	3	5
CEN 442	USER INTERFACE DESIGN	3	0	3	5
CEN 443	DIGITAL IMAGE PROCESSING	3	0	3	5
CEN 444	USER INTERFACE DESIGN	3	0	3	5
CEN 455	SPECIAL TOPICS IN DATABASE SYSTEMS	3	0	3	5
CEN 462	NETWORK SECURITY	3	2	4	7.5
CEN 463	ADVANCED CONCEPTS IN COMPUTER NETWORKS	3	2	4	7.5
CEN 464	DISTRIBUTED SYSTEMS	3	0	3	5
CEN 465	MOBILE AND WIRELESS NETWORKING	3	0	3	5
CEN 471	DATA MINING	3	2	4	7.5
CEN 472	SPECIAL TOPICS IN ARTIFICIAL INTELLIGENCE	3	2	4	7.5
CEN 473	MACHINE LEARNING	3	0	3	5
CEN 474	INTRODUCTION TO DATA MINING	3	0	3	5
CEN 476	MANAGEMENT INFORMATION SYSTEMS	4	0	4	6
CEN 477	INTRODUCTION TO MANAGEMENT INFORMATION SYSTEMS	3	0	3	5
CEN 478	INTERNATIONAL TO NATURAL LANGUAGE PROCESSING	3	0	3	5
CEN 479	INTRODUCTION TO E-BUSINESS / E-COMMERCE	3	0	3	5
CEN 484	EMBEDDED SYSTEMS	3	0	3	5
CEN 486	DIGITAL DATA COMMUNICATION	3	0	3	5
CEN 491	SENIOR DESIGN PROJECT I	2	4	4	5
CEN 492	SENIOR DESIGN PROJECT I	2	4	4	1

NON-TECHNICAL ELECTIVES		Theory	Practice	FU Credits	ECTS Credits
BUS 221	MARKETING	3	0	3	5
FL 201	TURKISH I	5	0	5	5
FL 211	TURKISH FOR BEGINNERS I	3	0	3	5
BUS 103	INTRODUCTION TO BUSINESS	3	0	3	5

Master of Science in Computer Engineering

Students are accepted to Master of Science education after completing their Bachelor of Science education and must complete 120ECTS course work load with one semester thesis to get this title.

1 First Semester		Credits					Work Load Per Semester				
		Theory	Recit.	Tot.	Credits	ECTS	Lect.	Recit.	Field_S	Other	Total
CEN 403	SOFTWARE PROJECT MANAGEMENT	3	2	5	4	7.5	48	32	99.5	8	187.5
CEN 483	COMPUTER ARCHITECTURE	3	2	5	4	7.5	48	32	103.5	4	187.5
XXX xxx	ELECTIVE	3	2	5	4	7.5	48	32	87.5	20	187.5
XXX xxx	ELECTIVE	3	2	5	4	7.5	48	32	86.5	21	187.5
		12	**8**	**20**	**16**	**30**	**192**	**128**	**377**	**53**	**750**

2 Second Semester		Credits					Work Load Per Semester				
		Theory	Recit.	Tot.	Credits	ECTS	Lect.	Recit.	Field_S	Other	Total
CEN 462	NETWORK SECURITY	3	2	5	4	7.5	48	32	77.5	30	187.5
CEN 402	RESEARCH METHODS	3	2	5	4	7.5	48	32	107.5		187.5
XXX xxx	ELECTIVE	3	2	5	4	7.5	48	32	107.5		187.5
XXX xxx	ELECTIVE	3	2	5	4	7.5	48	32	97.5	10	187.5
		12	**8**	**20**	**16**	**30**	**192**	**128**	**390**	**40**	**750**

3 Third Semester		Credits					Work Load Per Semester				
		Theory	Recit.	Tot.	Credits	ECTS	Lect.	Recit.	Field_S	Other	Total
CEN 590	TERM PROJECT	3	2	5	4	7.5	48	32	107.5	0	187.5
XXX xxx	ELECTIVE	3	2	5	4	7.5	48	32	107.5	0	187.5
XXX xxx	ELECTIVE	3	2	5	4	7.5	48	32	107.5	0	187.5
XXX xxx	ELECTIVE	3	2	5	4	7.5	48	32	107.5	0	187.5
		12	**8**	**20**	**16**	**30**	**192**	**128**	**430**	**0**	**750**

