

## Course specification

### (1101 Introduction to Computer & Applications)

<b>Faculty:</b>	<i>HICIT- Higher Institute for Computers &amp; Information Technology-El Shorouk Academy</i>
<b>Programme(s) on which the course is given:</b>	Under graduate program in Computer Science
<b>Major or minor element of programme:</b>	Compulsory
<b>Department offering the programme</b>	Department of Computer Science
<b>Department offering the course:</b>	Department of Computer Science
<b>Year / Class</b>	First Year/ First Semester
<b>Date of specification approval</b>	1/8/2022

### A- Basic Information

<b>Title:</b> Introduction to Computer Science & Applications	<b>Code:</b> 1101		
<b>Weekly Hours:</b>			
<b>Lecture :</b> 3	<b>Exercise: -</b> 2	<b>Practical :</b> 2	<b>Total:</b> 7

### B- Professional Information

#### 1- Course Aims:

The aim of this course is to offer the traditional coverage of computer concepts to enable students to effectively apply computing systems as support tools within their study program and profession. The course will explore fundamental concepts including: hardware and software; computers components and their operations; numbering systems; databases and information management; networking, understand and use the Internet; operating system; system utilities, information system.

Also, this course will provide students with effective practical skills in using a range of computing applications. Students will learn to choose the most effective applications for specific tasks. In particular, students will gain experience in the use of applications to benefit both their course of study at university and their subsequent careers. Students will be expected to produce high quality documents.

The course will increase familiarity with computers, their components and their operations.

#### 2- Program ILOs Covered by Course

<i>Program Intended Learning Outcomes</i>			
<b>Knowledge and understanding</b>	<b>Intellectual Skills</b>	<b>Professional and practical skills</b>	<b>General and Transferable skills</b>
<b>A8, A9, A13, A14</b>	<b>B4, B15</b>	<b>C4, C17</b>	<b>D5, D8</b>

### 3- Intended learning outcomes of course (ILOs)

#### a. Knowledge and Under-Standing:

a1- Describe the basic components of the system unit, the different types of hardware devices (input, output and storage), and the way that they interact to form a single computing system. [A8,A9]

a2- Define the rules of using the Internet and its access., the basic concepts of operating systems and system utility software, computer-based communications and networking concepts.(A9,A13)

a3- Explain the basic concepts surrounding databases, database management systems and understand the need for information management.(A14)

a4- Define and compare between the processes involved in information system and program development.(A13)

a5- Illustrate the processes involved in different numbering systems different than the decimal one such as binary, octal, hexadecimal.(A8)

#### b. Intellectual Skills:

b1. Illustrate traditional and nontraditional problems, set goals towards solving them, and observe results.(B4)

b2- Discuss and clarify methods to formulate and solve problems.(B4,B15)

#### c- Professional and practical skills

c1- Analyze the components of the system unit and the way that they interact to form a single computing system.[C17]

c2- use different types of operating systems (e.g., DOS and Windows XP).[C4]

c3- Analyze given information to conclude the correct results.[C17]

c4- Investigate the various numbering systems different than the decimal system.[C4]

#### d- General and transferable skills

d1- Learn some Internet/Library searching strategies.[D8]

d2- write a short report using appropriate scientific language.[D5,D8]

d3. Use IT skills and display mature computer literacy.[D5]

### 4- Contents

Topic	Hours	Lec. Hours	Exc/Lab
Inside the computer system	14	6	8
Input /Output & Storage	14	6	8
System Software	7	3	4
Number systems Binary, Octal, and Hexadecimal, Converting numbers from one base into another, Binary Arithmetic	7	3	4
The Internet and the World Wide Web	14	6	8
Networks Communicating and Sharing Resources	14	6	8
Information Systems	7	3	4
Programming Languages and Program Development	7	3	4
Database Management Systems	4	2	2
Selected Topic	3	1	2

## 5- Teaching and learning methods

Teaching and learning methods	Used
<b>Active Learning</b>	
Lectures(blending learning – online learning using virtual classroom)	√
Tutorial Exercises (hybrid learning – online learning)	√
Practical Lab(blending learning– online learning)	-
Exercises	-
Discussions.	-
<b>Self – Learning strategy</b>	
Reading material	√
Websites search	√
Research and reporting	√
Self-studies	-
Experimental strategy	-
Group work	-
Presentation	√
<b>Problem solving strategy</b>	
Problem solving/problem solving learning based	√
Case study	√
<b>Synchronous E-Learning</b>	
Virtual lab	-
Virtual class	-
Chat Room	√
Video lectures	√
<b>Asynchronous E-Learning</b>	
E-Learning	√

## 6- Student assessment methods

Methods	Assessment	Used
Electronic Midterm Exam	To assess the knowledge and understanding achieved by the student during the previous weeks. (online on e-learning hub )	√
Pencil-to-Paper Final Exam	To evaluate what the student gain at the end of the course, and to assess: the knowledge and understanding, general skills, and intellectual skills.	√
Course Project	To allow students work in team, and to evaluate knowledge, understanding, intellectual, and transferable skills. (online on e-learning hub , FTF)	-
Electronic Course Work & Quizzes	To keep the student always in the course, and to evaluate knowledge, understanding, intellectual, and transferable skills.(online on e-learning hub)	√

Practical Exam	to measure the ability of students to design and implement a software program(FTF).	√
Participation	To assess the knowledge and understanding achieved by the student during the previous weeks.	√

