



Course specification

University/Academy: Damanhour

Faculty/Institute: Science

Department: Physics

1. course Data:		
Course code: PHY (302)	Course title: Electronic Circuits	Academic year/level: 2009-2010 3 rd year (second term)
Specialization: Mathematics and physics	No. of instructional units: lecture <input type="text" value="2hrs/week"/> tutorial <input type="text" value="1hrs/week"/> practical <input type="text" value="3hrs/week"/>	

2. course Aim	<ul style="list-style-type: none">The course introduces the basic elements of electronic circuits namely electronic diodes, transistors and integrated circuits.
3. Intended learning outcome	
a) Knowledge and understanding	A1: Know the characteristics of basic semiconductor devices and their role in the construction of electronic circuits with emphasis on integrated circuits. A2: Understand the Principles of integrated circuits.
b) Intellectual skills	B1: Design some simple circuits using diodes and transistors.
c) Professional skills	C1: Use of semiconductor devices in some electronic circuits. C2: Explain the principles of and limitation of practical



	<p>techniques.</p> <p>C3 : Use basic laboratory equipment.</p>
d) General skills	<p>D1: <u>IT skills</u>: - use the internet/electronic resources to obtain subject specific information,. - use a number of computer packages to present information.</p> <p>D2: <u>Working with others</u>: work with other as a part of a team to collect data and/or to produce reports and presentations.</p> <p>D3: <u>Self-learning</u>: - study independently, set realistic targets and plan work and time to met targets within deadlines.</p> <p>D4: <u>Prpblem solving</u>: - Regular problem exercises and example will give students the chance to develop their theoretical understanding and problem.</p> <p>D5: <u>Communication</u>: Students will have write reports and give oral presentation.</p>
4. course content	<ul style="list-style-type: none">- Semi conductor devices - Electronic diodes.- Transistors and characteristics.- Transistors and characteristics.- Diode circuits; Rectifiers, stabilizers, photodetectors, oscillators.- Transistor as: amplifiers, multivibrators, oscillators and summing amplifier.- Integrated circuits (IC); timer and amplifier.
5. Teaching and learning methods	<p>5.1. lecture using PowerPoint presentations.</p> <p>5.2. practical sections.</p> <p>5.3. independent reading throughout basic text books and research papers.</p>



6. teaching and learning methods for students with special needs	Data show – computer – blackboard – Student oral presentations
7. Student Assessment	7-1. Semester Work. 7-2. Mid-Term Examination . 7-3. Practical Examination 7-4. Final Term Examination
a) Procedures used:	7.1. Reaserch and presentation to assess skills of presenting data and discussion. 7.2. Mid-Term Examination To accesses ability to continue in course 7.3. practical exam. To access professional and practical skills. 7.4. written exam. To accesses ability to remember &.understand scientific background.
b) Schedule:	Assessment1:Semesterwork Week: 4-8 Assessment 2: Mid-term Week: 10 Assessment 3: Practical final Week: 12 Assessment 4: Written final Week: 14
c) Weighing of Assessment:	Mid-Term Examination: 10 Final-Term Examination: 100 Practical Examination: 30 Semester Work: 10 <hr/> Total: 150



8. List of Textbooks and References:	-----
a) Course Notes	Lecturer private notes
b) Required Books (Textbooks)	<ol style="list-style-type: none">1. Physics, Part-2, Serway.2. Physics, Part-2, E.Gettys, J.Keller3. Book 4 in the Light and Matter series of free introductory physics textbooks4. Copyright c2002-2004 Benjamin Crowell All rights reserved. rev. April 1, 20065. Feynman Lectures on Physics Volumes 1,2,3 - Feynman, Leighton and Sands
c) Recommended Books	<ol style="list-style-type: none">1. Elementary Particles and the Laws of Physics - Richard Feynman2. MIT Physics Lecture Electromagnetism3. Wonders of Physics University of Wisconsin
d) Periodicals, web sites,...,etc	<p>http://electron9.phys.utk.edu/optics421/modules/m5/Interferometers.htm</p> <p>http://www.appliedelectronics.com/</p> <p>http://www.appliednn.com/</p> <p>http://hyperphysics.phy-astr.gsu.edu/Hbase/phyopt/michel.html</p> <p>http://www.astro-opticon.org/networking/interferometry.html</p> <p>http://physics.bu.edu/py106/Notes.html</p>

Course Instructor: Dr / shaker ibrahim

Head of Department

Date: -----/-----/-----

Prof. Dr. El. M. Elmaghrby