4 Fourth Semester		Credits					Work Load Per Semester				
		Theory	Recit.	Tot.	Credits	ECTS	Lect.	Recit.	Field_S	Other	Total
CEN 500	THESIS	0	0	0	NC	30	0	0	750	0	750
		0	**0**	**0**	**0**	**30**	**0**	**0**	**750**	**0**	**750**

AREA ELECTIVES		Theory	Practice	FU Credits	ECTS Credits
CEN 425	E-BUSINESS&E-COMMERCE	3	2	4	7.5
CEN 506	DISTRIBUTED SYSTEMS	3	2	4	7.5
CEN 519	SYSTEM ADMINISTRATION II	3	2	4	7.5
CEN 531	INFORMATION SECURITY AND COMPUTER FORENSICS	3	2	4	7.5
CEN 552	ADVANCED DATABASE MANAGEMENT SYSTEMS	3	2	4	7.5
CEN 563	ADVANCED CONCEPTS IN COMPUTER NETWORKS	3	2	4	7.5
CEN 564	WIRELESS NETWORKS	3	2	4	7.5
CEN 574	FUZZY LOGIC	3	2	4	7.5
CEN 575	COMPUTER VISION	3	2	4	7.5
CEN 583	ADVANCED COMPUTER ARCHITECTURE	3	2	4	7.5
CEN 584	DESIGN OF EMBEDDED SYSTEMS	3	2	4	7.5

CEN 585	PARALLEL COMPUTING	3	2	4	7.5
CEN 592	KNOWLEDGE MANAGEMENT	3	2	4	7.5
CEN 411	ADVANCED OBJECT ORIENTED PROGRAMMING	3	2	4	7.5
CEN 421	WEB ENGINEERING	3	2	4	7.5
CEN 423	XML AND WEB SERVICES	3	2	4	7.5
CEN 461	NETWORK PROGRAMMING	3	2	4	7.5
CEN 513	COMPILER DESIGN	3	2	4	7.5
CEN 543	DIGITAL IMAGE PROCESSING	3	2	4	7.5
CEN 572	SPECIAL TOPICS IN ARTIFICIAL INTELLIGENCE	3	2	4	7.5
CEN 573	ARTIFICIAL NEURAL NETWORKS	3	2	4	7.5
CEN 405	OPERATING SYSTEM DESIGN	3	2	4	7.5
CEN 501	SPECIAL TOPICS IN SOFTWARE ENGINEERING	3	2	4	7.5
CEN 504	OBJECT ORIENTED SOFTWARE ENGINEERING	3	2	4	7.5
CEN 516	MOBILE APPLICATIONS PROGRAMMING	3	2	4	7.5
CEN 571	DATA MINING	3	2	4	7.5
CEN 576	MANAGEMENT INFORMATION SYSTEMS	3	2	3	7.5

4-Years Bachelor Diploma in Computer Engineering

4-years Bachelor diploma in Computer Engineering has started in 2008. In Fall-2011 the new registrations have been accepted to 3 Years bachelor program. Thus, the second, the third and the fourth year students this year are following 4-years bachelor program.

The first three years of the 4-years bachelor program is the same as the 3-years bachelor program and the first year of the Master of Science program except two courses: one on the 6th semester and another on the 8th semester.

- On the 6th semester 3-years bachelor program students have Senior Design Project where 4-years bachelor program students have Computer Graphics.
- On the 8th semester Research Methods course for the Master of Science program was an obligatory course; where it was not offered for 4-years bachelor program and inplace of it CEN 490 Term project was obligatory.

1.8 NUMBER OF ACADEMIC STAFF AND STUDENTS

The total numbers of academic staff in Computer Engineering Department is 14, from which 8 are part of the full time academic staff, and 6 are part of the part time academic staff.

