



## A. Basic Information

**Course Title:** Measuring instruments

**Code:** EPE213

**Lecture:** 4

**Tutorial:** 2

**Practical:** -

**Total:** 6

**Program on which the course is given:** BSc Electrical Engineering (Power)

**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:** Second year/First semester

**Date of specifications approval:** 10/5/2006

## B. Professional Information

### 1. Overall aims of course

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

- Understand the measuring concepts of the electrical quantities
- Knowing the construction of the different measuring instruments
- Capable of analysis of the measuring errors

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

#### a. Knowledge and Understanding:

- a1. Concepts and theories of mathematics and sciences, appropriate to the discipline.
- a3. Characteristics of engineering materials related to the discipline.
- a5. Methodologies of solving engineering problems, data collection, and interpretation.
- a8. Current engineering technologies as related to disciplines.

**b. Intellectual Skills**

b3. Think in a creative and innovative way in problem solving and design.

b5. Assess and evaluate the characteristics and performance of components, systems and processes.

b6. Investigate the failure of components, system, and processes.

**c. Professional and Practical Skills**

c13. Design and perform experiments, as well as analyze and interpret experimental results related to electrical power and machines systems.

c14. Test and examine components, equipment and systems of electrical power and machines.

**d. General and Transferable Skills**

d4. Demonstrate efficient IT capabilities.

**3. Contents**

No	Topic	No. of hours	ILOs	Teaching / learning methods and strategies	Assessment method
1	Units and dimensions	6	a1	Lectures, Class activity, Assignments / homework	Home Assignments, Quizzes, Oral Exam
2	Errors	6	a1, c14	Lectures, Class activity, Assignments / homework	Home Assignments, Quizzes, Oral Exam
3	Errors	6	a1, c14	Lectures, Class activity, Assignments / homework	Home Assignments, Quizzes, Oral Exam
4	Moving coil instruments	6	a8, b5	Lectures, Class activity,	Home Assignments,



				Assignments / homework	Quizzes, Oral Exam
5	Moving coil instruments	6	a8, b5	Lectures, Class activity, Assignments / homework	Home Assignments, Quizzes, Oral Exam
6	Moving iron instruments	6	a3, a8	Lectures, Class activity, Assignments / homework	Home Assignments, Quizzes, Oral Exam
7	Moving iron instruments	6	a3, a8	Lectures, Class activity, Assignments / homework	Home Assignments, Quizzes, Oral Exam
8	Mid term exam				
9	Transducers	6	a1, a3, a8	Lectures, Class activity, Assignments / homework	Home Assignments, Quizzes, Oral Exam
10	Transducers	6	a1, a3, a8	Lectures, Class activity, Assignments / homework	Home Assignments, Quizzes, Oral Exam
11	Electronic Instruments	6	a8, b3, b5, b6	Lectures, Class activity, Assignments / homework	Home Assignments, Quizzes, Oral Exam
12	Electronic Instruments	6	a8, b3, b5, b6	Lectures, Class activity, Assignments / homework	Home Assignments, Quizzes, Oral Exam
13	Oscilloscope	6	a5, c13,c14,d4	Lectures, Class activity, Assignments / homework	Home Assignments, Quizzes, Oral Exam
14	Oscilloscope	6	a5, c13,c14,d4	Lectures, Class activity, Assignments / homework	Home Assignments, Quizzes, Oral Exam
15	Final exam				
16					

**4. Teaching and Learning Methods**

Lectures

Class activity

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.

**6. 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

**7. Weighting of Assessments**

Home assignments	05%
Quizzes	05%
Mid-term examination	10%
Oral examination	20%
Final-term examination	60%
Total	100%

**8. List of References**

8.1 Course Notes

- .....

8.2 Essential Books (Text Books)

Electronic Instrumentation and Measurements David A.Bell.



8.3 Recommended Books

Electronic Instruments and Measurements Larry D. Jones and A. Soster Chin

8.4 Periodicals Web sites, etc

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

Lecture room equipped with presentation board

**Course coordinator:** Prof. Dr. Manar Abdel- Aziz Foda

**Course instructor:**

**Head of department:** Prof. Dr. Mousa Abd-Allah

**Date:** 1 /12 / 2011