### Assessment Schedule

Assessment	Week #
Participation	3-14
Electronic Mid Term Exam	8
Final Exam	16
Electronic/ hard copy Course Work & Quizzes	2-14
Practical Exam	15

### Assessment Weight

Assessment	Weight %
Participation	5%
Electronic Mid Term Exam	5%
Final Exam	70%
Electronic/ hard copy Course Work & Quizzes	5%
Practical Exam	20%
<b>Total</b>	<b>100</b>

- Course Work & Quizzes:
  - o Short Exams, Assignments, Researches, Reports, Presentations on e-learning hub
  - o Class/Project discussion in a virtual classroom

### 6 -List of references

<b>Essential books (text books)</b>	<ul style="list-style-type: none"> <li>• Miller, Michael. <i>Computer Basics Absolute Beginner's Guide, Windows 10 Edition 9th Edition</i> , 2022.</li> <li>• Guzdial, Mark, and Barbara Ericson. <i>Introduction to computing and programming in python</i>. New York, NY: Pearson, 2016.</li> <li>• Vermaat, Misty E. <i>Enhanced discovering computers</i>. Cengage Learning, 2014.</li> </ul>
<b>Course notes</b>	Teacher notes on Introduction to Computers
	<ul style="list-style-type: none"> <li>• Vermaat, Misty E. <i>Enhanced discovering computers</i>. Cengage</li> </ul>

<b>Recommended books</b>	Learning, 2014.
<b>Periodicals, website</b>	<a href="http://strongtowersoftware.com">strongtowersoftware.com</a> <b>Powerpoint presentations of all course materials</b> <b>All labs material</b> <a href="https://moodle.sha.edu.eg/course/view.php?id=1352">[https://moodle.sha.edu.eg/course/view.php?id=1352]</a>

## 7- Required Facilities

To assess professional and practical skills given the following facilities:

a. Tools & SW (Technologies facilities):

- Microsoft Office Package
- **Microsoft TEAMS to create virtual classrooms for lectures, discussions for project**
- **portal(MOODLE) to make electronic quizzes and electronic midterm exam**
- **portal(MOODLE) to upload project deliverable and assignment**
- **academy portal(MOODLE) to upload electronic material**

b. Teaching facilities:

	<i>Lecture</i>	<i>class</i>	<i>Lab</i>
Whiteboard	used	-	used
Pc/laptop	used	-	used
Data show	used	-	used
Webinars	MS TEAMS	-	MS TEAMS
SocialMedia	Facebook Page for 3 <sup>rd</sup> year	-	Facebook Page for 3 <sup>rd</sup> year
ChatRoom	ChatTeams	-	ChatTeams
Videos	Stream-MOODLE	-	Stream-MOODLE
Website	MOODLE	-	MOODLE

## 8- Course Matrices

### 8.1- Course Content/ILO Matrix

Course Contents	Knowledge & understanding					Intellectual skills		Professional & practical skills				General		
	a1	a2	a3	a4	a5	b1	b2	c1	c2	c3	c4	d1	d2	d3
Inside the computer system	√							√						
Input /Output & Storage	√							√						
System Software		√							√					
Number systems					√									
The Internet and the World Wide Web		√										√		
Networks Communicating and Sharing Resources														
Information Systems				√		√	√				√			
Programming Languages and				√			√			√				

Program Development														
Database Management Systems			√				√							
Selected Topic			√				√					√	√	√

## 8.2- Learning Method /ILOs Matrix

Course Contents	Knowledge & understanding					Intellectual skills		Professional & practical skills				General		
	a1	a2	a3	a4	a5	b1	b2	c1	c2	c3	c4	d1	d2	d3
Lectures	√	√	√	√	√	√	√	√	√	√	√			
Tutorial Exercises						√	√	√	√	√	√			
Reading material	√	√	√	√	√	√	√	√	√	√	√			
Websites search	√	√	√	√	√	√	√		√	√	√	√	√	√
Research and reporting														
Problem solving/problem solving learning based	√	√	√									√	√	√
Group work								√	√	√	√	√	√	√
Presentations						√	√	√	√	√	√			
Practical Lab														
Discussions.						√	√	√	√	√	√	√	√	√

## 8.3 Assessment Methods /ILOs Matrix

Assessment Methods	Knowledge & understanding					Intellectual skills		Professional & practical skills				General		
	a1	a2	a3	a4	a5	b1	b2	c1	c2	c3	c4	d1	d2	d3
Mid Term Exam	√	√	√	√	√	√	√	√	√	√	√			
Final Exam	√	√	√	√	√	√	√	√	√	√	√			
Course Work & Quizzes	√	√	√	√	√	√	√	√	√	√	√	√	√	√
Practical Exam	√	√	√	√	√	√	√	√	√	√	√			

## 9. Course ILOs Vs Program ILOs

		K&U				Int.		P. &P.		General	
		A8	A9	A13	A14	B4	B15	C4	C17	D5	D8
K&U	a1	√	√								
	a2		√	√							
	a3				√						
	a4			√							
	a5	√									
Int.	b1					√					
	b2					√	√				
P. &P.	c1								√		
	c2							√			
	c3								√		
	c4							√			
General	d1										√
	d2									√	
	d3									√	√

**Course Coordinator: Prof. Mohamed EL-Zeweidy ( )**

**Head of Department: Prof.Dr. Ahmed El-Abbassy ( )**

**Date: 1/8/2022**