Table 2-1 Number of students at the undergraduate level (as of June, 2010)

FACULTY	DEPARTMENT	STUDENTS
Faculty of architecture and engineering	Computer engineering	107

Table 2-2 Number of students registered at the graduate level (as of June, 2010)

FACULTY	PROGRAM	STUDENTS
Faculty of Architecture and Engineering - Department of Computer Engineering	Master of second level in Computer engineering	36
	Professional Master in Computer Engineering	1
	Master of second level in Computer engineering	18

	Total	55

1.9 NUMBER OF COURSES (STUDY PROGRAMS)

The programs offered by Epoka University, Computer Engineering Department:

First cycle study programs in the form of full-time studies at the end of which the First Level Degree (DNP) is issued:

- Computer Engineering (3 academic years);
- Computer Engineering (4 academic years);

Second cycle study programs, in the form of full-time studies at the end of which the Second Level Degree (DND) is issued:

- DND in Computer Engineering: (2 academic years)
  {Master of Science in Computer Engineering}
- Master in Computer Engineering: (1 academic year, without thesis)

Third cycle study programs, in the form of full-time studies at the end of which the Master of Second Level Degree is issued (MND):

- MND in Computer Engineering (1 academic year)
  {Master of Second Level in Computer Engineering}

1.10 DEPARTMENT ACTIVITIES

1.10.1 Microsoft Imagine Cup Albania Competition

Imagine Cup is an annual competition organized by Microsoft Corporation which brings together young technologists worldwide to help resolve some of the world's toughest challenges. With a past of more than 8 years, Imagine Cup has grown to 358000 competitors representing 183 countries and regions among which is also Albania which hosted the competition in 2011.

Representatives of Microsoft Albania, the local organizers, visited Epoka University and presented the program of the competition. In duration of 5 months, Imagine Cup expects the participants to come up with an idea and implement it comprising all the cycles of software development process, starting with requirements analysis, design, implementation and testing.

Students of Computer Engineering Department paid a special attention attending with 2 groups, one from the 3rd grade and the other from the 2nd grade. Here are the projects presented:

- **Pocket Emergency**

Participants:

- Enis Ulqinaku
- Diamant Neziri
- Haris Krasniqi
- Arditi Dervishi

Project Description:

Along with the Imagine Cup, we started to imagine a better world too, imagine a world where technology could help people in need, those who cannot communicate naturally. Thinking of an emergency, the first thing coming to mind was a call to 127 (911), but this would not be so easy for a certain group of people. It was this fact that led us to develop a solution to enable the communication with emergency services of the people with communication disabilities.

Emergency Pocket is a system that enables people in need, especially the ones with communications disabilities to report an emergency simply by pressing the corresponding emergency button on the phone screen. The application is linked with the police departments, hospitals and firefighters. Having calculated the location of mobile device, the application reports in real-time a detailed emergency to the nearest point. Each department follows and monitors related emergencies through a web application and can access not only the emergency location information but also information of the person. The operator assigns emergency to the team to handle the situation, transferring emergency details through the system. Last link of this process ends with updating and reporting on system status after emergency is handled. The application enables a chain of information transfer with zero time delay. No need to show to the operator an address or to find one, because everything is correct, simply follow the directions to reach the destination.

Pocket Emergency is an extendible and applicable E-government Emergency System Management that could link not only the police departments, hospitals and firefighters but also any other interested institution.

- **Help4Children**

Participants:

- Mario Hoxha
- Artan Muzhaqi
- Ermirald Qosja

Project Description:

Help4Children project aims to help children in need. Nowadays the technology is present in all aspects of life. Taking into the consideration that internet penetration is over 50% in Albania and usage of Credit Cards is growing every day, we came up with an idea to help the children online.

Help4Children is a web based application which enables donators to log-in and make a donation to one of the children in need or be a virtual parent of those children. On the other side, children profiles are created and managed by responsible people in Children Homes. Every child has a need list which is updated periodically according to daily/monthly needs. The donation consists of fulfilling the needs of children.

- **Epoka University wins the 2nd Prize in Microsoft Imagine Cup Albania**

Students of Computer Engineering not only presented with honor their university but also won the 2nd Prize attracting good official representatives of government, universities and companies in the market. The prize of 2nd place was a grant of 1000$ sponsored by AITA and DM-Consulting and a notebook for each participant.

1.10.2 **Tirana Startup Weekend**

Startup Weekend is a registered non-for-profit organization based in Seattle, Washington, USA, that organizes 54-hour weekend events during which groups of developers, business managers, startup enthusiasts, marketing gurus, graphic artists and more pitch ideas for new startup companies, form teams around those ideas, and work to develop a working prototype, demo, and/or presentation by Sunday evening. Startup Weekend has grown into an organization with a global presence. As of December 2010, 207 events were held spanning 120 cities and 35 countries.

