Republic of Iraq
Ministry of Higher Education & Scientific Research
Supervision and Scientific Evaluation Directorate
Quality Assurance and Academic Accreditation

Academic Program Specification Form for the Academic

University: University of Basrah
College: College of Engineering
Department: architecture Engineering Department
Date of Form Completion:

Prof.Dr.Ramzy Salim Ali	Assist.Prof.Dr.Haider Maath Mohammad	Dr.hamid hiab sameer
Dean's Name	*Dean's Assistant for Scientific Affairs*	*Head of Department*
Date: 10 / 9 /2023	*Date: 10 / 9 /2023*	*Date: 10 / 9 /2023*

Quality Assurance and University Performance Manager
Date: 10 / 9 /2023
Signature

TEMPLATE FOR PROGRAMME SPECIFICATION

HIGHER EDUCATION PERFORMANCE REVIEW: PROGRAMME REVIEW

PROGRAM SPECIFICATION

This programme specification provides a concise summary of the main features of the programme and the learning outcomes that a typical student might reasonably be expected to achieve and demonstrate if he/she takes full advantage of the learning opportunities that are provided. It is supported by a specification for each course that contributes to the programme.

1. Teaching Institution	University of Basrah
2. University Department/Centre	*architecture* Engineering Department
3. Program Title	*architecture* Engineering
4. Title of Final Award	Bachelor of *architecture* Engineering
5. Modes of Attendance offered	Semester System
6. Accreditation	ABET
7. Other external influences	Field and scientific visits
8. Date of production/revision of this specification	2021
9. Aims of the Program	

1. 1. Preparing and qualifying specialized engineers to meet the requirements of the labor market in the private and public sectors in architectural engineering through diversification in learning and teaching methods and training students to apply the acquired knowledge and skills to solve real-life problems.
2. 2. Providing distinguished academic programs in the field of architecture, both theoretical and practical, so that they comply with international standards of academic quality and meet the needs of the labor market.
3. 3. Encouraging and developing scientific research in the fields of architecture in general and the fields of artificial intelligence, robots, computer software, computer networks, communications and control in particular.
4. 4. Prepare a stimulating environment for faculty members to develop their knowledge and educational and research skills.
5. 5. Building and developing partnerships with the governmental and private

sectors and society with all its various institutions.

10. Learning Outcomes, Teaching, Learning and Assessment Methods

A. Knowledge and Understanding

A1- Clarifying the basic concepts of architectural design.

A2- Acquiring the skill in addressing and addressing the problems faced by the architectural designer.

A3- Acquiring basic skills for designing various buildings.

A4- Acquisition in the field of programs for engineering designs.

A5- Designing an integrated residential and urban environment.

A6- Understanding the reality of the labor market and its various requirements.

A7- Achieving the a to k criterion.

A. The program's skill objectives.

B1 - The ability to design buildings.

B2 - The ability to think about solving realistic design problems.

B3 - Writing scientific reports and reading diagrams in a correct engineering manner.

Teaching and Learning Methods

1- Explanation and clarification through lectures.
2- Display scientific materials with projectors: data show, smart boards, plasma screens.
3- Self-learning through homework and mini-projects within the lectures.
4- Laboratories.
5- Graduation projects.
6- Scientific visits.
7- Seminars held in the department.
8- Summer training.

Assessment methods

1- Short exams (Quiz).
2- Homework.
3- Semester and final exams for theoretical and practical subjects.
4- Small projects within the lesson.
5- Interaction within the lecture.
6- Reports.

C. Thinking Skills

C1. Attention: raising the students' attention by implementing one of the

application programs on the display screen in the hall

C2. Response: Follow up the student's interaction with the material displayed on the screen

C3. Attention: Follow up on the interest of the student who interacted the most with the presented material.

C4. Formation of direction: meaning that the student is sympathetic to the presentation and may have an opinion towards the presented topic and defend it.

