University: **Alexandria**
Faculty: **Science**
Program: **Computer Science**

Form no. (12)
Course Specification

1- Course Data

Course Code:	Course Title:	Academic Year/Level:
CS 102	Computer Programming(1)	First level (second semester)
Specialization: Computer	No. of Instructional Units: **Lecture** 2 **Tutorial** 3	

2- Course Aim	- Demonstrate theoretical knowledge and have practical skills in different areas of programming that are applicable in computer science such as flow control, loops,..etc. - Demonstrate an ability to initiate and sustain in-depth research relevant to **application of real life in computer programming.** - Have an opportunity to put theory into practice via work-based learning.
3- Intended Learning Outcome	
a- Knowledge and Understanding	a1. Describe the nature and operations of programming and its importance in computer science applications. a2. Identify the steps required to carry out a piece of research on a topic within applications of programming in computer science. a3. Basic logic concepts in computer science a4. The binary system techniques a5. The flow chart of algorithm a6. Problem solving techniques

b- Intellectual Skills	b1. Use appropriate theories, principles and concepts relevant to the programming languages that are applicable to computer science; b2. Analyze and interpret information from a variety of sources relevant to the topics under consideration; b3. Develop a reasoned argument to the solution of familiar and unfamiliar problems relevant to these topics (see the contents);
c- Professional Skills	**c1.** Plan practical activities using techniques and procedures appropriate to applications of programming in computer science; **c2.** Execute a piece of independent research using **programming** and computer media and techniques;.
d- General Skills	**d1.** Develop appropriate effective written and oral communication skills relevant to **programming applications in computer science**; **d2.** Work effectively as part of a group, involving leadership, group dynamics and interpersonal skills such as listening, negotiation and persuasion relevant to **programming** and computer science; **d3.** Use organization skills (including task and time management) relevant to **computer science** both individually and in a group situation; **d4.** Solve problems relevant to **applications of programming** in computer science using ideas and techniques some of which are at the forefront of the discipline;
4- Course Content	- High level programming language (C). - The notions of an algorithm and the formulation of a problem. - Standard functions. - Procedures and top down design. - Declarations. - Statements. - Expressions -Input and output. - Compilation and execution. - Error messages. - Debugging techniques. - Loops. - Arrays. - Functions. - Subroutines. - Applications.

5- Teaching and Learning Methods	Lecturers – Home works - Oral discussion **-** Quizzes
6- Teaching and Learning Methods for Students with Special Needs	NONE
7- Student Assessment:	
a- Procedures used:	Lecturers – tutorials- homework – oral discussion **-** Quizzes
b- Schedule:	Mid-Term exam… …. Week 10 Final exam ……………. Week 17
c- Weighing of Assessment:	Term work (exam + home works) 20% Oral exam 10% Final exam 70%
8- List of References:	C programming for scientists and engineering
a- Course Notes	

b- Required Books (Textbooks)	
c- Recommended Books	
d- Periodicals, Web Sites, ..., etc.	

Course Instructor: Dr. Yasser Fouad
Head of Department: Prof. Dr. Mahmoud El-Alem.
Date: 1/3/2010