Participants & Projects

Epoka University was represented in the competition with the following projects and participants:

Project	Participants	Role
Smart Step Web	Briland Hitaj	Team Leader/Web Developer, Designer
	Erisa Terolli	Web Developer, Designer
	Alba Xhani	Web Developer, Designer
	Ergys Ura	Web Designer, Business Plan
	Jonilda Bahja	Business Plan
	Gerta Bahja	Business Plan
Albania Tourist Guide	Diamant Neziri	Team Leader/Web Developer
	Enis Ulqinaku	Mobile Developer
	Haris Krasniqi	Designer
	Haris Mehmeti	Web Designer
	Arditi Dervishi	Web Developer
	Elena Pici	Marketing
	Esmeralda Topuzi	Marketing
Digital Startup	Andia Tafa	Team Leader
	Eda Doko	Designer
	Nertil Zhuri	Designer
	Klevin Delimeta	Designer
Linkademia	Lenard Osmani	Team Leader, Developer
	Visar Hoxha	Developer
	Elton Demirxhiu	Designer
	Huseyin Varol	Designer
	Arjola Grembi	Non-technical

ePay	Ervis Resuli	Team Leader, Developer
	Alda Daka	Developer
	Jurgen Rudi	Developer
	Arjan Hoxha	Designer

Easy ISP	Arsild Latifi	Team Leader
	Iva Kertusha	Web Designer
	Ervin Dervishaj	Web Designer
	Klajdi Sejko	Business Plan

Prizes

Projects implemented by Epoka University students attracted a lot the audience. Here is the list of prizes that teams won:'

Team	Company	Prize
Albania Tourism Guide	DM Consulting	2 Consultancy Days
	Epoka University	6 Months Incubation
	Konsort	1 Week of Consultancy
	USAID Rritja Albania	Technical Assistance to Commercialize
ePay	DM Consulting	2 Consultancy Days
	EasyPay	3 Weeks of Internship
	Epoka University	6 Months Incubation
Smart Step Web	Epoka University	6 Months Incubation
	Pro-TIK	3 Months of Incubation
EasyISP	Pro-TIK	3 Months of Incubation

1.10.3 **Informatics Stars Programming Contest**

Epoka University - Informatics Stars Programming Contest (EU-ISP Contest) is an online competition for high school students and beginners in programming languages. The web site (http://acm.epoka.edu.al/) contains programming question banks and the contests are organized through internet.

The EU-ISP Contest aims developing mental and problem solving capabilities of Albanian high school students. It also aims to contribute to Albanian society through this competition by educating and preparing young generation according to the needs of 21th century.

The EU-ISP Contest is a series of online contests. The students, first, solve the training questions from internet. They can discuss the questions through the onsite forum. There are four official EU-ISP contests organized in a year. The students participate to the contests from anywhere through internet. The real time student rankings are automatically prepared and announced on competition according to their accepted solutions and timings.

The result of 2011-2012 EU-ISP Contests is:

Student Name Surname	School	Grand total		Degree
		Solved	Time	
	Mehmet Akif Boys College	10	1767	First Place
EvisHoxha	TurgutOzal Durres	9	2249	Second Place
Christ Ligori	TurgutOzal Tirana	8	1891	
Xhesika Koroveshi	TurgutOzal Durres	5	1597	Third Place
LedioBerdellima	Harry T. Fultz	4	794	
Devid Duma	TurgutOzal Durres	4	1710	

One of the objectives of Computer Engineering Department is to contribute not only to its students' achievements and academic research but also to the broader local society by organizing seminars and issuing of certificates to the participants.

1.10.4 **Bowling Tournament**

Computer Engineering students are active and successful not only in projects and developing new ideas but also in sport and daily activities. One of those activities was also the Bowling Tournament with students of 1st class of Computer Engineering and Business Informatics.

In the first tour, 30 students arranged 6 groups of 5 participants. The ones with the highest scores were qualified to the final and competed with each other. The winners of this strong competition were:

1st Place: Mario Gashi

2nd Place: Egirin Gega

3rd Place: Hülya Turan

The winners were given an Epoka Cup as a symbol of being a member of Epoka Family.


