

University : Menoufiya University

College : Faculty of Electronic Engineering

Department : Electronics and electrical communication engineering

Course Specification

1- Course basic information :		
Course Code: EC 325 ,	Course Title: Elective course (1)	Academic year: 2012/2013 Level (٣) – Semester : 1
Department requirement	Teaching hours: Lecture <input type="text" value="٣"/> Tutorial <input type="text" value="٢"/> Lab <input type="text" value="٠"/>	

2- Aim of the course	<ul style="list-style-type: none">• Understand the motor control and the SAW delay line• Understand and design the computer applications in microcontroller• Understand the principles of SAW oscillators and devices for compression
3- Intended Learning Outcomes:	
A- Knowledge and Understanding:	a1) Concepts and theories of mathematics and sciences, appropriate to the SAW oscillators and devices. a2) Basics of information and communication technology (ICT) a4) Principles of design including elements design, process and/or a system related to specific microcontroller a8) Current engineering technologies as related to SAW band pass filter. a13) Elementary science underlying electronic engineering systems and information technology; fundamentals of electrical engineering and machines, logic design, circuit analysis, signal, real-time systems and reliability analysis. a14) Basics of design and analyzing electronic engineering systems, while considering the constraints of applying inappropriate technology and the needs of commercial risk evaluation;
B- Intellectual Skills	b1) Select appropriate mathematical and computer-based methods for modeling and analyzing problems. b2) Select appropriate solutions for engineering problems based on analytical thinking b8) Select and appraise appropriate ICT tools to a variety of

	<p>engineering problems.</p> <p>b12) Create systematic and methodic approaches when dealing with new and advancing technology.</p>
C- Professional Skills	<p>c1) Apply knowledge of mathematics, science, information technology, design, business context and engineering practice integrally to solve engineering problems.</p> <p>c6) Use a wide range of analytical tools, techniques, equipment, and software packages pertaining to the discipline and develop required computer programs.</p> <p>c7) Apply numerical modeling methods to engineering problems.</p> <p>c13) Practice computer programming for the design and diagnostics of digital and analog communication, mobile communication, coding, and decoding systems.</p> <p>c17) Use appropriate tools to measure system performance.</p>
D- General Skills	<p>d1) Collaborate effectively within multidisciplinary team.</p> <p>d3) Communicate effectively.</p> <p>d4) Demonstrate efficient IT capabilities.</p> <p>d9) Refer to relevant literatures.</p>
4- Course Contents	<p>Computer applications in microcontroller- review of closed open loop systems - classifications of system continuous, discontinues system- microcontroller-units of processor used in motor control –software programming for motor applications- introduction to acoustic wave in solids- propagation of surface acoustic waves- analysis and design of inter digital transducers(IDT)- Saw delay lines- SAW band pass filter- SAW oscillators- Saw devices for compression.</p>
5- Teaching and Learning Methods	<ul style="list-style-type: none"> - Lectures - Tutorials - Labs and/or case studies - Research assignments
6- Teaching and Learning Methods for disable students	<p>NA</p>
7- Student Assessment	
a- Assessment Methods	<ul style="list-style-type: none"> - 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	
	- Quiz-1:	Week no 4	
	- Mid-Term exam:	Week no 8	
	- Quiz-2:	Week no 12	
	- Lab exam:	Week no 15	
	- Final - term examination:	Week no 16	
c- Weighting of Assessment	- Class tutorial and quizzes :	15 %	
	- Mid-term examination:	15 %	
	- Final - term examination:	70 %	
	- Mid-term examination:	15 %	
	Total	100 %	
	- Case study and/or practical exam:	5 %	
	- Final – term examination:	70 %	
	- Other types of assessment:	5 %	
	Total	100 %	

8- List of text books and references:

a- Course notes	<ul style="list-style-type: none"> There are lectures notes prepared in the form of a PPT on the site of the faculty authorized by Lecturer
b- Text books	<p>[1] A. K. Dutta and N. K. Dutta, Eds., WDM Technologies: Optical Networks, Academic</p> <p>[2] J. Strand, in Optical Fiber Telecommunications, Vol. 4A, I. P. Kaminow and T. Li, Eds.</p>
c- Recommended books	<ul style="list-style-type: none"> Hi-Fi Loudspeakers and Enclosures, Abraham B. Cohen Disc recording and Reproduction, Technique of sound Reproduction, Theory and practice, P. J. Guy Field theory of acoustic-optic signal processing devices, Craig R. Scott. Artech House-Boston London Theory and problems of acoustics, Willim W. Seto How to design build and complete speaker system, David B. Weems The sound production Handbook Don Atkinson, John Overton and Terry Ga. Vagin
d- Periodicals, Web sitesetc	<ul style="list-style-type: none"> IEEE Transactions on Acoustics theory and techniques. * Proc. I.E.T. or IEE * Electronic Letter.

Course contents - ILOs Matrix

Content Topics	Week	A- Knowledge & Understanding	B- Intellectual skills	C- Professional and practical skills	D- General and transferable skills

Computer applications in microcontroller	1-2	a1,a2	b1	c1	d1
review of closed open loop systems - classifications of system continuous, discontinues system-microcontroller	3-5	a2,a4	b2,b6	c6	d3
units of processor used in motor control – software programming for motor applications	6-7	a4,a8	b8	c7	d1,d3
introduction to acoustic wave in solids- propagation of surface acoustic waves	9-10	a8,a13	b8,b12	c6,c13	d3,d4
Saw delay lines- SAW band pass filter	11-12	a13,a14	b1,b8	c13,c17	d4,d9
SAW oscillators- Saw devices for compression.	13-14	a1,a13,a14	b2,b12	c6,c17	d3,d9

Course coordinator:

Head of Department:

Date: / /