



COURSE SPECIFICATIONS (2011-2012)

Benha University

Faculty of Engineering at Shobra

Electrical Engineering Department

A- Basic Information

Course Title: Project

Code: EPE 414

Lecture:

Tutorial:

Practical: 4 & 6

Total: 4 & 6

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

Major or minor element of program: Major

Department offering the program: Electrical Engineering Department

Department offering the course: Electrical Engineering Department

Academic year / level: Fourth Year / First & Second 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:

- Provide a broadly based educational experience in which the essential scientific and technical elements of the engineering curriculum are integrated with the humanities and social sciences to prepare students with competencies needed for personal enrichments, career development, and lifelong learning.
- Ensure that the graduates have an understanding of the highest standards of personal and professional integrity, and ethical responsibility in the practice of electronics and communication engineering.
- Ensure that the graduates are well trained in several areas of electronics and communication engineering, and are able to identify, formulate, and solve a wide range of electronics and communication engineering problems using modern engineering tools and techniques.

2- Intended learning outcomes of course (ILOs)

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



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a- Knowledge and Understanding

- a.3) Characteristics of engineering materials related to discipline.
- a.4) Principles of design including elements design, process and/or a system related to specific disciplines.
- a.5) Methodologies of solving engineering problems, data collection interpretation.
- a.8) Current engineering technologies as related to disciplines.
- a.10) Technical language and report writing.
- a.12) Contemporary engineering topics.
- a.13) Elementary science underlying electronic engineering systems and information technology.
- a.14) Basics of design and analyzing electronic engineering systems, while considering the constraints of applying inappropriate technology and the needs of commercial risk evaluation.

b- Intellectual Skills

- 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.3) Think in a creative and innovative way in problem solving and design.
- b.4) Combine, exchange, and assess different ideas, views, and knowledge from a range of sources.
- b.5) Assess and evaluate the characteristics and performance of components, systems and processes.
- b.7) Solve engineering problems, often on the basis of limited and possibly contradicting information.
- b.13) Develop innovative solutions for the practical industrial problems.
- b.14) Plan, conduct and write a report on a project or assignment.
- b.16) Synthesize and integrate electronic systems for certain specific function using the right equipment.

c- Professional and Practical Skills

- c.2) Professionally merge the engineering knowledge, understanding, and feedback to improve design, product and/or services.
- c.3) Create and/or re-design a process, component or system, and carry out specialized engineering designs.
- c.4) Practice the neatness and aesthetics in design and approach.
- c.5) Use computational facilities and techniques, measuring instruments, workshops and laboratories equipment to design experiments, collect, analyze, and interpret results.



COURSE SPECIFICATIONS (2011-2012)

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Faculty of Engineering at Shobra

Electrical Engineering Department

c.6) Use a wide range of analytical tools, techniques, equipment, and software packages pertaining to the discipline and develop required computer programs.

c.15) Use relevant laboratory equipment and analyze the results correctly.

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

d.5) Lead and motivate individuals.

d.6) Effectively manage tasks, time, and resources.

d.7) Search for information and engage in life-long self learning discipline.

d.8) Acquire entrepreneurial skills.

d.9) Refer to relevant literatures.

d.10) Write technical reports and presentation.

d.11) Share ideas and communicate with others according to the rules of professional ethics.

d.12) Develop skills related to creative and critical thinking as well as problem solving.

3- Contents

No	Topic	No. of hours	ILOs	Teaching / learning methods and strategies	Assessment method
1	Collecting data	4	a3, a4, a5, a8, a10, a12, b1, b2	Lectures, Case study, homework	Oral exam
2	Collecting data	4	a3, a4, a5, a8, a10, a12, b1, b2	Lectures, Case study, homework	Oral exam



COURSE SPECIFICATIONS (2011-2012)

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Faculty of Engineering at Shobra

