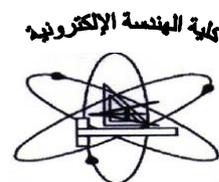


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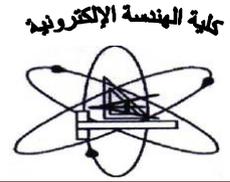


Department offering the program: Electronics and Electrical Communications
Department offering the course: Electronics and Electrical Communications Engineering

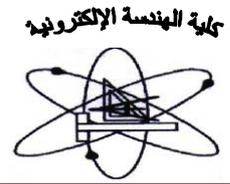
Course Specification

1- Course basic information :		
Course Code: ECE 114	Course Title: Electronic Circuits and Component Drawing	Academic year: 2015/2016
Faculty requirement		Level (1) – Semester : 2 nd
Field: Basic Eng. Science & Humanity	Teaching hours: Lecture [2] Tutorial [1] Lab [1]	

2- Course Objectives	<ol style="list-style-type: none"> 1. To provide students with drafting techniques of electronic designs. 2. To teach students how to draw electronic symbols, schematic diagram, and wiring connection diagrams. 3. To develop student's skills to assembly and detail drawing design. 4. To develop student's skills to draw Proper Schematic diagrams of pictorial diagrams 5. To equip students with computer-aided-drawing of electronic components and circuits. 6. To teach students computer-aided-drawing of printed circuit boards. 	
3- Intended Learning Outcomes:		Course ILOs
ARS		
A- Knowledge and Understanding:	<p>A.8. Describe current engineering technologies as related to electronic circuit drafting.</p> <p>A.9. Discuss topics related to humanitarian interests and moral issues.</p>	<p>A.8.1. Describe current engineering technologies as related to drafting techniques of electronic designs.</p> <p>A.9.1. Discuss topics related to humanitarian interests such as drawing of electronic components and circuits.</p> <p>A.9.2. Discuss topics related to humanitarian interests such as drawing of assembly and schematic diagrams.</p> <p>A.9.3. Discuss topics related to humanitarian interests such as proper drawing of schematic diagrams of pictorial diagrams.</p> <p>A.9.4. Discuss topics related to humanitarian interests such as computer-aided-drawing of electronic components and circuits.</p> <p>A.9.5. Discuss topics related to humanitarian interests such as computer-aided-drawing of printed circuit boards.</p>
B- Intellectual Skills	<p>B.5 Assess and evaluate the characteristics and performance of components, systems and processes.</p>	<p>B5.1 Assess and evaluate the characteristics of Assembly drawing.</p> <p>B5.2 Assess and evaluate the characteristics of Schematic diagram drawing.</p> <p>B5.3 Assess and evaluate the characteristics of Wiring and printed circuit board diagrams.</p> <p>B5.4 Assess and evaluate the characteristics and performance of Computer-aided-drawing.</p>



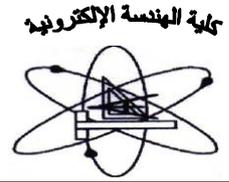
C- Professional Skills	C.4. Practice the neatness and aesthetics in design and approach.	C.4.1. Practice the neatness and aesthetics in design and approach in all topics related to <i>Electronic Circuits Drafting</i> .
	C.6. Use software packages pertaining to the <i>Electronic Circuits Drafting</i> .	C.6.1. Use software packages (OR CAD) pertaining to drawing of electronic Components and circuits. C.6.2. Use software packages (OR CAD) pertaining to drawing of printed circuit boards.
D- General Skills	D.2. Work in stressful environment and within constraints.	D.2.1. Work in stressful environment and within constraints in drawing room to finish given tasks on time.
	D.3. Communicate effectively.	D.3.1. Communicate effectively with his colleagues as well as the demonstrator in drawing room.
	D.4. Demonstrate efficient IT capabilities.	D.4.1. Demonstrate efficient IT capabilities, while using software packages related to CAD.
	D.6. Effectively manage tasks, time, and resources.	D.6.1. Effectively manage tasks, time, and resources in drawing room, and exams.
4- Course Contents	Drafting techniques of electronic designs - Electronic Components Standards - Electronic Symbols Drawing. Schematic Diagram Drawing - Connection Diagrams Drawing - Block Diagrams Drawing – Wiring and Pictorial Diagram Drawing - Printed Circuit Boards (Single and Multi-Layers) Drawing. Assembly and Detailed Drawing of Electronic Components – Block and Logic Diagrams Drawing - Computer Aided Drawing For Electronic Symbols - Computer Aided Drawing For Printed Circuit Boards.	
5- Teaching and Learning Methods	<ul style="list-style-type: none"> - Lectures - Tutorials - Drawing Computer Lab - Drawing assignments 	
6- Teaching and Learning Methods for disable students	<ul style="list-style-type: none"> • Official low cost special classes for developing student skills, arranged by the faculty administration. • Repeat the explanation of some of the material at drawing hall. • Assign a teaching assistance to follow up the performance of students. 	
7- Student Assessment		
a- Assessment Methods	<ul style="list-style-type: none"> - Weekly sheet exercises at drawing hall - Quizzes - Drawing assignments. - Oral exam - Midterm, and final exams 	
b- Assessment Schedule	- Exercise sheet: - Quizz-1:	Weekly Week no 4