C5. Formation of value behavior: meaning that the student reaches the top of the emotional ladder, so he has a constant level in the lesson and does not let up or get bored.

Assessment methods

• Active participation in the classroom, a guide to the student's commitment and responsibility.
• Commitment to the deadline in submitting the duties and research required of the student to submit them.
• The quarterly and final exams express commitment and cognitive and skill achievement.

D. General and Transferable Skills (other skills relevant to employability and personal development)

D1. Develop the student's ability to deal with technology.

D2. Developing the student's ability to deal with the Internet.

D3. Developing the student's ability to deal with multiple means.

D4. Develop the student's ability to dialogue and discussion.

11. Admission standard (development of college or institute admission regulations)

Rate: At least 90%

Age: No more than 25 years

Number: Up to 50 students per year

12. Key sources of information about the program

1- The websites of Iraqi and international universities.
2- The workshops held by the Ministry of Higher Education in addition to the Ministry's standards.
3- The American Academic Accreditation Program (ABET).

Curriculum Skills Map																			
please tick in the relevant boxes where individual Programme Learning Outcomes are being assessed																			
Programme Learning Outcomes																			
Year / Level	Course Code	Course Title	Core (C) Title or Option (O)	Knowledge and understanding				Subject-specific skills					Thinking Skills				General and Transferable Skills (or) Other skills relevant to employability and personal development		
				A1	A2	A3	A4	B1	B2	B3	B4	C1	C2	C3	C4	C5	D1	D2	D3	D4
first class	***ARE101***	***Architectural Design I***	c	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
First class	***ARE102***	***Architectural Graphic I***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
First class	***ARE103***	***Free hand drawing I***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
1st.class	***ARE111***	***Principles of Art & Architecture I***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
First year	***ARE121***	***Principles of Art & Architecture II***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
First class	***ARE112***	***Building Materials I***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
First class	***ARE122***	***Building Materials II***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Second class	***ARE201***	***Architectural Design II***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Second class	***ARE202***	***Architectural Graphic II***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	

Second class	***ARE203***	***Free hand drawing II***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Second class	***ARE211***	***Building Construction I (Bearing Walls System)***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Second class	***ARE221***	***Building Construction II (Skeleton System)***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Second class	***ARE212***	***History of Architecture I (Mesopotamia & old Egypt Architecture)***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
second class	***ARE222***	***History of Architecture II (Greek & Roman Architecture)***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Second class	***ARE213***	***Design methodology and logic***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Second class	***ARE214***	***AutoCAD I***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
	ARE224	***AutoCAD II***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
		Total for 2nd Year	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Third class	***ARE301***	***Architectural Design III***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Third class	***ARE311***	***Building Construction III (Precast building)***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Third class	***ARE321***	***Building Construction IV (Steel Structure)***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	

Third class	***ARE312***	***History of Architecture III (Christian & renaissance Architecture)***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Third class	***ARE322***	***History of Architecture IV (Post-Renaissance Architecture)***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Third class	***ARE313***	***Principles of Urban Planning***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Third class	***ARE323***	***Principles of Urban Design***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Third class	***ARE314***	***3d-max I***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Third class	***ARE324***	***3d-max II***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Third class	***ARE315***	***Structures I (Structural Behavior)***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Third class	***ARE325***	***Structures II (Structural Design)***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Third class	***ARE316***	***Sanitary services***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Third class	***ARE326***	***Surveying***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Second class	***ARE317***	***Air-conditioning services***	Cc	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Third class		***Total for 3rd Year***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Third class	***ARE401***	***Architectural Design IV***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Forth	***ARE411***	***Interior***	c	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	

