Mansoura University

Faculty of Computers and Information Sciences

Course Specifications of

Fundamental of Computer Science – CS111P – 2017/2018

University: Mansoura University   **Faculty**: Computer and Information Sciences

Program on which the course is given: Department of Computer Science- First year

Department offering the course: Department of Computer Science

Academic year/ Level: First Year

Date of specification approval:

A- Basic Information

Title :   Fundamental of Computer Science   **Code :**   CS111P
Credit Hours :   3   **Lecture :**   1   **Tutorial :**   **Practical :**

B- Professional Information

1- Overall Aims of the Course

This course aims to:
- Formalizes students with the technology and the principles of computers (computer hardware and software).
- Allow students to study of computers and their architecture, languages, and applications, in all aspects, as well as the mathematical structures that relate to computers and computation.
- Allow students to learn a programming language or running a computer with little attention to the study of information and its uses.

2- Intended Learning Outcomes of the course (ILOs)

By completing this course successfully, the student will be able to:

a- Knowledge and Understanding

a1.   Essential facts, concepts, principles and theories relating to computing and information and computer applications as appropriate to the program of study.

a3.   Tools, practices and methodologies used in the specification, design, implementation and evaluation of computer software systems.

a7.   Principals of generating tests which investigate the functionality of computer programs and computer systems and evaluating their results.

a11. Requirements, practical constraints and computer-based systems..

a16. Know and understand the principles and techniques of a number of application areas informed by the research directions of the subject, such as artificial intelligence, natural language processing, data mining, databases and computer graphics.

a18. 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.

a19. Select advanced topics to provide a deeper understanding of some aspects of the subject, such as hardware systems design, object-oriented analysis and design, and artificial intelligence, and parallel and concurrent computing

b- Intellectual Skills

b2.   Realize the concepts, principles, theories and practices behind computing and information as an academic discipline.

b13. Identify attributes, components, relationships, patterns, main ideas, and errors.

c- Professional and Practical Skills

c1.   Operate computing equipment, recognizing its logical and physical properties, capabilities and limitations.

c2   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   Develop a range of fundamental research skills, through the use of online resources, technical repositories and library-based material

c11   Perform independent information acquisition and management, using the scientific literature and Web sources.

c12   Prepare and present seminars to a professional standard.

c21   Prepare technical reports, and a dissertation, to a professional standard.

d- General and Transferable Skills

d1. Demonstrate the ability to make use of a range of learning resources and to manage one's own learning.

d3 Show the use of information-retrieval.

d4 Use an appropriate mix of tools and aids in preparing and presenting reports for a range of audiences, including management, technical, users, industry or the academic community.

d8 Demonstrate an appreciation of the need to continue professional development in recognition of the requirement for life-long learning.

3- Contents

No	Course Content	Lecture	Tutorial	Total
1	Introduction to the fundamental concepts of Computer Science and its Applications	2	2	4
2	Computer Generations	2	2	4
3	Computer Hardware	2	2	4
4	Introduction to Operating System	2	2	4
5	Application Programs	2	2	4
6	System Software	2	2	4
7	Number Systems	4	4	8
8	Algorithms (Representation,& operations)	2	2	4
9	Algorithms (Problem Solving)	2	2	4
10	MicroSoft Office	4	4	8
	Total Hours	**24**	**24**	**48**

4- Assessment Schedule

Assessment Method	No.	Description	Week No.	Weight (%)
Assignment	1	Home work no. 1	3	10
Written Exams	2	Midterm Exam	7	10
Assignment	3	Home work no. 2	8	10
Oral Exam	4	Oral questions	10	10
Written Exams	5	Final Exam	14	60
Total				100

5- List of references

5.1 Course Notes
- Lecture handouts delivered to students at the end of each lecture.

5.2 Essential Books (Text Books)

- ITL Education Solutions Limited, "Introduction to Computer Science", pearson edition, second edition,2011.
- SILBERSCHATZ A., GALVIN P.B. and GAGNE G., "OPERATING SYSTEM CONCEPTS ", Six edition, JOHN WILEY & SONS, INC, 2002.

6- Facilities Required for Teaching and Learning
- Data show.

Course Content/ILO Matrix

Course Content	a1	a3	a7	a11	a16	a18	a18	b2	b13	c1	c2	c4	c5	c11	c12	c21	d1	d3	d4	d5
Introduction to the fundamental concepts of Computer Science and its Applications	●	●				●	●		●	●	●			●			●		●	●
Computer Generations and Hardware	●	●	●	●				●	●	●	●		●	●			●	●	●	●
Introduction to Operating System	●		●	●	●	●			●			●	●		●	●	●			●
Application Programs and system software	●	●		●	●			●	●	●		●		●			●	●	●	●
Number Systems	●	●	●	●	●			●		●	●	●	●	●		●			●	●
Introduction to Algorithms			●		●	●	●	●	●			●		●		●	●	●		

Learning Method/ILO Matrix

Course Content	a1	a3	a7	a11	a16	a18	a18	b2	b13	c1	c2	c4	c5	c11	c12	c21	d1	d3	d4	d5
Lectures	•		•	•	•		•	•	•	•	•		•	•		•	•	•	•	•
Tutorials		•	•		•	•	•		•	•	•	•	•		•	•	•	•		

Assessment Methods/ILO Matrix

Assessment	a1	a3	a7	a11	a16	a18	a18	b2	b13	c1	c2	c4	c5	c11	c12	c21	d1	d3	d4	d5
Assignment	•	•		•		•				•	•			•	•	•		•	•	•
Midterm Exam	•		•	•	•		•	•		•	•	•	•	•			•		•	
Oral exam		•		•	•		•			•	•		•	•			•	•		•
Final Exam	•	•	•	•	•	•	•	•	•			•		•		•	•	•		•

Course Coordinator: **Dr. Rasha Sakr**
                          Dr. Mayada Tarek
Head of Department: **Dr. Samir Elmogy**
Date: