



COURSE SPECIFICATIONS (2011-2012)



Benha University

Faculty of Engineering at Shobra

Electrical Engineering Department

A- Basic Information

Course Title: Electronic Circuits (1)* **Code:** ECE 321C
Lecture: 4 **Tutorial:** 2 **Practical:** - **Total:** 6
Program on which the course is given: B.Sc. Electrical Engineering (Computer)
Major or minor element of program: Major
Department offering the program: Electrical Engineering Department
Department offering the course: Electrical Engineering Department
Academic year / level: Third Year / second Semester
Date of specifications approval: 10/5/2006

B- Professional Information

1- Overall aims of course:

- Explain the basic transistor biasing.
- Explain how transistor are modeled with hybrid parameters.
- Analysis of the transistor circuits at low, medium and high frequencies using bode plots.
- Explain the operation of power amplifiers.

2- Intended learning outcomes of course (ILOs)

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

a- Knowledge and Understanding

a.4) Principles of design including elements design, process and/or a system related to specific disciplines.

b- Intellectual Skills



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b.16) Synthesize and integrate electronic systems for certain specific function using the right equipment.

c- Professional and Practical Skills

c.3) Create and/or re-design a process, component or system, and carry out specialized engineering designs.

d- General and Transferable Skills

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	DC Biasing BJTs	6	a4, b16, c3, d2, d3	Lectures, Case study, Assignments / homework	Assignments, Quizes, Oral exam
2	BJT transistor modeling	6	a4, b16, c3, d2, d3	Lectures, Case study, Assignments / homework	Assignments, Quizes, Oral exam
3	BJT transistor modeling	6	a4, b16, c3, d2, d3	Lectures, Case study, Assignments / homework	Assignments, Quizes, Oral exam
4	BJT small signal analysis	6	a4, b16, c3, d2, d3	Lectures, Case study, Assignments / homework	Assignments, Quizes, Oral exam
5	BJT small signal analysis	6	a4, b16, c3, d2, d3	Lectures, Case study,	Assignments, Quizes, Oral



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				Assignments / homework	exam
6	Bode-Plot and frequency response	6	a4, b16, c3, d2, d3	Lectures, Case study, Assignments / homework	Assignments, Quizes, Oral exam
7	Bode-Plot and frequency response	6	a4, b16, c3, d2, d3	Lectures, Case study, Assignments / homework	Assignments, Quizes, Oral exam
8	Mid term exam				
9	Multi vibrators, Mixers and Modulation circuits	6	a4, b16, c3, d2, d3	Lectures, Case study, Assignments / homework	Assignments, Quizes, Oral exam
10	Multi vibrators, Mixers and Modulation circuits	6	a4, b16, c3, d2, d3	Lectures, Case study, Assignments / homework	Assignments, Quizes, Oral exam
11	Multi vibrators, Mixers and Modulation circuits	6	a4, b16, c3, d2, d3	Lectures, Case study, Assignments / homework	Assignments, Quizes, Oral exam
12	Power amplifiers	6	a4, b16, c3, d2, d3	Lectures, Case study, Assignments / homework	Assignments, Quizes, Oral exam
13	Power amplifiers	6	a4, b16, c3, d2, d3	Lectures, Case study, Assignments / homework	Assignments, Quizes, Oral exam
14	Power amplifiers	6	a4, b16, c3, d2, d3	Lectures, Case study, Assignments / homework	Assignments, Quizes, Oral exam



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15	Final exam
16	

4- Teaching and Learning Methods

Lectures
Practical training / laboratory
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.

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

Weighting of Assessments

5% Assignments
5% Quizzes
20% Mid-term examination
10% Oral examination



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60% Final-term examination
100% Total

6- List of References

Course notes

Course notes prepared by instructor.

Essential books

Electronic devices and circuit theory 8th Edition , Robert L. Boylestad

Recommended books

7- Facilities required for teaching and learning

Lecture room equipped with overhead projector

Presentation board, computer and data show

Laboratory

Course coordinator: Dr. Housam Mahmoud , Dr. Ihsan Abbas

Course instructor: Dr. Housam Mahmoud , Dr. Ihsan Abbas

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

Date: 1/1/2012

وحدة ضمان الجودة