class		***Spaces Designc***																	
Fourth year	***ARE421***	***Exteriocr Spaces Design***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Fourth class	***ARE412***	***Housing***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Forth class	***ARE422***	***Islamic Architecture***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Fourth class	***ARE413***	***Theory of Architecture I***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Fourth class	***ARE423***	***Theory of Architecture II***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Fourth class	***ARE414***	***Climate & Architecture***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Fourth class	***ARE424***	***Architectural Acoustics***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Fourth stage	***ARE415***	***Building Technology***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Fourth class	***ARE425***	***Engineering services***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Fourth class	***ARE416***	***Architecture & society***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Fourth Stage	***ARE426***	***Sustainable Architecture***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Fifth stage	***ARE511***	***Architectural Design V***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Fifth stage	***ARE512***	***Arabic Temporary Architecture***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Fifth stage	***ARE522***	***Iraqi Temporary Architecture***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Fifth stage	***ARE513***	***Architectural Philosophy***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	

Fifth stage	***ARE523***	***Architectural Criticism***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Fifth stage	***ARE514***	***Estimating &Specifications***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Fifth stage	***ARE524***	***Occupational Practice***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	
Fifth stage	***ARE525***	***Engineering Economy***	C	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×	

C

TEMPLATE FOR COURSE SPECIFICATION

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	**ARE111**
4. Modes of Attendance offered	Daily time
5. Semester/Year	1st Semester/ 1st Year
6. Number of hours tuition (total)	240 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1. To provide a scientific and physical environment that allows the student to get acquainted with the specialty of architecture engineering, as a first step in the practice of architecture. 2. To adopt design curricula in addition to educational and architectural education curricula, which are an essential pillar in the educational process to qualify the first-stage student and build it to assume his future responsibilities. 3. Work at the educational, administrative, and organizational level in a team spirit through the exchange of scientific and cultural knowledge, and the development of a cognitive social relationship between the members of the teaching team for the first stage. 4. To prepare students who are familiar with an overview of contemporary knowledge and technologies and prepare them to adapt them to the requirements of each future stage. 5. To identify the basic vocabulary that qualifies the students to achieve the functional – aesthetic – technical (performance) balance of the architectural form appropriate to its natural, climatic, economic, and social environment and make the design process a field for creativity, as this contributes to improving the local urban environment.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	**A. Cognitive Objectives:** a1. Learn how to translate their concepts into an active design project that can be implemented in reality by introducing architecture and architectural education, in general, and the most important possibilities that should be available in the architectural student, such as the possibility of drawing, imagining and understanding. a2. Introduction to the design elements and the most important design principles of two-dimensional configurations. a3. Introducing the application of design principles through three-dimensional configurations. a4. Definition of the color wheel and color systems. a5. Introduce the basics of drawing plans, elevations, their elements, and operational semantics to develop their ability to develop a design that meets reasonable costs and efforts. **B. Program-specific skill objectives:** b1. Exercises that require the students to analyze two-dimensional compositions according to design elements and principles, as well as the preparation of a form composition. b2. The application of colors to improve two- dimensional figurative compositions. b3. Analysis of an integrated architectural project according to design elements and principles at the level of two-dimensional compositions.

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Indicative Contents المحتويات الإرشادية	1. Introduction lecture including defining the course and its purpose. 2. A theoretical lecture that introduces the student to the most important design elements. 3. A theoretical lecture on the formal relationships in the process of formation and architectural design. 4. Day Sketch Examination. 5. A theoretical lecture that introduces the most important principles of architectural composition. 6. Day Sketch Examination. 7. Introducing the student to making abstraction compositions and collage technique. 8. Day Sketch Examination.