Electrical Engineering Department

3	Collecting data	4	a3, a4, a5, a8, a10, a12, b1, b2	Lectures, Case study, homework	Oral exam
4	Collecting data	4	a3, a4, a5, a8, a10, a12, b1, b2	Lectures, Case study, homework	Oral exam
5	Collecting data	4	a3, a4, a5, a8, a10, a12, b1, b2	Lectures, Case study, homework	Oral exam
6	Planning for the project	4	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1, d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	Lectures, Case study, homework	Oral exam
7	Planning for the project	4	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1, d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	Lectures, Case study, homework	Oral exam
8	Planning for the project	4	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1, d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	Lectures, Case study, homework	Oral exam
9	Planning for the project	4	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1, d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	Lectures, Case study, homework	Oral exam
10	Planning for the project	4	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1,	Lectures, Case study,	Oral exam



COURSE SPECIFICATIONS (2011-2012)

Benha University

Faculty of Engineering at Shobra

Electrical Engineering Department

			d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	homework	
11	Implementation steps of the project	4	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1, d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	Lectures, Case study, homework	Oral exam
12	Implementation steps of the project	4	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1, d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	Lectures, Case study, homework	Oral exam
13	Implementation steps of the project	4	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1, d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	Lectures, Case study, homework	Oral exam
14	Implementation steps of the project	4	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1, d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	Lectures, Case study, homework	Oral exam
15	Implementation steps of the project	4	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1, d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	Lectures, Case study, homework	Oral exam
16	Implementation steps of the project	6	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1, d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	Lectures, Case study, homework	Oral exam



COURSE SPECIFICATIONS (2011-2012)

Benha University

Faculty of Engineering at Shobra

Electrical Engineering Department

17	Implementation steps of the project	6	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1, d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	Lectures, Case study, homework	Oral exam
18	Implementation steps of the project	6	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1, d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	Lectures, Case study, homework	Oral exam
19	Implementation steps of the project	6	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1, d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	Lectures, Case study, homework	Oral exam
20	Implementation steps of the project	6	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1, d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	Lectures, Case study, homework	Oral exam
21	Implementation steps of the project	6	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1, d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	Lectures, Case study, homework	Oral exam
22	Implementation steps of the project	6	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1, d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	Lectures, Case study, homework	Oral exam
23	Implementation steps of the project	6	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1,	Lectures, Case study, homework	Oral exam



COURSE SPECIFICATIONS (2011-2012)

Benha University

Faculty of Engineering at Shobra

Electrical Engineering Department

			d2, d3, d5, d6, d7, d8, d9, d10, d11, d12		
24	Implementation steps of the project	6	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1, d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	Lectures, Case study, homework	Oral exam
25	Implementation steps of the project	6	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1, d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	Lectures, Case study, homework	Oral exam
26	Implementation steps of the project	6	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1, d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	Lectures, Case study, homework	Oral exam
27	Implementation steps of the project	6	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1, d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	Lectures, Case study, homework	Oral exam
28	Implementation steps of the project	6	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1, d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	Lectures, Case study, homework	Oral exam
29	Implementation steps of the project	6	a3, a4, a5, a8, a10, a12, a13, a14, b1, b2, b3, b4, b5, b7, b13, b14, b16, c2, c3, c4, c5, c6, c15, d1, d2, d3, d5, d6, d7, d8, d9, d10, d11, d12	Lectures, Case study, homework	Oral exam



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Electrical Engineering Department

30

Final Oral Exam

4- Teaching and Learning Methods

- Lectures (Board/Data show projector and practical sites visits)
- Tutorials with using Simulation programs
- Computer applications with using the different software Package

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

- | | | |
|-----------------|-----------|--------------------------------------|
| - Oral exams | to assess | information delivered by the project |
| - Quizzes | to assess | information delivered by the project |
| - Reports | to assess | information delivered by the project |
| -Practical Work | to assess | information delivered by the project |

Weighting of Assessments

Exam I	20 %
Exam II	20 %
Oral Examination	10 %
Practical Exam. And Discussions	50 %
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Total	100.0 %



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6- List of References

Course notes

The references are depending on the project topics.

Essential books

The essential books are depending on the project topics.

Recommended books

The recommended books are depending on the project topics.

7- Facilities required for teaching and learning

Field of practice

- Computer applications
- Software Package
- Laboratories
- Data show

Course coordinator: Dr.

Course instructor: Dr.

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

Date: 1/1/2012

وحدة ضمان الجودة