VINTAGE

1.10.5 **Imagine Cup Winners on TVSH**

2nd Prize Winners of Imagine Cup not only got their grant of 1000$ and their laptops but also were invited to Zig-Zag program on Albanian Public Television (TVSH) to present and discuss about their project.

1.11 Statistics on Admission for Each Course of Study, the Number of Candidate Applicants, Number of Those Admitted, The Quality Level of Those Admitted

Table 2-3 Number of Admitted Students and High School Average

2007-2008		2008-2009		2009-2010		2010-2011		2011-2012	
Students	**Average**	**Students**	**Average**	**Students**	**Average**	**Students**	**Average**	**Students**	**Average**
-	-	19	8.42	42	8.07	34	8.69	24	8.8

1.12 Number of Students per Each Course of Study

Table 2-4 Number of Students per Each Course of Study

DEPARTMENT	**1st year**	**2nd year**	**3rd year**	**4rthyear**	**DND/M.Sc.**	**MND**	**PM**
Computer Engineering	22	30	36	19	36	18	1

1.13 Number of Teaching Staff for Each Course of Study: Full-Time and Part-Time Staff

Table 2-5 Number of Teaching Staff for Each Course of Study: Full-Time and Part-Time Staff

Department	**Full time**	**Part time**
Computer Engineering	10	5

1.14 Number of Support Teaching Staff for Each Course of Study

Table 2-6 Number of Support Teaching Staff for Each Course of Study

Departments	Technical lab	Department secretary	Lab's responsible
Computer Engineering		1	

2 STUDY PROGRAMS, ORGANIZATION OF CURRICULA, CREDITS

2.1 The starting point, aims and objectives for study program

General

Computer Engineering covers a wide range of engineering applications from hardware, software, networking, system administration, database managements systems, etc. Computer Engineering is distinguished as being one of the latest engineering disciplines. It is involved to all sciences, being able to take those all more forward from their current positions by computerization.

Mission

The mission of the Department of Computer Engineering is to educate the students to gain an understanding of the fundamentals of science and engineering so that they can develop solutions to Computer Engineering problems and enhance their computing, engineering, and research skills. It is aimed to especially emphasize teamwork, independent and innovative thinking and leadership qualities. In particular, the Computer Engineering Program aims to:

- Train the students to have theoretical background in basic sciences and engineering and to be equipped with necessary technical skills,
- Provide practical experience which will enable students to utilize and enhance their engineering knowledge,
- Promote students' self-discipline and self-assurance and the ability to learn on their own,
- Encourage team work, collaboration and development of interpersonal skills,
- Motivate the students towards contributing to the progress of science and technology,
- Teach the importance of ethical behavior in social and professional life,
- Produce graduates for the engineering and the business communities who are observant, inquisitive and open to new technologies for developing better solutions,
- Produce graduates for the engineering and business communities with integrity, determination, judgment, motivation, ability and education to assume a leadership role to meet the demanding challenges of the society.
- Develop students' competency in reading, writing and oral communication,
- The vision of the Department of Computer Engineering is to be a department whose graduates are highly preferred in worldwide IT industry and to gain a leadership position in Albania and Balkans.

Program

Computer engineering program is based on three year Bachelor Degrees. The first year of the program is mostly dedicated to the study of basic sciences and mathematics which provide the engineering fundamentals. The second and third year are mainly composed of basic engineering courses besides fundamental courses of computer engineering. Summer practice takes place at the end of the second year. In this aspect the courses at the last year as well aim to provide a Computer Engineering perspective to students.

Curriculum of the program includes elective courses, which give an opportunity to students to improve their professional skills according to their interests. Some courses are nontechnical and free elective courses, the remaining are computer engineering electives. The requirements for a Diploma in Computer Engineering include the completion of minimum of 180 ECTS credits of formal course work and 30 days of approved practical training.

