Benha University   Faculty of Engineering at Shobra   Electrical Engineering Department

A- Basic Information

Course Title: Computer Programming   **Code**: ECE171
Lecture: 4   **Tutorial**: 2   **Practical**:   **Total:** 6
Program on which the course is given: B.Sc. Electrical Engineering (Power)
Major or minor element of program: Major.
Department offering the program: Electrical Engineering Department
Department offering the course: Electrical Engineering Department
Academic year / level: First Year / Second Semester
Date of specifications approval: 10/5/2006
Names of lecturers contributing to the delivery of the course: Prof. Ass. Dr. Tarek A. El-Shishtawy,
Course coordinator: Prof. Ass. Dr. Tarek A. El-Shishtawy
External evaluator: Prof. Dr. Ahdab Almorshedy

B- Professional Information

1- Overall aims of course:
This course presents students with a clear and thorough introduction to the programming process by carefully developing working C++ programs. The course is designed to used by students and first time computer users**.**

2- Intended learning outcomes of course (ILOs)
   By completion of the course, the student should be able to:
   a- Knowledge and understanding
      a.8) Current engineering technologies as related to disciplines.
      a.16) Quality assessment of computer systems;

   b- Intellectual Skills
      b.1) Select appropriate mathematical and computer-based methods for modeling and analyzing problems.
      b.2) Select appropriate solutions for engineering problems based on analytical thinking.
      b.3) Think in a creative and innovative way in problem solving and design.
      b.7) Solve engineering problems, often on the basis of limited and possibly contradicting information.

   c- Professional and practical skills
      c.6) Use a wide range of analytical tools, techniques, equipment, and software packages pertaining to the discipline and develop required computer programs.
      c.14) Observe, record and analyze data in laboratory as well as in the field;
      c.16) Write computer programs.

   d- General and transferable Skills
      d.4) Demonstrate efficient IT capabilities.
      d.6) Effectively manage tasks, time, and resources.

3- Contents

Topic No.	Topic	No. of hours	ILO,s	Teaching / learning methods and strategies	Assessment method
1	Fundamentals of OOP	6	a8, a16, d4, d6	Teaching / learning methods and strategies	Home assignments, Quizzes, Oral examination
2	Basic Types and Objects	6	a8, a16	Teaching / learning methods and strategies	Home assignments, Quizzes, Oral examination
3	Basic Types and Objects	6	a8, a16	Teaching / learning methods and strategies	Home assignments, Quizzes, Oral examination
4	Writing Expressions	6	b1, b2, c16	Teaching / learning methods and strategies	Home assignments, Quizzes, Oral examination
5	Writing Expressions	6	b1, b2, c16	Teaching / learning methods and strategies	Home assignments, Quizzes, Oral examination
4	Input, Output and Conversions	6	b2, c6, c14	Teaching / learning methods and strategies	Home assignments, Quizzes, Oral examination
5	Input, Output and Conversions	6	b2, c6, c14	Teaching / learning methods and strategies	Home assignments, Quizzes, Oral examination
6	Decision Making	6	b2, c6	Teaching / learning methods and strategies	Home assignments, Quizzes, Oral examination
7	Looping	6	b3, b7, d4	Teaching / learning methods and strategies	Home assignments, Quizzes, Oral examination
8	Mid-Term Exam				
9	Looping	6	b3, b7, d4	Teaching /	Home assignments,

				learning methods and strategies	Quizzes, Oral examination
10	Using Functions and Classes	6	b3, b7, d4, d6	Teaching / learning methods and strategies	Home assignments, Quizzes, Oral examination
11	Using Functions and Classes	6	b3, b7, d4, d6	Teaching / learning methods and strategies	Home assignments, Quizzes, Oral examination
12	Arrays	6	b2, c6, c14	Teaching / learning methods and strategies	Home assignments, Quizzes, Oral examination
13	Arrays	6	b2, c6, c14	Teaching / learning methods and strategies	Home assignments, Quizzes, Oral examination
14	**Final Exam**				
15					

4- Teaching and learning methods
Lectures
laboratory
Class activity
Assignments

5- Student assessment methods
Assignments to assess knowledge and intellectual skills.
Quiz to assess knowledge, intellectual and professional skills.
Mid-term exam to assess knowledge, intellectual, professional and general skills.
Oral exam to assess knowledge and intellectual skills.
Final exam to assess knowledge, intellectual, professional and general skills.

Assessment schedule
Assessment 1 on weeks 2, 5, 9, 11
Assessment 2 Quizzes on weeks 4, 6, 10, 12
Assessment 3 Mid-term exam on week 8
Assessment 4 Oral Exam on week 14
Assessment 5 Final exam on week 15

Weighting of assessments
05% Home assignments
05% Quizzes
10% Mid-term examination
20% Oral examination
60% Final-term examination

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100% Total

6- List of references

Course notes

Course Slides

Essential books

John C. Molluzzo , C++ for Business Programming, Second Edition, Prentice Hall, 2005

Recommended books

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7- Facilities required for teaching and learning

Lecture room equipped with overhead projector

Presentation board, computer and data show

Laboratory

Oracle 10g, Enterprise edition(Latest Edition)

Oracle Forms Developer

Course coordinator: Dr. Tarek El-Shishtawy

Course instructor: Dr. Tarek El-Shishtawy