

University: Alexandria
Faculty: Science
Program: Computer Science

Form no. (12)
Course Specification

1- Course Data

Course Code: Math 150	Course Title: Computer Programming	Academic Year/Level: First level (second semester)
Specialization: Petroleum	No. of Instructional Units: Lecture 2 Tutorial 2	

2- Course Aim	<ul style="list-style-type: none"> • 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	<p>b1. Use appropriate theories, principles and concepts relevant to the programming languages that are applicable to computer science;</p> <p>b2. Analyze and interpret information from a variety of sources relevant to the topics under consideration;</p> <p>b3. Develop a reasoned argument to the solution of familiar and unfamiliar problems relevant to these topics (see the contents);</p>
c- Professional Skills	<p>c1. Plan practical activities using techniques and procedures appropriate to applications of programming in computer science;</p> <p>c2. Execute a piece of independent research using programming and computer media and techniques;.</p>
d- General Skills	<p>d1. Develop appropriate effective written and oral communication skills relevant to programming applications in computer science;</p> <p>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;</p> <p>d3. Use organization skills (including task and time management) relevant to computer science both individually and in a group situation;</p> <p>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;</p>
4- Course Content	<ul style="list-style-type: none"> • 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