Job Opportunities

In the global industry, there is a strong demand for Computer Engineers particularly those who combine technical skills with good communication skills and team-work ability. Some but not all of the job opportunities can be summarized as follows:

- Working for companies such as banks, airline industries, government departments, consulting companies, and computer organizations that run large computer based systems, and firms specifying computer equipment for a certain application,
- Implementing data communication systems and Internet technologies,
- Designing and developing hardware components and interface cards for computer systems,
- Managing and working in high level software development projects,
- Maintaining and administering distributed databases and corporate local area networks.

Aim

To produce graduates who have the potential to become future leaders of this profession. In their careers our graduates will,

- Work productively as Computer Engineers, including supportive and leadership roles on multidisciplinary teams,
- Communicate effectively, recognize and incorporate societal needs and constraints in their professional endeavors, and practice their profession with high regard to legal and ethical responsibilities,
- Engage in life-long learning, such as graduate study, to remain current in their profession and be leaders in our technological society.

Program Outcomes

CEN Outcomes (Program Competencies) according to ABET Criterion 3

"Computer engineering program must demonstrate that their graduates have: Program Competencies-

Program Learning Outcomes	
1	an ability to apply knowledge of mathematics, probability & statistics, computer science, and engineering as it applies to the fields of computer software and hardware,
2	an ability to design and construct a hardware and software system, component, or process to meet desired needs, within realistic constraints such as economic, environmental, social, political, ethical, health & safety, manufacturability, and sustainability,
3	an ability to function on multidisciplinary teams,
4	an ability to identify, formulate, and solve hardware and software problems using computer engineering principles,
5	an understanding of professional, legal, and ethical issues and responsibilities as it pertains to computer engineering,
6	an ability to effectively communicate technical information in speech, presentation, and in writing,
7	the broad education necessary to understand the impact of computing in a global, economic, environmental, and societal context,
8	a recognition of the need for an ability to engage in lifelong learning,
9	a knowledge of contemporary issues, and
10	an ability to use the techniques, skills, and modern hardware and software tools necessary for computer engineering practice.

2.2 Programs for Each Course of Study, Subjects and Teaching Load for Each Subject

Computer Engineering department since in the beginning has prepared the curriculums with the American System and adopted with the European System. The preparation of the curriculums is made in consultation with the full time and part time staff based on their previous experiences.

2.3 Transferring of European Credit System (Ects); Teaching Load in Credit Points in and Outside the Auditorium

Epoka University curriculums are based on American System and credits. ECTS is used in order to be adopted with the European System.

The calculation of ECTS is done according to Directive No. 15 of date 04.04.2008, on Organizing of Studies in Higher Education Institutions in Albania.

We will explain this point with an example:

CODE	COURSE NAME	T	P	C	ECTS
CEN 112	C and C++ Programming	3	2	4	7

T= Theory P= Practice C= Credits according to the American System, ETCS =Credits According to the European System

3 theory hours in auditor in a week (lectures, seminars etc)
2 practice hours in a week (laboratories, project / task, practice etc)
7 * 25 hours = 175 hours in a semester (ECTS)
3 * 15 weeks = 45 theory hours in a semester
2 * 15 weeks = 30 practice hours in a semester
So there are 75 hours in a semester
Individual study = 175 hours – 75 hours = 100 hours in a semester

In the auditor: 75 hours / 25= 3 ECTS
Out of the auditor: 100 hours / 25= 4 ECTS
Total = 7 ECTS

3 TEACHING

3.1 Organization and form of teaching: ratio between the two

The form of teaching in our department until these moments is only full-time.

3.2 Number of students entering post-university studies in Computer Engineering Department

Table 3-1 Number of students entering post-university studies

DEPARTMENT	DND/MSc	MND	Total
Computer engineering	36	18	54

3.3 Methods and technique, and technologies in teaching

Forms of teaching in our department are organized as

- ✓ Lectures
- ✓ Seminars
- ✓ Presentations
- ✓ Laboratory work
- ✓ Course assignments and projects

4 SCIENTIFIC RESEARCH

4.1 Policies of scientific research

Computer Engineering Department encourages the scientific research activities. All policies regarded to scientific research are regulated in the Directive of Encouragement of Scientific Research in Epoka University.

