



Form: Course Syllabus	Form Number	EXC-01-02-02A
	Issue Number and Date	2/3/24/2022/2963 05/12/2022
	Number and Date of Revision or Modification	
	Deans Council Approval Decision Number	2/3/24/2023
	The Date of the Deans Council Approval Decision	23/01/2023
	Number of Pages	06

1.	Course Title	Lighting and Acoustics
2.	Course Number	0932371
3.	Credit Hours (Theory, Practical)	2 theory, lectures.
	Contact Hours (Theory, Practical)	2 lab
4.	Prerequisites/ Corequisites	None
5.	Program Title	Bachelor of Architecture
6.	Program Code	
7.	School/ Center	School of Engineering
8.	Department	Department of Architecture
9.	Course Level	3rd year
10.	Year of Study and Semester (s)	2023-2024. Second Semester
11.	Other Department(s) Involved in Teaching the Course	None
12.	Main Learning Language	English
13.	Learning Types	<input type="checkbox"/> Face to face learning <input type="checkbox"/> Blended <input type="checkbox"/> Fully online
14.	Online Platforms(s)	<input type="checkbox"/> Moodle <input type="checkbox"/> Microsoft Teams
15.	Issuing Date	25/2/2024
16.	Revision Date	25/2/24

17. Course Coordinator:

Name: Abdulsalam Alshboul	Contact hours:
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18. Other Instructors:



Name: None
 Office number: *****
 Phone number:
 Email:
 Contact hours:
 Name: *****
 Office number:
 Phone number:
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19. Course Description:

0932371 Illumination and Acoustics	3 Credit Hours
Prerequisite: None	
Basic principles of lighting and acoustics and their effect on the design of buildings. Noise abatement and insulation of buildings against noise pollution. Applications using instruments for measurement of illumination and acoustics.	

20. Program Intended Learning Outcomes: (To be used in designing the matrix linking the intended learning outcomes of the course with the intended learning outcomes of the program)

1. be able to integrate acquired knowledge with other interdisciplinary topics in architecture
2. be able to identify urban noise sources and factors and propose the technical solutions related to such problems.
3. be able to reevaluate the acoustics quality of problematic architectural space and to resolve those problems via technical acoustics solutions.
4. be able to apply the acquired knowledge of illumination to architectural environments, both design and reevaluation and diagnosing lighting problems.

21. Course Intended Learning Outcomes: (Upon completion of the course, the student will be able to achieve the following intended learning outcomes)

1. Understand the fundamentals of lighting and acoustics.
2. Understand the behavior of light and sound in architectural spaces.
3. be able to use instruments and devices of either light or sound instruments to measure and evaluate sound and light quality of indoor spaces.
4. be able to optimize lighting quality and thermal performance of the designed facades, in Jordan and in a Mediterranean climate.



23. Topic Outline and Schedule:

Week	Lecture	Topic	ILO/s Linked to the Topic	Learning Types (Face to Face/ Blended/ Fully Online)	Platform Used	Synchronous / Asynchronous Lecturing	Evaluation Methods	Learning Resources
1	26/2/24 Mon.	Syllabus, introduction to course						
	28/2/2024 Wed	Basics of lighting, concepts.						
2	4/3/24 Mon	Properties of lighting						
	6/3/24 Wed	Illuminance and luminance						
3	11/3/24 Mon	Cosine law and inverse square law						
	13/3/24 Wed	Solved examples						
4	18/3/24 Mon	Color theory.						
	20/3/24/ Wed	Artificial lighting						
5	25/3/24/ Mon	Lamps and luminaires						
	27/3/24/Wed	Lighting design						
6	1/4/24/Mon	Natural lighting						
	3/4/24/Wed	Natural lighting design						
7	7.1 8/4/24/Mon	outdoor lighting						
	7.2 10/4/24/ Mon	Holiday						
8	15/4/24/Mon	Lighting quality evaluation						
	17/4/24/ Wed	Eye and vision						
9	22/4/24/Mon	Midterm exam						
	24/4/24/Wed	Fundamentals of Architectural Acoustics						
10	29/4/24/Mon	Sound definition, frequency, wavelength						
	1/5/24/Wed	Holiday						



11	6/5/24/Mon	Sound intensity, power, and pressure						
	8/5/24/Wed	Loundness level, phon and some scales						
12	13/5/24/Mon	Sound in rooms						
	15/5/24/Wed	Reverberation and ray diagrams						
13	20/5/24/Mon	Sound reinforcement systems						
	22/5/24/Wed	Building noise control						
14	27/5/24/Mon	Building noise control						
	29/5/24/Wed	Human hearing and ear physiology						
15	End of lectures							

24. Evaluation Methods:

Opportunities to demonstrate achievement of the ILOs are provided through the following assessment methods and requirements:

Evaluation Activity	Mark	Topic(s)	ILO/s Linked to the Evaluation activity	Period (Week)	Platform

25. Course Requirements:

(e.g.: students should have a computer, internet connection, webcam, account on a specific software/platform...etc.):

26. Course Policies:



- A- Attendance policies: Attendance is obligatory; students are not allowed to be absent more than 15% of the total lectures.
- B- Absences from exams and submitting assignments on time: Absences from exams are not allowed without acceptable excuse.
- C- Health and safety procedures: the physical environment of the lecture hall is safe, no misuse of any of the elements of the physical environment is allowed. Otherwise the student is totally responsible for any misuse of any element within the lecture hall.
- D- Honesty policy regarding cheating, plagiarism, misbehavior: cheating and plagiarism is prohibited, otherwise the student is responsible for any of such activities if any.
- E- Grading policy: grading and evaluation is included in this syllabus, all evaluations are transparent and clear, the student has the right to appeal in case of any miscalculation or any mistakes related to any of the evaluations.
- F- Available university services that support achievement in the course: Illumination lab and acoustics lab are available for experiment implementation; the student will be responsible for the correct use of any device under consideration.

27. References:

A- Required book(s), assigned reading and audio-visuals:

Illumination source books:

1. McMullan Randall, 2007, **Environmental Science in Building**, Palgrave Publishing.
2. Grondzick, McGuinness, Reynolds, 2011. **Mechanical and Electrical Equipment for Buildings**, 11th edition; John Wiley & sons, NY.

Acoustics Source books

- 3.
- 4.

B- Recommended books, materials, and media:

- 1.
- 2.
- 3.

28. Additional information:

This Syllabus will be reviewed at the beginning of every semester, and it might be subjected to major



or minor updates accordingly. With the possibility that it might not change in case of any update, this will be indicated in this box.

Name of the Instructor or the Course Coordinator: Prof. Abdulsalam Alshboul...	Signature:	Date: 25/2/2024
Name of the Head of Quality Assurance Committee/ Department	Signature:	Date:
..... Name of the Head of Department	Signature:	Date:
..... Name of the Head of Quality Assurance Committee/ School or Center	Signature:	Date:
..... Name of the Dean or the Director	Signature:	Date:
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