Course Specifications

Program(s) on which this course is given:	Electronics & Electrical Communications Engineering
Major or Minor element of programs:	Major
Department offering the program:	**EECE**
Department offering the course:	**EECE**
Academic year / Level:	**4th**
Date of original/modified specification approval:	**2003/2011**
Semester of course offering:	**1st Semester**

A- Basic Information

1.a. Title:	**Computer(4)**			**1.b. Code:**		**ELC403A**		
2. Units/Credit hours per week:	2.a. Lectures	**3**	2.b. Tutorial	**1**	2.c. Practical	**----**	2.d. Total	**4**

B- Professional Information

1. Overall Aims of the Course:	***Introduce concepts of computer networks, Internet basics and protocols, error control protocols and Local Area Networks.***
2. Intended Learning Outcomes of Course (ILOs):	**a) Knowledge and Understanding (1.1,1.2 1.7)**
	a1 - Explain underlying concepts of computer networks
	a2 - Explain Internet basics and protocols
	a3 - Describe Error Control Protocols and Retransmission Procedures
	a4 - Discuss Ethernet as an example of Local Area Networks
	a5 - Explain how to construct large-scale LANs
	a6 - Introduce different standards
	a7 - Review technological trends
	b) Intellectual Skills
	b1 - Design computer network topology for a given set of requirements (3.1, 3.2, 3
	b2 - Identify problems and solve them (3.7)
	c) Professional and Practical Skills
	c1 - Design address map for an enterprise network (2.1, 2.2, 2.8, 2.9)
	c2 - Evaluate the performance of Local Area Networks (LANs) (2.6)
	c3 - Solve problems related to Computer Networks (2.1)
	d) General and Transferable Skills (4.9)
	d1- Computing
	d2- Working in a group
	d3- Report writing
	d4- Information gathering from various resources

3. Contents			
Topic	**Total hours**	**Lectures**	**Tutorial/ Practical**
Overview of Computer Networks	***4***	***3***	***1***
The Way Networks Work	***12***	***9***	***3***
The Internet	***12***	***9***	***3***
Transport Layer Protocols	***12***	***9***	***3***
Local Area Networks	***12***	***9***	***3***

4. Teaching and Learning Methods	Lectures (Y/N) Y	Practical Training/ Laboratory (Y/N) Y	Seminar/Workshop (Y/N) N
	Class Activity (Y/N) N	Case Study (Y/N) N	Projects (Y/N) Y
	E-learning (Y/N) Y	Assignments /Homework (Y/N) Y	Other:

5. Student Assessment Methods	
5.a. Method	**To assess (with reference to the ILOs)**
Assignments	a1 – a5, c1 – c3, d1
Midterm Tests	b1 – b2, c1 – c3
Reports	a7, d2 - d4
Mini-projects	b1 – b2, c1 – c3, d2 - d4
Attendance	***discipline and dedication to course***
Final Exam	b1 – b2, c1 – c3
5.b. Assessment Schedule	**Week**
Assessment 1; Assignments	2, 4, 6, 10, 12
Assessment 2; Mid-term exam	8
Assessment 3; Reports	12
Assessment 4; Mini-projects	12
Assessment 5; Attendance	All weeks
Assessment 6; Final Exam	14
5.c. Weighting of Assessments	
Mid-Term Examination	12 %
Semester Work & attendance	3 %
Final-term Examination	70 %
Oral Examination	NA
Practical Examination	NA
Report	5 %
MiniProject	10 %
-Total	100 %
6. List of References	
6.a. Course Notes	
6.b. Essential Books (Text Books)	

Communication Networks: A First Course, Jean Warland, McGraw-Hill, 1998	
6.c.Recommended Books.	
Computer Networking: A Top Down Approach Featuring the Internet, Jim Kurose and Keith Ross, 3rd edition, Addison-Wesley, 2004.	
Computer Networks, Andrew Tannenbaum, Prentice Hall, 2004	
6.d. Periodicals, Web Sites, … etc	
NA	
7. Facilities Required for Teaching and Learning	
Blackboard – Overhead Projector – Video Projector – Internet Access - Library	
Shareware software such as : OPNET and Wireshark	
Course Coordinator:	**Prof. Mahmoud EL-HADIDI**
Head of Department:	**Prof. Mahmoud EL-HADIDI**
Date:	**2011-10-01**