Learning and Teaching Strategies	
Strategies	1. Lecture-based explanation and clarification. 2. Presenting similar examples with projectors: data show, plasma screens, photos, and paper plates. 3. Asking questions, rising discussions and schemes within the classroom. 4. Education based on feedback and monitoring of students by the teaching staff to ensure that students' talents and skills are identified and used to further the educational program's objectives. 5. Self-learning through homework assignments and mini projects within lectures. 6. Teaching and learning the various necessary manual presentation skills as the main tools in the design process. 7. Teaching and learning computer-aided drawing and design programs commensurate with the requirements of the first stage as the main tools in the design process. 8. Scientific visits. 9. Summer internship.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	**Introduction Lecture:** - Introduction lecture including defining the course and its purpose with the most important topics, mention the most important sources that benefit the course. - Introducing the student to the engineering drawing tools and materials used by the architecture student with a thorough explanation of their methods of use, with an application for using tools to master their use.
Week 2	**Elements Design:** - A theoretical lecture that introduces the student to the most important design elements such as point, line, shape, volume, colour, colour value, and texture.
Week 3	**The Formal Relationships:** - A theoretical lecture precedes practical application on the formal relationships in the process of formation and architectural design, and how to achieve the formal relationship and the accompanying proportionality between the formal spaces, convergence and spacing between forms, or overlap, containment, and contact. From this lecture, the student understands the interrelation of forms with each other, as well as intellectual stimulation of creativity. - Introducing the importance of the network in organizing and creating two-dimensional composition. - **Day Sketch Examination.**
Week 4	
Week 5	

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
Week 6	**Architectural Composition & Principles of Architectural Design:** - A theoretical lecture that introduces the student to the most important principles of architectural composition such as unity, gradation, repetition, symmetry, contrast, harmony, etc. - **Day Sketch Examination**
Week 7	
Week 8	
Week 9	
Week 10	**Abstraction:** - Introducing the student to making abstraction compositions using principles and elements architectural design. **Collage:** - A lecture on the Collage technique and its relationship to color, texture and materials used in its product. - **Day Sketch Examination**
Week 11	
Week 12	
Week 13	
Week 14	
Week 15	

Delivery Plan (Weekly Studio Syllabus)
المنهاج الاسبوعي العملي في المرسم

	Material Covered
Week 1	Giving the students exercises including geometric shapes, concentric circular shapes and more using the tools in drawing certain models on sheet A2.
Week 2	- Exercises on basic design elements and how to show them with drawing techniques. - Practical exercises aimed at strengthening the student's ability to express ideas in architectural drawing (for example, drawing basic shapes using design elements or drawing using an element of design in various configurations).
Week 3	**The Formal Relationships**: - Practical exercises on formal relationships. To show the student's innovation, the exercises vary from an exercise for a single relationship between two elements or two forms to the use of more than two elements in multiple formal relationships. - Practical and homework exercises include two-dimensional compositions that consider the network as an organizing/background item. **Day sketch**: - The student is given a test to create a composition considering the formal relationships and the network.
Week 4	
Week 5	
Week 6	**Architectural Composition:** - Home & class exercises to create 2D compositions using the elements and principles of architectural design. - Exercises of the principles of composition individually and combined using only the lead technique. **Day sketch**: - Testing the student's ability about the 2D composition considering elements and principles of architectural design.
Week 7	
Week 8	
Week 9	
Week 10	**Abstraction:** - Practical and homework exercises include 2D compositions that work on an abstraction theme. **Collage:** - A practical exercise on converting the previous 2D composition (abstraction) into cutting and pasting techniques in line with considering the color theory and color wheel. **Day sketch:** - Testing the student's ability about the abstraction and collage technique that given in the last few weeks.
Week 11	
Week 12	
Week 13	
Week 14	
Week 15	

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	*Architecture: Form, Space, and Order*. Francis D. K. Ching, Steven P. Juroszek, 2004	Yes
Recommended Texts	*Design Drawing*. Steven P. Juroszek, 2005. *Introduction to Architecture Design*. Francis D. K. Ching, James F. Eckler.	No
Websites	World Wide Web	

