University / Academy : Menoufiya University

College / Institute : Faculty of Electronic Engineering

Department : Electronics and Electrical Communications Engineering

Course Specification

1- Course basic information :		
Course Code: EC 121	**Course Title:** Electronics (1)	**Academic year: 2012/2013** **Level (1) – Semester : 1**
Faculty requirement	**Teaching hours: Lecture** 3 **Tutorial** 2 **Lab** 0	

2- Aim of the course	-To introduce the students to the fundamentals of semiconductor .physics. - To introduce the students to the fundamentals of semiconductor .diodes. -To learn basic diode theory, types, and configurations. - To develop the student's skills to analyze, and design the different diode circuits.
3- Intended Learning Outcomes:	
A- Knowledge and Understanding:	a1) Concepts and theories of mathematics and sciences, appropriate to the ELECTRONICS. a3) Characteristics of engineering materials related to the Electronics. a15) Principles of Analyzing and design of electronic circuits and components
B- Intellectual Skills	b5) Assess and evaluate the characteristics and performance of components, systems and processes. b7) Solve engineering problems, often on the basis of limited and possibly contradicting information.
C- Professional Skills	c1) Apply knowledge of mathematics, science, information technology, design, business context and engineering practice integrally to solve engineering problems. c5) Use computational facilities and techniques, measuring instruments, workshops and laboratory equipment to design experiments, collect, analyze and interpret results.
D- General Skills	d1) Collaborate effectively within multidisciplinary team. d7) Search for information and engage in life-long self learning basic electronics principles.

	d9) Refer to relevant literatures.
4- Course Contents	Electron Ballistics-Semiconductor Physics-P-N Junction Diodes - P-N Junction Analysis-Diode Applications -Zener and other two Elements Devices.
5- Teaching and Learning Methods	- **Lectures** - **Tutorials** - **Labs and/or case studies** - **Research assignments**
6- Teaching and Learning Methods for disable students	**NA**
7- Student Assessment	
a- Assessment Methods	**- Weekly sheet exercises at class room** **- Quizzes** **- Labs and/or case study for more demonstration.** **- Mid term, and final exams**
b- Assessment Schedule	**- Exercise sheet/ Lab assignment : Weekly** **- Quizz-1: Week no** **- Mid-Term exam: Week no 8** **- Quizz-2: Week no** **- Lab exam: Week no** **- Final – term examination: Week no**
c- Weighting of Assessment	**- Class tutorial and quizzes : 10 %** **- Mid-term examination: 15 %** **- Case study and/or practical exam: 0 %** **- Final – term examination: 70 %** **- Other types of assessment: 5 %** **Total 100 %**
8- List of text books and references:	
a- Course notes	There are lectures notes prepared in the form of a book authorized by the department
b- Text books	Lectures notes prepared in the form of a book authorized by **PROF. Said El-Halfway** and **ASSOC.PROF.SALAH DIAB**

c- Recommended books	[1]John Sparkes, Semiconductor Devices, 2nd Edition, 1994 [2] Alyis J. Evans , Basic Electronics , ISBN: 980945053224 , 2004.,Master publishing: [3] Albert P. Malvino, Electronic Principles, 2006, amazon publisher [4] P. Arun, Electronics, 2006, amazon publisher.
d- Periodicals, Web sites ……etc	http://semiconductors.globalspec.com/Specifications/Semiconductors/Discrete/Diodes/Diodes_All_Types http://semiconductors.globalspec.com/Specifications/Semiconductors/Discrete/Diodes/Zener_Diodes http://www.allaboutcircuits.com/vol_3/chpt_7/5.html

Course contents - ILOs Matrix

Content Topics	Week	A- Knowledge & Understanding	B- Intellectual skills	C- Professional and practical skills	D- General and transferable skills
Electron Ballistics	1-2	A1	B5, B7	C1	D1, D7
Semiconductor Physics	3-4	A3	B5	C5	D1, D9
P-N Junction Diodes - P-N Junction Analysis	5-7	A1, A3	B7	C1, C5	D7, D9
Diode Applications	9-11	A3, A15	B5	C5	D7
Zener and other two Elements Devices	13-14	A1, A15	B5, B7	C1	D9

Course coordinator: **Head of Department:**

Date: / /