



Ministry of Higher Education and
Scientific Research - Iraq
University of Baghdad
College of Engineering
Department of Architectural Engineering



MODULE DESCRIPTOR FORM

نموذج وصف المادة الدراسية

Module Information			
معلومات المادة الدراسية			
Module Title	PHYSICS /ACOUSTICS		Module Delivery
Module Type	CORE		<input checked="" type="checkbox"/> Theory Lecture Lab Tutorial Practical Seminar
Module Code	ARCH4114		
ECTS Credits	4		
SWL (hr/sem)	100		
Module Level	4	Semester of Delivery	1
Administering Department	Arch	College	Engineering
Module Leader	\	e-mail	\
Module Leader's Acad. Title		Module Leader's Qualification	
Module Tutor	None	e-mail	None
Peer Reviewer Name		e-mail	\
Review Committee Approval		Version Number	1.0

Relation With Other Modules			
العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	Semester	
Co-requisites module	None	Semester	

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	<p>The students learn about sound distribution in halls, ways of preventing echo, types of acoustic designs according to types of halls: music halls multifunction halls , theatres , opera and kinds and specifications of materials used for acoustic demands.</p>
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	<ol style="list-style-type: none"> 1. Identify the principles of acoustic behavior in a closed spaces 2. The nature of the acoustic phenomenon in a closed space through the concepts of acoustic reflection, absorption, propagation and penetration, as well as the concepts of auditory response to it. 3. The most important acoustic principles and standards adopted in evaluating verbal and musical auditory spaces, 4. The most important acoustic defects and their treatment, and methods of designing acoustic halls . 5. Studying noise and its types, and focusing on methods of reducing it in public and residential buildings.
Indicative Contents المحتويات الإرشادية	<p>Indicative content includes the following.</p> <ul style="list-style-type: none"> • General concepts of the acoustic phenomenon. • Design standards for auditory space. • Study of noise and ways to reduce it.
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	<p>The main strategy that will be adopted in delivering this module is to encourage students' participation in the exercises, while at the same time refining and expanding their critical thinking skills. It will be achieved through academic lectures and intellectual discussions with students, submitting reports and assignments, and field visits.</p>

Student Workload (SWL)

الحمل الدراسي للطالب

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem)	37	Unstructured SWL (h/w)	2.4

الحمل الدراسي غير المنتظم للطالب أسبوعيا		الحمل الدراسي غير المنتظم للطالب خلال الفصل
Total SWL (h/sem)		100
الحمل الدراسي الكلي للطالب خلال الفصل		

Module Evaluation					
تقييم المادة الدراسية					
		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	2, 9	LO #1, 2, 6 and 7
	Assignments	2	10% (10)	3,11	LO # 3,4 and 8
	Projects / model	1	10% (10)	6	LO # 5
	Report	1	5% (5)	13	LO # 8
Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-5
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction - The basic concepts which clarify the specifications of the acoustic phenomenon (frequency, wave length, sound intensity, sound pressure).
Week 2	Levels of sound intensity and sound pressure, the sound power level -Give the student a first quiz.
Week 3	- The acoustic phenomena which clarify sound behavior in the close space (absorption, reflection, penetrating, diffusion, diffraction).
Week 4	How to employ reflection in designing the reflective ceiling and absorption in the treatment of the acoustic defect.
Week 5	- The reverberation standard and identifying this standard and its calculation methods and its importance in design and acoustic evaluation.
Week 6	- Exercises about calculating the reverberation time and its actual and ideal value in lecture and musical halls.
Week 7	Examination
Week 8	- Identifying the sound defects (echo, flutter echo, focalization, resonance, coloring, noise, blurring...)
Week 9	- The acoustic defects and the methods of their sensual and mathematical diagnosis and methods of treatment. -Give the student a second quiz.
Week 10	- The basic classification of auditory halls and their designing standards and the engineering limitations of their specifications (size, shape, lining materials,

	dimensions) examples.
Week 11	- The speech halls and their specifications (size, shape, lining materials, rates dimensions) examples.
Week 12	- The musical halls and their specifications (size, shape, lining materials, rates dimensions) examples.
Week 13	- Identifying noise, its types, sources, methods of transmission.
Week 14	- Treating noise in the residential complexes at the planning and designing levels and details.
Week 15	Preparatory Week
Week 16	Final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	Available in the Library?
Required Texts	Architectural Acoustics/ Marshall Long Book , Second Edition, 2014	No
Recommended Texts	Advances in Architectural Acoustics / Nikolaos M. Papadakis, Massimo Garai, AND Georgios E. Stavroulakis Book, June 2022	No
Websites	The Journal of the Acoustical Society of America	

APPENDIX:

GRADING SCHEME مخطط الدرجات				
Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	A - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	FX – Fail	مقبول بقرار	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note:

NB Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.



ملاحظة: هذا النموذج تم وضعه وتقديمه من قبل مديرية ضمان الجودة في وزارة التعليم العالي والبحث العلمي