



Course Specifications

Program(s) on which this course is given:	Electronics & Electrical Communications Engineering
Major or Minor element of programs:	Minor
Department offering the program:	Electronics & Electrical Communications Engineering
Department offering the course:	Electronics & Electrical Communications Engineering
Academic year / Level:	Fourth Year
Date of original/modified specification approval:	2003/
Semester of course offering:	First Semester

A- Basic Information

1.a. Title:	Acoustics Engineering			1.b. Code:	ELC 455			
2. Units/Credit hours per week:	2.a. Lectures	3	2.b. Tutorial	1	2.c. Practical	-	2.d. Total	4

B- Professional Information

1. Overall Aims of the Course:	This course is to provide a thorough understanding of the engineering aspects of the performance of sound in different environments, as well as the different governing equations of this performance. Various sources and transducers are dealt with for a good command of their operation and design. Design of successful sound systems is the main objective of this course.							
2. Intended Learning Outcomes of Course (ILOs):	a) Knowledge and Understanding							
	1. Explain basic information and concepts of acoustics (1.1, 1.7).							
	b) Intellectual Skills							
	1. Solve problems related to the theory of acoustics (3.1).							
	c) Professional and Practical Skills							
	1. Design a good sound system (2.4).							
	d) General and Transferable Skills							
	1. Work in groups (4.7).							

3. Contents

Topic	Total hours	Lectures	Tutorial/ Practical
Acoustic Waves and Sources	10	9	1
Dynamically Analogous Circuits	10	9	1
Acoustic Transducers	18	12	6
Environmental Acoustics	18	12	6

4. Teaching and Learning Methods	Lectures (Y)	Practical Training/ Laboratory (Y)	Seminar/Workshop (Y)
	Class Activity (Y)	Case Study (Y)	Projects (Y)
	E-learning (N)	Assignments /Homework (Y)	Other:
5. Student Assessment Methods			
5.a. Method		To assess (with reference to the ILOs)	
-Class test		a1, b1	
-Mid-term exam		a1, b1	
- Final Exam		a1, b1	
- Report 1 & Report 2		b1, d1, c1	
5.b. Assessment Schedule		Week	
-Assessment 1; Class test		3	
-Assessment 2; Mid-term exam		8	
-Assessment 3; Report 1 & Report 4		4 & 12	
-Assessment 4; Final exam		15	
5.c. Weighting of Assessments			
-Mid-Term Examination		20 %	
-Final-term Examination		70 %	
-Semester Work		10 %	
-Total		100 %	
6. List of References			
6.a. Course Notes			
6.b. Essential Books (Text Books)			
<ul style="list-style-type: none">Beranek, L. L., "Acoustics", McGraw-Hill, Inc., 1993.			
6.c. Recommended Books.			
<ul style="list-style-type: none">Kinsler, L. E., and Frey, A. R., "Fundamentals of Acoustics", John Wiley & Sons, 1982.			
6.d. Periodicals, Web Sites, ... etc: N/A			
7. Facilities Required for Teaching and Learning			
<ul style="list-style-type: none">- Small group of students.- Up-to-date references in library.- Enhancing the classroom teaching facilities.			
Course Coordinator:	Dr. Adel Z. Botros		
Head of Department:	Prof. Dr. Mahmoud El Hadidy		
Date:	31-1-2011		