



**Benha University** 

### Faculty of Engineering at Shobra

**Electrical Engineering Department** 

### **A-Basic Information**

Course Title: Test and Specificati	ons (B)	<b>Code</b> : EPE 422	
Lecture: 1 Tute	orial: 3	<b>Practical</b> :	Total: 4
Program on which the course is	given: B.Sc. E	Electrical Engineering (Power)	
Major or minor element of prog	ram: Major		
Department offering the program	<b>n:</b> Electri	cal Engineering Department	
<b>Department offering the course:</b>	Electri	cal Engineering Department	
Academic year / level:	Fourth	Year / Second Semester	
<b>Date of specifications approval:</b>	10/5/2006		

## **B-** Professional Information

### **1- Overall aims of course:**

 $\hat{a} \in \hat{c}$  Study of applied topics of control of DC motors, control of inductive motors, standards linear motors tests, Power systems & control, and High Voltage testing.

### 2- Intended learning outcomes of course (ILOs)

By completion of the course, the student should be able to:

### a- Knowledge and Understanding

a.14) Design methods and tools for electrical power and machines equipment and systems.

### **b- Intellectual Skills**

b.14) Analyze design problems and interpret numerical data and test and examine components, equipment and systems of electrical power and machines.

### c- Professional and Practical Skills





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c.5) Use computational facilities and techniques, measuring instruments, workshops and laboratories equipment to design experiments, collect, analyze, and interpret results.

c.13) Design and perform experiments, as well as analyze and interpret experimental results related to electrical power and machines systems.

### d- General and Transferable Skills

d.1) Collaborate effectively within multidisciplinary team.

### **3-** Contents

No.	Topic	No. of hours	ILO's	Teaching / learning methods and strategies	Assessment method
1	Control of DC motors, control of BLDC motors, control of single phase IM.	4	a14, b14, c5, c13, d1	Lectures, Practical training / laboratory, class activity, Case study, Assignments	Home Assignments, Quizzes, Oral Exam, Practical training
2	Control of DC motors, control of BLDC motors, control of single phase IM.	4	a14, b14, c5, c13, d1	Lectures, Practical training / laboratory, class activity, Case study, Assignments	Home Assignments, Quizzes, Oral Exam, Practical training
3	Control of DC motors, control of BLDC motors, control of single phase IM.	4	a14, b14, c5, c13, d1	Lectures, Practical training / laboratory, class activity, Case study, Assignments	Home Assignments, Quizzes, Oral Exam, Practical training
4	Control of DC motors, control of BLDC motors, control of single phase IM.	4	a14, b14, c5, c13, d1	Lectures, Practical training / laboratory, class activity, Case study, Assignments	Home Assignments, Quizzes, Oral Exam, Practical training
5	Control of DC motors, control of BLDC motors, control of single phase IM.	4	a14, b14, c5, c13, d1	Lectures, Practical training / laboratory, class activity, Case	Home Assignments, Quizzes,



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				study, Assignments	Oral Exam, Practical training
6	Power systems & control	4	a14, b14, c5, c13, d1	Lectures, Practical training / laboratory, class activity, Case study, Assignments	Home Assignments, Quizzes, Oral Exam, Practical training
7	Power systems & control	4	a14, b14, c5, c13, d1	Lectures, Practical training / laboratory, class activity, Case study, Assignments	Home Assignments, Quizzes, Oral Exam, Practical training
8 Mid-Term Exam					
9	Power systems & control	4	a14, b14, c5, c13, d1	Lectures, Practical training / laboratory, class activity, Case study, Assignments	Home Assignments, Quizzes, Oral Exam, Practical training
10	Power systems & control	4	a14, b14, c5, c13, d1	Lectures, Practical training / laboratory, class activity, Case study, Assignments	Home Assignments, Quizzes, Oral Exam, Practical training
11	High Voltage testing	4	a14, b14, c5, c13, d1	Lectures, Practical training / laboratory, class activity, Case study, Assignments	Home Assignments, Quizzes, Oral Exam, Practical training
12	High Voltage testing	4	a14, b14, c5, c13, d1	Lectures, Practical training / laboratory, class activity, Case study, Assignments	Home Assignments, Quizzes, Oral Exam, Practical training
13	High Voltage testing	4	a14, b14, c5, c13, d1	Lectures, Practical training / laboratory, class activity, Case	Home Assignments, Quizzes, Oral Exam, Practical training



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		2			study, Assignments	
	14	High Voltage testing	4	a14, b14, c5, c13, d1	Lectures, Practical training / laboratory, class activity, Case study, Assignments	Home Assignments, Quizzes, Oral Exam, Practical training
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### 4- Teaching and Learning Methods

Lectures Practical training / laboratory Seminar / workshop Class activity Case study Assignments / homework

### **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





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### Weighting of Assessments

10% Home assignments15% Mid-term examination25% Oral & experimental examination50% Final-term examination100% Total

### 6- List of References

Course notes

Course notes prepared by instructor.

Essential books

Acceptance Testing Specifications for Electric Power Distribution Equipment and Systems, NETA Standards Review Council Recommended books

Fluke, 1550B MegOhmMeter, user manual

### 7- Facilities required for teaching and learning

Lecture room equipped with overhead projector Presentation board, computer and data show Laboratory

Course coordinator:	Prof. Dr. M. Abouelsaad
Course instructor	Mohammad Eisen Elfarackour

**Course instructor:** Mohammed Eissa Elfaraskoury

Head of Department: Prof. Dr. Mousa Abd-Allah

Date:1/1/2012

