GAU, Faculty of Engineering

Course Unit Title	Introduction to Computer
Course Unit Code	ENG101
Type of Course Unit	Compulsory, All engineering students
Level of Course Unit	1st Year BSc
National Credits	3
Number of ECTS Credits Allocated	5 ECTS
Theoretical (hour/week)	2
Practice (hour/week)	-
Laboratory (hour/week)	1
Year of Study	1
Semester when the course unit is delivered	1
Mode of Delivery	Face to Face, Laboratory Experiments
Language of Instruction	English
Prerequisities and co-requisities	-
Recommended Optional Programme Components	Basic background in basic computer components and software

Objectives of the Course:

- Analyze the basics of computer, hardware, software
- Learn the basic principles of using Windows Operating System
- Learn the basics of Internet and World Wide Web
- Analyze the basic principles of algorithms and flowchart representation
- Learn Office Tools such as word processing, spreadsheet and powerpoint presentations
- Develop an intuitive sense of how computers work and how they can be used to make academic work and everyday life more efficient

Learning Outcomes

When this course has been completed the student should be able to		Assesment.
1	Recognise the basic concepts of computer organization, architecture, CPU, computer memory, I/O Devices and fundamentals	1
2	Explain the fundamental computer science concepts such as history of programming languages and computing, operating systems, information management system	1
3	Demonstrate ability to use basic word processor, spreadsheets, powerpoint and database programs	1,2,5
4	Demonstrate the ability to use internet tools	1,5
5	Develop simple computer algorithms	1,2
6	Express the fundamental topics of network	1

Assesment Methods: 1. Written Exam, 2. Assignment 3. Project/Report, 4.Presentation, 5 Lab. Work

Course's Contribution to Program

		CL
1	Ability to understand and apply knowledge of mathematics, science, and engineering	3
2	Ability to design and conduct experiments as well as to analyze and interpret data	1
3	Ability to work in multidisciplinary teams while exhibiting professional responsibility and ethical conduct	1
4	Ability to apply systems thinking in problem solving and system design	2
5	Knowledge of contemporary issues while continuing to engage in lifelong learning	
6	Ability to use the techniques, skills and modern engineering tools necessary for engineering practice	3
7	Ability to express their ideas and findings, in written and oral form	2
8	Ability to design and integrate systems, components or processes to meet desired needs within realistic constraints	2
9	Ability to approach engineering problems and effects of their possible solutions within a well structured, ethically responsible and professional manner	2

CL: Contribution Level (1: Very Low, 2: Low, 3: Moderate 4: High, 5:Very High)

Course Contents

Week			Exams
1	Chapter 1	What is Computer?,Computer Organization, Introduction to Information system, people, software, hardware, data	
2		Data storage unit, memory types; RAM, ROM, CMOS	
3		Fundamental OS utilities, Input and output devices.	
4		System software, Application software.	
5	Chapter 2	Fundamental number base conversions	
6		Binary shifting and geometric series in number base conversions	
7	Chapter 3	Structured Programming developments, Algorithms	Quiz
8		Designing the pseudocode with flowchart representation	
9			Midterm
10	Chapter 4	Data communication and fundamental hardware types, high speed wireless communication, World Wide Web.	
11	Chapter 5	Understanding the basics of MS Word with exercises	
12		Understanding the basics of MS Powerpoint with exercises	
13		Understanding the basics of MS Excel with exercises	
14			Quiz
15			Final

Recommended Sources

Textbook: Computing Essentials 2007, T. J. O'Leary, L. I. O'Leary, Compete Edition (2007) (Other editions are also useful)
How to program, Deitel, Deitel, (Fifth edition 2007), Pearson Prentice Hill,(Other editions are also useful)
Supplementary Material (s): Introduction to Computers & Information Systems, L. Long and N. Long , Prentice Hall, (5th Edition 1997)

Assessment

Attendance	5%	
Laboratory Quiz (Computer Based)	10%	
Midterm Exam (Written)	35%	
Quiz (Written)	10%	
Final Exam (Written)	40%	
Total	100%	

ECTS Allocated Based on the Student Workload

Activities	Number	Duration (hour)	Total Workload(hour)
Course duration in class (including the Exam week)	14	3	42
Labs and Tutorials	7	1	7
Assignments	-	-	
Project/Presentation/Report Writing	-	-	
E-learning Activities	-	-	
Quizzes	2	7	14
Midterm Examination	1	14	14
Final Examination	1	22	22
Self Study	14	3	52
Total Workload			141
Total Workload/30 (h)			4.70
ECTS Credit of the Course			5