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	**ARE112**
4. Modes of Attendance offered	Daily time
5. Semester/Year	1st Semester/ 1st Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1. The architectural presentation course provides the architecture student with scientific information and practical applications in the way of using engineering tools correctly and recognizing the types of geometric lines, 2. Helps the student by drawing geometric projections, diagrams, facades and engineering sections of the presented project and how horizontal Schemes turn into three-dimensional drawings, in exchange for developing artistic taste in the choice of colors and their impact on the overall project structure, and the appropriate selection of materials used in the demonstration, between the engineering demonstration and the technical demonstration, 3. the basis of the program is to walk a parallel line of architectural design materials for the stage, which is an integrated loop that prepares the student to present an integrated architectural engineering project
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Introducing the student to the basics of architectural drawing according to the general principles (point and lines) 2. introducing the student to the methods of architectural demonstration using pencils and inking 3. introducing the student to the principles of drawing and architectural projection through two-and three-dimensional drawings. 4. introducing the student to how to turn a three-dimensional drawing into two-dimensional by drawing horizontal and vertical projections 5. introducing the student to how to draw the plan architecturally 6. introducing the student to how to draw interfaces, a section and a site plan

	7. presenting the student with an integrated project that includes drawing a plan, elevation and section with a specific style of demonstration freely chosen by the student
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. b1. Exercises including vertical, horizontal, and oblique lines drawn b2. Teaching the student how to draw geometric projections in an architectural way b3. Teaching the student how to adopt colors and their gradations b4. How to draw an ISO-metric as a three-dimensional object in an abstract

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1. Explanation and clarification by mean of lectures. 2. How to display scientific materials with projectors: data show, smart boards, plasma screens. 3. Self-learning through homework assignments and mini-projects within lectures. 4. Laboratories. 5. Graduation projects. 6. Scientific visits. Seminars that are held in the Department. 8. Summer internship. developing the student's ability to deal with technical means. developing the student's ability to deal with the internet. developing the student's ability to deal with multiple means. developing the student's ability to dialogue and discussion.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	**A lecture on the tools used in drawing**
Week 2	- Definition of the importance of architectural drawing with an explanation of the most important tools used in drawing.
Week 3	- Introduce the student to how to start using the materials and install the workboard with an explanation of the types of lines used in the geometric drawing and drawing simple shapes that can be squares of an appropriate size with lines (vertical and horizontal.)
Week 4	- Introducing the student to drawing lines with oblique angles and intersections, introducing the student to the principle of Light Value and how to achieve it by gradation. - Introduce the student to how to show a composition with abstract geometric shapes by

	using the previous demonstration techniques.
Week 5	**projection**
Week 6	Introduce the student to the principle of projection of various elements.
Week 7	**Architectural presentation techniques**
Week 8	Explain the techniques of showing using inking pens and their gradations explain the techniques that can be used with colors, their gradation and the use of collage (cutting and pasting as a technique of showing).
Week 9	
Week 10	
Week 11	**Scale drawing and architectural plans**
Week 12	Introduce the student to the types of drawing scale and how to test the appropriate drawing scale for the painting
Week 13	Explain how to draw the architectural plan of the ground floor of a simple architectural building (horizontal projection). Introducing students to the method of drawing horizontal diagrams with furnishing
Week 14	**Architectural drawing styles** Explain how to draw and drop facades to the previous architectural plan
Week 15	**Architectural drawing styles** Explain how to draw architectural sections and drop them from the previous architectural plan
Week 16	**Exam**

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	**A lecture on the tools used in drawing**
Week 2	- Definition of the importance of architectural drawing with an explanation of the most important tools used in drawing.
Week 3	- Introduce the student to how to start using the materials and install the workboard with an explanation of the types of lines used in the geometric drawing and drawing simple shapes that can be squares of an appropriate size with lines (vertical and horizontal.)
Week 4	- Introducing the student to drawing lines with oblique angles and intersections, introducing the student to the principle of Light Value and how to achieve it by gradation. - Introduce the student to how to show a composition with abstract geometric shapes by using the previous demonstration techniques.

