Course Specifications

Programme(s) on which the course is given : P., P.&las., P.&comp.

Major or Minor element of programmes : minor - minor - minor.

Department offering the programme : P., P., P.&Math.

Department offering the course Physics

Academic year / Level 2

Date of specification approval: ` 2012

A- Basic Information

Title:	**Electronic circuits**	**Code: P269**
Credit Hours:	**3 h**	**Lecture:3h**
Tutorial: 00	**Practicals: 00**	**Total: 3 h**

B- Professional Information

1 – Overall Aims of Course

to show how information physical processes may be in the form of analog and digital electronic signals

2 – Intended Learning Outcomes of Course (ILOs)

a-Knowledge and Understanding:

the student should be able to

a1- have knowledge on basic methods for generating electrical signals

a2- build, solve, and analyze different electronic circuits

a3- practice and understand semiconductor devices

b-Intellectual Skills

the student should be able to

b1-devolpe experimental observation, data recording and analysis

b2- practice modern electronic circuits

b3- improve skills in using many electronic

components

c-Professional and Practical Skills

The student should be able to

c1-build, practical electronic circuit

c2-designe advanced electronic project

c3-discover and introduce new ideas

d-General and Transferable Skills

the student should be able to

d1- solve many theoretical and experimental problems

d2- understand update information in physics, chemistry and Mathematics using electronic systems

3- Contents

Topic	No. of hours	Lecture	Tutorial/Practical
Introduction to semiconductor physics	3	1	
Two and three terminal electronic	3	1	
Devices and components			
Sinoidal and pulse electrical signal	3	1	
Practical examples of circuits	6	1	1
Small signal model and application	9	2	
Amplifiers and feed back systems	6	2	
Logic gates and digital electronics	3	1	

Power consumption Instrumentation systems	**3**	**1**	

4– Teaching and Learning Methods

4.1- lectures

4.2-solving problems

4.3- essays

5- Student Assessment Methods

5.1 Written exam…. to assess understanding

5.2-Home work reports ……. to assess proper writing.

5.3 free disscutions. to assess transfer skills

Assessment Schedule

Assessment 1 Week 6 **Assessment 2 Week 8** **Assessment 3 Week 13**

Weighting of Assessments

Mid-Term Examination **20%** **Final-term Examination** **60 %** **Semester Work** **20%** **Total** **100 %**

6- List of References

6.1- Course Notes

department of physics,2005.

6.2- Essential Books (Text Books)

circuits, devices and systems Ralph. J. Smith (John Wiley& Son polisher) 1986.

6.3- Recommended Books

Microelectronic Circuits Adel S. Sed A. and K. C. Smith

Sunders college publishing 1991

6.4- Periodicals, Web Sites, … etc

…….

7- Facilities Required for Teaching and Learning

Experimental lab…

Course Coordinator: Prof.Dr. Zakaria El Badawy

Head of Department: Prof.Dr. Sana Maize

Date: / /