4.2 Academic staff during 2011-2012

Fall Semester					
CODE	**COURSE NAME**	**T**	**P**	**C**	**Lecturer**
MTH 101	Calculus I	3	2	4	Erind Bedalli
PHY 101	General Physics I	3	2	4	Ahmed Fatih Ersoy
ENG 101	Development of Reading and Writing Skills in English I	4	0	4	Timothy Hagen
CEN 100	Introduction to Computer Engineering	3	0	3	Mukremin Ozkul
CEN 111	Introduction to Algorithms & Programming	3	2	4	Elton Hoxha
CEN 281	Electrical & Electronic Circuits	3	2	4	Betim Cico
CEN 283	Computer Organization	2	0	4	Mukremin Ozkul
CEN 213	Object Oriented Programming with Java	3	2	4	Abdurrahman Celebi
MTH 201	Differential Equation	3	0	3	Erind Bedalli
MTH 205	Probability and Statistics for Engineers	3	0	3	Fevzi Saritas
CEN 300	Summer Practice	0	0	0	
CEN 303	Analysis of Algorithms	2	2	3	Ibrahim Mesecan
CEN 323	Web Programming	2	2	3	Igli Hakrama
CEN 381	Microprocessor and Microcomputing	3	2	4	Erind Bedalli
CEN 361	Computer Networks	2	2	3	Vijaya Raju Mullagiri
Non-technical elective courses					
BUS 103	Introduction to Business	3	0	3	Mustafa Uc/Hamza Tok
BUS 221	Marketing	3	0	3	Mirdaim Axhami
FL 201	Turkish	3	0	3	Adem Caliskan
FL 203	Turkish for Beginners	3	0	3	Adem Caliskan

Spring Semester					
CODE	**COURSE NAME**	**T**	**P**	**C**	**Lecturer**

MTH 106	Discrete Mathematics	3	0	3	Erind Bedalli
CEN 112	C and C++ Programming	3	2	4	Elton Hoxha
MTH 102	Calculus II	3	2	4	Erind Bedalli
PHY 102	General Physics II	3	2	4	Ahmed Fatih Ersoy
ENG 102	Development of Reading and Writing Skills in English II	4	0	4	Timothy Hagen
CEN 254	Data Structures	3	0	4	Elton Domnori
CEN 282	Digital Design	3	2	4	
CEN 222	Web Technologies	2	2	3	Igli Hakrama
CEN 252	Database Management System	2	2	3	Mukremin Ozkul
MTH 204	Numerical Analysis	3	0	3	Erind Bedalli
CEN 306	Operating System	3	0	3	Elton Domnori
CEN 302	Software Engineering	2	2	3	Igli Hakrama
CEN 372	Artificial Intelligence	3	0	3	Oguz Altun
CEN 344	Computer Graphics	3	0	3	Sadi Evren Seker
Technical Elective Courses					
CEN 305	Software Testing and Quality Assurance	3	2	4	Vijaya Raju Muallagiri
CEN 377	Management Information System	3	2	4	Edlira Kalemi
CEN 411	Advanced Object Oriented Programming	3	2	4	Elton Domnori
CEN 513	Formal Languages & Compilers	3	2	4	Sadi Evren Seker
CEN 516	Mobile Application Programming	3	2	4	Majlinda Fetaji
CEN 572	Special Topics in Artificial Intelligence	3	2	4	Oguz Altun

Detailed list of Staff of Computer Engineering Department

Civil Engineering				
No	Title	Name	Surname	Employment
1	Assist. Prof. Dr.	Albana	Halili	Full time
2	Assist. Prof. Dr.	Elton	Domnori	Full time
3	Assist. Prof. Dr.	Oğuz	Altun	Full time
4	Assist. Prof.	Viyaja Raju	Mullagiri	Full time

5	Lecturer	Ahmed Fatih	Ersoy	Full time
6	Lecturer	Elton	Hoxha	Full time
7	Lecturer	Ibrahim	Mesecan	Full time
8	Lecturer	Igli	Hakrama	Full time
9	Lecturer	Mukremin	Ozkul	Full time
10	Research Assistant	Ardi	Xhelilaj	Full time
11	Prof. Dr.	Betim	Cico	Part time
12	Assoc. Prof. Dr.	Bekim	Fetaji	Part time
13	Assist. Prof. Dr.	Arban	Uka	Part time
14	Assist. Prof. Dr.	Majlinda	Fetaji	Part time
15	Lecturer	Edlira	Kalemi	Part time