Future Academy
Higher Future Institute for Specialized Technological Studies

Course Specification

1- Course information:	
Course Code:	CSC101
Course Title:	Introduction to Computers
Year/level	1st
Academic Programs	Computer Science Program (B.Sc.)
Contact hours/ week	(Theoretical = 3, Practical = 2, Total = 5)

2- Course aims:

This course aims to offer a comprehensive overview of computer concepts to effectively formalize students with the technology and the principles of computers, allow students to study of computers and their architecture, languages, and applications. The course will explore fundamental concepts including: Hardware and Software; computers components and their operations; Data representation and number systems; databases; networking; operating system; system utilities, information system, Artificial Intelligence and how to use the Internet and Email. Also, this course aims to apply computing systems as support tools within their study and profession ethically.

3- Intended learning outcomes of the course (ILOs):

a- Knowledge and understanding:

On successful completion of this course, the student should be able to:
a1- Understand the fundamental topics in Computer Science, including hardware and software architectures, software engineering principles and methodologies, operating systems, compilers, parallel and distributed computing, systems and software tools.
a2- Use tools, practices and methodologies used in the specification, design, implementation and evaluation of computer software systems.
a3- Use principals of generating tests which investigate the functionality of computer programs and computer systems and evaluating their results.
a4- Know the principles and techniques of a number of application areas informed by the research directions of the subject, such as artificial intelligence.

b- Intellectual skills:

On completing this course, the student should be able to:
b1- Realize the concepts, principles, theories and practices behind computing and information as an

academic discipline.
b2- Identify attributes, components, relationships, patterns, main ideas, and errors.
b3- Interpret how data is represented, stored and displayed.

c- Professional and practical skills:

At the end of this course, the student will be able to:
c1-Operate computing equipment, recognizing its logical and physical properties, capabilities and limitations
c2- Develop a range of fundamental research skills, through the use of online resources, technical repositories and library-based material
c3- Implement comprehensive computing knowledge and skills in projects and in deployment of computers to solve position practical problems.
c4- Apply computing information retrieval skills in computing community environment and industry.
c5- Perform independent information acquisition and management, using the scientific literature and Web sources.

d- General and transferable skills:

On successful completion of this course, the student should be able to:
d1- Compute an appreciation of the need to continue professional development in recognition of the requirement for life-long learning.
d2- Communicate effectively by oral and visually.
d3- Work effectively in a collaboration and respect teamwork.

4- Course contents

Week No.	Topics/units	Number of hours		ILO's
		Lecture hours	Practical hours	
1	Introduction to computers, Computer generations	3	2	a1, a2, b1, c1, d4
2	Computer Hardware components and types of computers	3	2	a1, a2, a3, b1, b2, c5, d1
3	Computers and digital basics, numbering systems. (Part 1)	3	2	a1, a3,b1,b3,c1,d1
4	Computers and digital basics, numbering systems. (Part 2)+Quiz1	3	2	a1,a3,b1,b3,c1,d1
5	Computer Software and System utility software.	3	2	a1,a2,b1,b3,c1,d1
6	Operating systems and its different types.	3	2	a1,a3,b1,b3,c1,d1
7	**Midterm Exam**			
8	Introduction to Computer Networks.	3	2	a1,b1,b3,d1,d3,d4
9	Internet and email	3	2	a1,b2,c5,d2,d3
10	Introduction to Information Systems	3	2	a1,a3,b1,b3,c1,d1

11	Introduction to Databases+Quiz2	3	2	a1,a3,b1,b3,c1,d1
12	Introduction to Computer Programing.	3	2	a1, a4,c2,d1
13	Artificial intelligence	3	2	a1,a4,,d2,d3
14	Final Revision			

5- Teaching and learning methods

Methods	ILO's																			
	a1	a2	a3	a4	a5	b1	b2	b3	b4	b5	c1	c2	c3	c4	c5	d1	d2	d3	d4	d5
Lectures	√	√	√	√		√	√	√			√	√	√	√	√	√	√	√		
Practical sections			√				√									√	√			
Self-learning													√		√	√	√			
Assays and reviews																				
Discussion groups																	√	√		
Brainstorming																				
Blended-learning																				
E-learning																				

6- Teaching and learning methods for Low-achieving students

- Extra teaching hours for those who need help
- More quizzes to assess their ability for understanding the course
- Encourage the team work for those students with other advanced ones to increase their participation and understanding

7- Student assessment

Assessment method	Time	Grade weight (%)	Week	ILOs
Course Work (Tutorial Exercise and Assignments)	Through the semester	10	Every Week	a1, 24, a3, a4, b2, b3, b4, c1, c2, c3, c4, d1
Quiz 1	Through the lecture	5	Week#4	a1, a2,c1
Mid-term exam	1 hour	10	Week#7	a1, a2, a3, a4, c1, c2, c3
Quiz 2	Through the	5	Week#11	a3, a4, b3, c4

	lecture			
Practical exam	**2 hours**	10	Week#14	b2, c1, c2, c3
Final Written exam	**2 hours**	60	Week# 15-16	a1, a2, a3, a4, a5, a6, a7, c1, c2, c3

8- List of references

8.1. Student notebooks:

- Comprehensive instructor notes ("PowerPoint slides") are available on the course web page ("Google Classroom")

8.2. Essential textbooks:

- Morley, Deborah, and Charles S. Parker. "Understanding Computers: Today and Tomorrow, Comprehensive 15th Edition." (2007).
- Norton, Peter. *Peter Norton's introduction to computers*. Glencoe/McGraw-Hill, 2000.

- ### 8.3. Recommended textbook

  - ITL Education Solutions Limited. *Introduction to computer science*. Pearson Education India, 2011.

8.4. Journals, Periodical and Reports ……..etc.

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8.5. Websites

- **https://www.youtube.com/playlist?list=PL6Mbwnna00j0gCTRLxXpYBwB2GFVSQdK0**
- **https://www.tutorialspoint.com/computer_fundamentals/index.htm**

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