

University : Menoufiya University

College : Faculty of Electronic Engineering

Department : Electronics and electrical communication engineering

Course Specification

1- Course basic information :		
Course Code: EC 324	Course Title: Acoustics	Academic year: 2012/2013 Level (٣) – Semester : ٢
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">• Understanding the basic fundamentals of Acoustics.• Learn the basic Acoustics Parameters.• Develop the student's skills to analyze, and design and design basic Acoustics systems.
3- Intended Learning Outcomes:	
A- Knowledge and Understanding:	a1) Concepts and theories of mathematics and sciences, appropriate to the Acoustics a4) Principles of design including elements design, process and/or a system related to specific Acoustics . a8) Current engineering technologies as related to Acoustics
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. b4) Combine, exchange, and assess different ideas, views, and knowledge from a range of sources. b5) Assess and evaluate the characteristics and performance of components, systems and processes.
C- Professional Skills	c1) Apply knowledge of mathematics, science, information technology, design, business context and engineering practice integrally to solve engineering problems. c6) Use a wide range of analytical tools, techniques, equipment, and software

	packages pertaining to the discipline and develop required computer programs. c7) Apply numerical modeling methods to engineering problems. c12) Use appropriate mathematical methods or IT tools. c17) Use appropriate tools to measure system performance.
D- General Skills	d2) Work in stressful environment and within constraints. d3) Communicate effectively. d5) Lead and motivate individuals d9) Refer to relevant literatures
4- Course Contents	Vibrations and Waves-The Acoustic Wave Equations-Transmission Phenomena-Radiation and Reception of Acoustic Waves-Ultrasonic Transducers-Loudspeakers-Microphones-Room Acoustics
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	NA
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	<ul style="list-style-type: none"> - Exercise sheet/ Lab assignment : Weekly - Quizz-1: Week <u>no</u> 4 - Mid-Term exam: Week <u>no</u> 8 - Quizz-2: Week <u>no</u> 12 - Final – term examination: Week <u>no</u> 16
c- Weighting of Assessment	<ul style="list-style-type: none"> - Class tutorial and quizzes : 10 % - Mid-term examination: 15 % - Case study and/or practical exam: 5 % - Final – term examination: 70 % <p style="text-align: right;">Total 100 %</p>
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	<ul style="list-style-type: none"> •Under water Acoustics Lawrence J. Ziomek •Acoustic techniques for home and studio 2nd Edition

	<p>F. ALTONW EVEREST</p> <ul style="list-style-type: none"> •Acoustics: Historical and philosophical development R. Bruce Lindsay
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
d- Periodicals, Web sitesetc	<ul style="list-style-type: none"> • IEEE Transactions on Acoustics theory and techniques

Course contents - ILOs Matrix

Content Topics	Week	A- Knowledge & Understanding	B- Intellectual skills	C- Professional and practical skills	D- General and transferable skills
Vibrations and Waves	1-3	a1	b1	c1	d2
The Acoustic Wave Equations	4-7	a4	b1,b2,b4	c1,c12	d2,d3
Transmission Phenomena	9-10	a4,a8	b2,b4,b5	c12,c6	d3,d5
Radiation and Reception of Acoustic Waves	11-12	a4,a8	b5	C6,c7,c12 ,c17	d3,d5
Ultrasonic Transducers Loudspeakers- Microphones-Room Acoustics	13-14	a8	b5	C7,c17	d5,d9

Course coordinator:

Head of Department:

Date: / /