

Course Specifications - Micro-computing E110

University: Benha University

Faculty: Benha Faculty of engineering

Course specifications

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|--|---|
| Program(s) on which the course is given: | All Programs |
| Major or minor element of programs: | Major |
| Department offering the program : | Electrical Engineering technology Dep. |
| Department offering the course: | Electrical Engineering technology Dep. |
| Academic year / Level: | First year – First and Second Terms |
| Date of specification approval: | 2008 |

A- Basic Information

| | | |
|---------------------------|---------------------|-----------------|
| Title: A | Code: E110 | |
| Credit Hours: N.A. | Lecture: 2 | |
| Tutorial: 0 | Practical: 3 | Total: 5 |

B- Professional Information

1 - Overall aims of course

Upon successful completion of this course, the student should be able to:

- 1.1 Encourage the student for detailed or general study of computers
- 1.2 Instruct the students the basic skills of using computers and networks
- 1.3 Have a clear overview of how to solve engineering problems.
- 1.4 Be able to give a computer solution to engineering problems.
- 1.5 Be able to Share ideas and work in a team.
- 1.6 Effectively and independently.

2- Intended Learning Outcomes of course (ILOs)

a. Knowledge and understanding:

- a.1 Know the components of a computer system and its Architecture
- a.2 Have a clear overview of how to solve engineering problems.
- a.3 Know the Logical design of programs and Problem solving methods.
- a.4 Be able to give a computer solution to engineering problems.
- a.5 Define Programming, Programs
- a.6 Define Network and Multimedia Components.
- a.7 Know Computer Terminology commonly used in the computer discipline.

b. Intellectual skills

By the end of this course, the student should be able to:

- b.1 Recognize capabilities of computer methods for solving engineering problems.
- b.2 Convert between numbering systems
- b.3 Estimate the logic expirations for logic gates combinations.
- b.4 Draw computer programs Flowchart to solve specific engineering problems.
- b.5 Write computer programs Algorithm to solve specific engineering problems.
- b.6 Write Html pages and Java-Scripts scripts.
- b.7 Analyze and interpret data and computer results

c- Professional and practical skills

By the end of this course, the student should be able to:

- c.1 Implement Flowcharts and Algorithms to solve engineering problems.
- c.2 Write reports using Notepad and WordPad.
- c.3 Write Html pages and Java-Scripts scripts.
- c.4 Extract information from collected data in the lab.

d- General and transferable skills

By the end of this course, the student should be able to:

- d.1 Work cooperatively and effectively in a group,
- d.2 Find information independently.
- d.3 Write a Report.
- d.4 Use email system.
- d.5 Use digital libraries and/or eLearning Systems.

3- Contents

| Topic for First Term | Lecture Hours | Tutorial Hours | Practical Hours | Total Hours |
|---|----------------------|-----------------------|------------------------|--------------------|
| The components of a computer system and Computer Systems Architecture | 2 | - | 3 | 5 |
| Operating Systems Fundamentals | 2 | - | 3 | 5 |
| Use the file system commands | 2 | - | 3 | 5 |
| Algorithms and Flowcharts. | 4 | - | 6 | 10 |
| logic gates combinations | 2 | - | 3 | 5 |
| Write a Report | 2 | - | 3 | 5 |
| Use email system and digital libraries and/or eLearning | 2 | - | 3 | 5 |
| Use HTML | 14 | - | 21 | 35 |
| Total Hours | 30 | - | 45 | 75 |

| Topic for Second Term | Lecture Hours | Tutorial Hours | Practical Hours | Total Hours |
|--|----------------------|-----------------------|------------------------|--------------------|
| Introduction of JavaScript: Programs and Applications, Dialog Boxes, Debugging | 2 | - | 3 | 5 |
| Language Structure, script, components, Syntax and Conventions, | 4 | - | 6 | 10 |
| Data Types and Variables, Array, Numbers and Text, Expressions and Operators, | 6 | - | 9 | 15 |
| Data Control, Conditionals and Loops | 4 | - | 6 | 10 |
| Objects types: User-Defined, Manipulating, Core, Math, Wrapper, String, Number, Boolean, and Function. The with Keyword. | 4 | - | 6 | 10 |
| Windows, on-the-fly Documents, Status bar, timeouts, Form Objects and Image-object. | 4 | - | 6 | 10 |
| Dynamic HTML: Style Sheets, DOM, and JavaScript | 6 | - | 9 | 15 |
| Total Hours | 30 | - | 45 | 75 |

4- Teaching and learning methods

- 4.1 Class Lectures,
- 4.2 Practice in Laboratories,
- 4.3 Internet collected information and Self-study projects.

5- Student assessment methods

- 5.1 Written exams (Final and Midterm), assignments and quizzes to assess knowledge and understanding, solving problems skills and interpretation capabilities of physical phenomena.
- 5.2 Oral exams to assess the abilities of discussing physical concepts.
- 5.3 Practical exam to assess measuring and professional skills.

Assessment schedule

| | | |
|-------------------------|----------|----|
| Quiz | Week No. | 5 |
| Midterm | Week No. | 10 |
| Oral and Practical exam | Week No. | 15 |
| Final Written exam | Week No. | 15 |

Weighting of assessments

| | |
|--------------------------------|------|
| Mid-term examination | 20% |
| Oral and Practical examination | 20% |
| Weekly Assignments | 40% |
| Final-term examination | 20% |
| Total | 100% |

6- List of references

6.1 Lecture notes (Developed by Course Lecturers, Reviewed by Course Supervisor).

6.2 Lab notes (Developed by Course Lecturers, Reviewed by Course Supervisor)

6.3 Recommended books.

- Suitable Books on the Net: Using Internet explorer and in Google searcher type: (Computer) then click the suitable item from the displayed listing.

7- Facilities required for teaching and learning

7.1 Lecture rooms and Data show.

7.2 Experimental Labs

Course coordinator: Prof. Dr. Salah Ghazy Ramadan.

Head of Department: Ass. Prof. Ghada Amer.

Date: 30/12/2008