



## A. Basic Information

**Course Title:** Electrical Testing (1)

**Code:** EPE112

**Lecture:** -

**Tutorial:** -

**Practical:** 4

**Total:** 4

**Program on which the course is given:** B.Sc. Electrical Engineering (Electrical Power and machines)

**Major or minor element of program:** N.A.

**Department offering the program:** Electrical Engineering Department

**Department offering the course:** Electrical Engineering Department

**Academic year / level:** First Year / First Semester

**Date of specifications approval:** Jan., 10, 2009

## B. Professional Information

### 1. Overall aims of course

By the end of the course the students will be able to:

- i. Understanding of basic principles of electrical engineering.
- ii. Providing students with sound experimental and practical skills.
- iii. Familiarizing students with instruments and components.

### 2. Intended Learning outcomes of Course (ILOs)

#### a. Knowledge and Understanding:

a1- Fundamental concepts, principles, theories and applications of basic electrical engineering courses.

#### b. Intellectual Skills



b1- Use of scientific principles in development of engineering and/or electrical engineering solutions to practical problems.

**c. Professional and Practical Skills**

c1- Proper use of workshop, laboratory and measuring equipment to generate valuable data.

**d. General and Transferable Skills**

d.1) Collaborate effectively within multidisciplinary team.

d.2) Work in stressful environment and within constraints.

d.3) Communicate effectively.

**3. Contents**

No	Topic	No. of hours	ILOs	Teaching / learning methods and strategies	Assessment method
1	1- Experiments on fundamental of electric circuits. Carrying out experimental and practical experiments covering: -Basics and fundamentals of electrical and electronic engineering, including: -Series and parallel circuits, Kirrchhof's Laws, Loop and Node methods, Delta Star Transformations, Network Theorems	4	a1, b1, c1, d1, d2, d3	Tutorial, experimental work	practical Assignments, Quizzes, practical Exam
2	1- Experiments on fundamental of electric circuits. Carrying out experimental and practical	4	a1, b1, c1, d1, d2, d3	Tutorial, experimental work	practical Assignments, Quizzes, practical



	experiments covering: -Basics and fundamentals of electrical and electronic engineering, including: -Series and parallel circuits, Kirrchhof's Laws, Loop and Node methods, Delta Star Transformations, Network				Exam
3	1- Experiments on fundamental of electric circuits.	4	a1, b1, c1, d1, d2, d3	Tutorial, experimental work	practical Assignments, Quizzes, practical Exam
4	1- Experiments on fundamental of electric circuits.	4	a1, b1, c1, d1, d2, d3	Tutorial, experimental work	practical Assignments, Quizzes, practical Exam
5	2- Experiments on fundamental of electric circuits.	4	a1, b1, c1, d1, d2, d3	Tutorial, experimental work	practical Assignments, Quizzes, practical Exam
6	3- Experiments on fundamental of electric circuits.	4	a1, a5, b1, b2, b3, a1, b1, c1, d1, d2, d3	Tutorial, experimental work	practical Assignments, Quizzes, practical Exam
7	4- Experiments on fundamental of electric circuits.	4	a1, b1, c1, d1, d2, d3	Tutorial, experimental work	practical Assignments, Quizzes, practical Exam
8	Mid term exam				
9	1- Experiments on fundamental of electronic	4	a1, b1, c1, d1,	Tutorial,	practical



	engineering.		d2, d3	experimental work	Assignments, Quizzes, practical Exam
10	2- Experiments on fundamental of electronic engineering. a- Identification to the main components of the computer systems	4	a1, b1, c1, d1, d2, d3	Tutorial, experimental work	practical Assignments, Quizzes, practical Exam
11	3- Experiments on fundamental of electronic engineering. a- Identification to the main components of the computer systems	4	a1, b1, c1, d1, d2, d3	Tutorial, experimental work	practical Assignments, Quizzes, practical Exam
12	4- Experiments on fundamental of electronic engineering. programming and its applications in the electrical engineering (simple examples of the basics and fundamental of the electrical engineering applications).	4	a1, b1, c1, d1, d2, d3	Tutorial, experimental work	practical Assignments, Quizzes, practical Exam
13	5- Experiments on fundamental of electronic engineering. Practical introduction to the computer programming and its applications in the electrical engineering (simple examples of the basics and fundamental of the electrical engineering applications).	4	a1, b1, c1, d1, d2, d3	Tutorial, experimental work	practical Assignments, Quizzes, practical Exam
14	6- Experiments on fundamental of electronic	4	a1, b1, c1, d1,	Tutorial,	practical



	engineering. - Practical introduction to the computer programming and its applications in the electrical engineering (simple examples of the basics and fundamental of the electrical engineering applications).		d2, d3	experimental work	Assignments, Quizzes, practical Exam
15 16	Final exam				

**4. Teaching and Learning Methods**

- 4.1- lectures
- 4.2- Tutorial.... (√)
- 4.3- Experimental work (√)

**Student Assessment Methods**

- 1-Written examinations..... A2, b2, c4
- 2- Oral examination A2, b2, c4
- 3- Laboratory examinational A2, b2, c4

**5. 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 practicalral Exam on week 15
- Assessment 5 Final exam on week 16

**6. Weighting of Assessments**



Mid-Term Exam.	30 / 100	30 %
Oral Examination	20 / 100	20 %
Final Term Exam.	50 / 100	50 %
Total		100%

**List of References**

- 1- Course Notes by Prof. Prof. Dr. Abdel Salam Hafez A. Hamza
- 2- Required Books (Text Books)

Course Notes by Prof. Prof. Dr. Abdel Salam Hafez A. Hamza

Essential Books (Text Books)

Experimental Course Notes by Prof. Prof. Dr. Abdel Salam Hafez A. Hamza

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**6.1 Recommended Books**

Electrical engineering text books

**6.2 Periodicals Web sites, etc**

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Internet Web sits

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**7. Facilities Required for Teaching and learning**

Presentation board, computer and data show,  
Practical equipments and components for the experiment



**BENHA UNIVERSITY**

**COURSE SPECIFICATIONS (2011-2012)**

**FACULTY OF ENGINEERING**

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**Course coordinator:**

Prof. Dr. Abdel Salam Hafez A. Hamza

**Course instructor:**

Prof. Dr. Abdel Salam Hafez A. Hamza + Prof. Dr. Nagat Moh Abdelgawad

**Head of department:**

Prof. Dr. Mousa Abd-Allah

**Date: 22 / 11 / 2011**