**Course specification**
**(1101 Introduction to Computer & Applications)**

**Faculty: HICIT**

Programme(s) on which the course is given: Under graduate program in Computer Science
Major or minor element of programmes: Compulsory
Department offering the programme: Computer Science
Department offering the course: Computer Science
Academic year/ Level: First Year/ First Semester
**Date of specification approval: 22/9/2015**

**A- Basic Information**

**Title: Introduction to Computer Science & Applications Code: 1101**

**Weekly Hours:**

**Lecture: 3 Exercise: 2 Practical: 2 Total: 7**

**B- Professional Information**

1 - **Overall aims of course**

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**

| **Program Intended Learning Outcomes** | | | |
|---|---|---|---|
| **Knowledge and understanding** | **Intellectual Skills** | **Professional and practical skills** | **General and Transferable skills** |
| **a8, a9, a13, a14** | **b4, b15** | **c4, c17** | **d5, d8** |

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

**3a- Knowledge and understanding**

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.

a2- State 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.

a3- Understand the basic concepts surrounding databases, database management systems and understand the need for information management.

a4- Understand the processes involved in information system and program development.

a5- Understand the processes involved in different numbering systems different than the decimal one such as binary, octal, hexadecimal.

**3b- Intellectual skills**

On successful completion of this course, graduates should be able to:

b1. illustrate traditional and nontraditional problems, set goals towards solving them, and observe results.

b2- discuss and clarify methods to formulate and solve problems.

**3c- Professional and practical skills**

At the end of the course, the student will be able to:

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

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

c3- Analyze given information to conclude the correct results.

c4- use and Work with various numbering systems different than the decimal system.

**3d- General and transferable skills**

At the end of the course, the student will be able to:

d1- Learn some Internet/Library searching strategies.

d2- write a short report using appropriate scientific language.

d3. Use IT skills and display mature computer literacy.

**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 | 7 | 3 | 4 |

**5- Teaching and learning methods**

4.1 Lectures
4.2 Tutorial Exercises
4.3 Practical Lab
4.4 Discussions.

**6 -Student assessment methods**

5.1 Midterm Exam: To assess the knowledge and understanding achieved by the student during the previous weeks.
5.2 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.
5.3 Course Work & Quizzes: To keep the student always in the course, and to evaluate knowledge, understanding, intellectual, and transferable skills.
5.4 Practical Exam: to measure the ability of students to design and implement a software program.

**Assessment Schedule**

| **Assessment** | **Week #** |
|---|---|
| **Mid Term Exam** | **8** |
| **Final Exam** | **16** |
| **Course Work &Quizzes** | **2-14** |
| **Practical Exam** | **15** |

**Assessment Weight**

| **Assessment** | **Weight %** |
|---|---|
| **Mid Term Exam** | **5%** |
| **Final Exam** | **70%** |
| **Course Work &Quizzes** | **5%** |
| **Practical Exam** | **20%** |
| **Total** | **100** |

Course Work &Quizzes: (Short Exams, Assignments, Researches, Reports, Presentations, Class/Project discussion)

**7 -List of references**

7.1 Essential books (text books)

Enhanced Discovering Computers, Essentials, 1st edition; Cengage Learning, Mar **2**, 2012**7**6.2 - Course notes

**Enhanced Discovering Computers ©2017, Essentials 1st Edition**

Teacher notes on Introduction to Computers

7.3 Periodicals, Web sites ... etc

strongtowersoftware.com

**8 -Facilities required for teaching and learning:**

**Computer laboratories**: equipped with suitable number of PC computers
**Software required:** Microsoft Office Package
**Computer Classrooms:** equipped with PC computer +Data show + Screen
White board and colored pens.

**9-Course Matrices**

**9.1-Course Content/ILO Matrix**

| Course Contents | 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 | | | √ | | | | √ | | | | | | | |

**9.2-Learning Method /ILO Matrix**

| Learning Methods | a1 | a2 | a3 | a4 | a5 | b1 | b2 | c1 | c2 | c3 | c4 | d1 | d2 | d3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lectures | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | |
| Tutorial Exercises | | | | | | √ | √ | √ | √ | √ | √ | | | |
| Practical Lab | | | | | | √ | √ | √ | √ | √ | √ | | | |
| Discussions. | | | | | | √ | √ | √ | √ | √ | √ | √ | √ | √ |

**9.3Assessment Methods /ILO Matrix**

| Assessment Methods | a1 | a2 | a3 | a4 | a5 | b1 | b2 | c1 | c2 | c3 | c4 | d1 | d2 | d3 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Mid Term Exam | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | |
| Final Exam | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | |
| Course Work &Quizzes | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ |
| Practical Exam | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | |

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**Head of Department: Dr. Farouk Shabaan ( )**

**Date: 22/9/2015**