	- Mid-Term exam: Week <u>no</u> 8 - Quizz.2: Week <u>no</u> 12 - Oral exam : Week <u>no</u> 15 - Final – term examination: Week <u>no</u> 16
c- Weighting of Assessment	- Drawing hall and quizzes : 10 % - Mid-term examination: 10 % - Oral exam: 20 % - Final – term examination: <u>60 %</u> 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	[1] James M. Kirkpatrick, Electronic drafting and printed circuit board design, Delmar Publishers, ISBN 0827323158, 1989. [2] Robert S. Villanucci, Electronic drafting – printed circuit design, Macmillan Publishing company, ISBN 0024230502, 1985.
c- Recommended books	[1] James D. Bethune, Basic electronic and electrical drafting, Princes-Hall, ISBN 0130603368, Second edition 1985. [2] K. Karl Kuller, Electronics Drafting, McGraw Hill Book Company, 1962. [3] Charles J. Baer, Electrical and electronic drawing, McGraw-Hill, ISBN 0070030081, 1960. [4] O. Ostrowsky, Engineering Drawing with CAD Applications, Routledge; Rev Ed edition 1989.
d- Periodicals, Web sitesetc	www.autodesk.com/solutions/cad-software www.techsupportalert.com/best-free-cad-computer-aided... www.goldenwestcollege.edu/cadd/

Course contents - ILOs Matrix

Content Topics	Week	A- Knowledge & Understanding	B- Intellectual skills	C- Professional and practical skills	D- General and transferable skills
Drafting techniques of electronic designs-Symbols of electronic Circuits drafting- Assembly and detail drawing	1-2	A.8, A.9	B5.1	C.4	D.2,D.3,D.4, D.6
Electronic Component symbols – Schematic - diagram drawing	3-5	A.9	B5.2	C.4	D.2,D.3,D.4, D.6
Wiring and printed circuit board diagrams-Draw Proper Schematic diagrams of pictorial diagrams	6-7	A.9	B5.3	C.4	D.2,D.3,D.4, D.6
Computer-aided-drawing of electronic Components and	9.11	A.9	B5.4	C.4,C.6	D.2,D.3,D.4, D.6



circuits					
Computer-aided-drawing of printed circuit boards	13.14	A.9	B5.4	C.4,C.6	D.2,D.3,D.4, D.6

Teaching and Learning Methods - ILOs Matrix

Teaching and Learning Methods	A- Knowledge & Understanding	B- Intellectual skills	C- Professional and practical skills	D- General and transferable skills
Lectures	A.8, A.9	B.5		D.2,D.3,D.4,D.6
Tutorials	A.8, A.9	B.5	C.4,C.6	D.2,D.3,D.4,D.6
Drawing assignments	A.8, A.9	B.5	C.4,C.6	D.2,D.3,D.4,D.6

Assessment Methods - ILOs Matrix

Assessment Methods	A- Knowledge & Understanding	B- Intellectual skills	C- Professional and practical skills	D- General and transferable skills
Weekly sheet exercises	A.8, A.9	B.5	C.4,C.6	D.2,D.4,D.6
Drawing assignment	A.8, A.9	B.5	C.4,C.6	D.2,D.4,D.6
Quizzes	A.8, A.9	B.5	C.4,C.6	D.2,D.4,D.6
Midterm, and Final Written exams	A.8, A.9	B.5	C.4,C.6	D.2,D.4,D.6

Authorized from department board at 15/05/2016

Authorized from college board at 05/06/2016

Course coordinator:
Dr. Gaber El-Sayed El-Abiad

Head of Department:
Prof. Fathi El-Sayed Abd El-Samie

