



كلية الهندسة بشبرا

## Model No.12 Course Specifications : electrical engineering

A Ifarabi for Quality Assurance and Accreditation System - at 30/11/2013 9:48 AM

**University :** Benha university

**Faculty :** كلية الهندسة بشبرا

**Department :** الهندسة الكهربائية

### 1- Course Data

Course Code : كهق ١٩١	Course Title : electrical engineering	Study Year : الفرقة الأولى
Specialization :		
Teaching Hours:		
Lecture : 2	Tutorial : 2	Practical :

### 2- Course Aim

For students undertaking this course, the aims are to:

2.1- provide the first year mechanical students with the basics and essential fundamentals of knowledge in the basics of the electrical engineering and electrical machines and its applications.

### 3- Intended Learning Outcomes of Course (ILOS)

#### a- Knowledge and Understanding

On completing this course, students will be able to:

- a- .1) Concepts and theories of mathematics and sciences, appropriate to the discipline.
- a- .4) Principles of design including elements design, process and/or a system related to specific disciplines.
- a- .8) Current engineering technologies as related to disciplines.

a- .19) Engineering design principles and techniques.

**b- Intellectual Skills**

At the end of this course, the students will be able to:

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- .14) Analyze and interpret data, and design experiments to obtain primary data.

**c- Professional Skills**

On completing this course, the students are expected to be able to:

c- .1) Apply knowledge of mathematics, science, information technology, design, business context and engineering practice to solve engineering problems.

c- .2) Professionally merge the engineering knowledge, understanding, and feedback to improve design, product and/or services.

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

c- .7) Apply numerical modeling methods to engineering problems.

c- .19) Prepare the process plan for manufacturing.

**d- General Skills**

At the end of this course, the students will be able to:

d- .1) Collaborate effectively within multidisciplinary team.

**4- Course Contents**

No.	Topics
1	Introduction to the basics of electrical engineering-1
2	Introduction to the basics of electrical engineering-2
3	DC Electrical Circuits-1
4	DC Electrical Circuits-2
5	AC Electrical Circuits-1

6	AC Electrical Circuits-2
7	AC Electrical Circuits-3
8	DC Electrical Machines-1
9	DC Electrical Machines-2
10	AC Electrical Machines-1
11	AC Electrical Machines-2
12	Applications of Electrical Machines-1
13	Applications of Electrical Machines-2

### 5- Teaching and Learning Methods

- 5.1- Lectures.
- 5.2- Class activity.
- 5.3- Assignments / homework.

### 6- Teaching and Learning Methods of Disables

- 6.1- Practical training / laboratory.
- 6.2- Seminar / workshop.
- 6.3- Case study.

### 7- Student Assessment

#### a- Student Assessment Methods

1	Assignments to assess knowledge and intellectual skills.
2	Quiz to assess knowledge, intellectual and professional skills.
3	Mid-term exam to assess knowledge, intellectual, professional and general skills.
4	Oral exam to assess knowledge and intellectual skills.
5	Final exam to assess knowledge, intellectual, professional and general skills.

#### b- Assessment Schedule

No.	Assessment	Week
1	Assignments	2, 3, 5, 6, 9, 10, 12, 13
2	Quizzes	4, 7, 11
3	Mid-term exam	8

4	Oral exam	14
5	Final exam	15

### c- Weighting of Assessments

Assessment	Weight
Mid_Term Examination	20 %
Final_Term Examination	60 %
Oral Examination	10 %
Practical Examination	0 %
Semester work	5 %
Other types of assessment	5 %
Total	100 %

## 8- List of References

### a- Course Notes

- 1- Course notes prepared by instructor.

### b- Books

- 1- Text books of fundamentals and basics of electrical engineering
- 2- Text books of fundamentals and basics of electrical machines

### c- Recommended Books

- 1- Text books of fundamentals and basics of electrical engineering
- 2- Text books of fundamentals and basics of electrical machines

### d- Web Sites

- 1- [www.electrical.edu.eg](http://www.electrical.edu.eg)

- Course Coordinator : محمد كامل عبد الجواد نجاة

- Head of Department : Ahmed Majid Ahmed Osman



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## Model No.11A Course Specifications : electrical engineering

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### Matrix of Knowledge and Skills of the course

No.	Topics	week	Basic Knowledge	Intellectual Skills	Professional Skills	General Skills
1	Introduction to the basics of electrical engineering-1	1	a.3	b.3		
2	Introduction to the basics of electrical engineering-2	2	a.4		c.3	
3	DC Electrical Circuits-1	3				
4	DC Electrical Circuits-2	4	b.13		c.6	
5	AC Electrical Circuits-1	5	a.3	b.3		d.1

6	AC Electrical Circuits-2	6			c.3	d.6
7	AC Electrical Circuits-3	7		b.13		d.3
8	DC Electrical Machines-1	9	a.3			d.2
9	DC Electrical Machines-2	10		b.13	c.3	d.3
10	AC Electrical Machines-1	11			c.3	d.6
11	AC Electrical Machines-2	12		b.3		d.1
12	Applications of Electrical Machines-1	13		b.13	c.3	d.3
13	Applications of Electrical Machines-2	14			c.6	d.3, d.6

- **Course Coordinator** : محمد كامل عبد الجواد نجاة

- **Head of Department** : Ahmed Majid Ahmed Osman