Week 5	**projection**
Week 6	homework+ assignment class to the principle of projection of various elements.
Week 7	**Architectural presentation techniques**
Week 8	homework+ assignment class to the techniques of showing using inking pens and their gradations explain the techniques that can be used with colors, their gradation and the use of collage (cutting and pasting as a technique of showing).
Week 9	
Week 10	
Week 11	**Scale drawing and architectural plans**
Week 12	Introduce the student to the types of drawing scale and how to test the appropriate drawing scale for the painting
Week 13	Explain how to draw the architectural plan of the ground floor of a simple architectural building (horizontal projection). Introducing students to the method of drawing horizontal diagrams with furnishing
Week 14	homework+ assignment class draw and drop facades to the previous architectural plan
Week 15	**final Project:** draw architectural sections and drop them from the previous architectural plan
Week 16	**Exam**

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Principles of architectural drawing	Yes
Recommended Texts	1-Drawing, a creative process" by Francis D.K ,1990> Introduction to architectural, by A.W. Griffin1998. فن المنظور والاظهار المعماري ,ربيع الحرستاني 1998 ARCHITECTURAL RENDERING, TECHIQUE,1985. 2- Form, space and order, by Francis DK , ching	No
Websites		

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	**ARE113**
4. Modes of Attendance offered	Daily time
5. Semester/Year	1st Semester/ 1st Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	6. Preparing the theoretical base that is integrated with the architectural design subject. 7. Introducing the new student to the basics of architecture and its connection with other fields of knowledge in general and the field of art. 8. Developing the artistic taste of the new architectural student. 9. Giving a clear vision of the connection and overlapping of the engineering field and the technical field in architecture to the new student and the integration of the relationship between the two.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	**Program-specific skill objectives:** 1- Taste and understand works of art in general and architectural projects. 2- The basic principles underlying architecture as a science and art. 3- Analyze architectural projects as formal and functional formations and identify the most important pioneers of architecture. 4- Development on the analysis of architectural projects and knowledge of the ideas of architectural formations and introducing the pioneers of architecture.
Indicative Contents المحتويات الإرشادية	1- An introductory introduction to the material with an introduction to art, architecture, architect and their connection with other areas. 2- The study of architectural design elements (elements of visual art). 3- Identify the typical design principles and possible ways of connecting design elements. 4- Study the concept of unity in Unity design and its requirements. 5- Daily quiz. 6- Knowledge of proportion and proportionality in the division of lines and surfaces (golden ratio). 7- Expanding the knowledge of proportion and proportionality in the division of lines and surfaces (ratio 1: √2) 8- Study the subject of measurement and proportions in the body and form (human scale). 9- A visual analytical study in the concept of body Form. 10- A visual analytical study in the concept of space. 11- Study the subject of architectural design (the main areas of architectural design). 12- Study the subject of architectural design (architectural composition). 13- Daily quiz.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	10. Teaching by enhancing participation with students and interaction by opening discussions. 11. Providing individual reports and assignments for selected subjects that ensure the analysis of realistic compositions with technical references. 12. In addition, conducting quizzes. 13. Presentation of lectures using demonstration means such as data show using the PowerPoint program.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	An introductory introduction to the material with an introduction to art, architecture, architecture and their connection with other areas.
Week 2	The study of architectural design elements (elements of visual art).
Week 3	Identify the typical design principles and possible ways of connecting design elements.
Week 4 **Week 5**	• Study the concept of unity in Unity design and its requirements as well as The Associated vocabulary. • **Quiz**
Week 6	Knowledge of proportion and proportionality in the division of lines and surfaces (golden mean).
Week 7	Expanding the knowledge of proportion and proportionality in the division of lines and surfaces (ratio 1: √2)
Week 8	Study the subject of measurement and proportions in the body and form (human scale).
Week 9 **Week 10**	A visual analytical study in the concept of body Form (basic form, proportionality, transformation, reduction, addition, and other related concepts).
Week 11 **Week 12**	• A visual analytical study in the concept of space (corresponding to space and mass, the definition of spaces by elements, the quality of architectural spaces, and other concepts associated with it). • **Quiz**
Week 13	Study the subject of architectural design (the main areas of architectural design).
Week 14 **Week 15**	Study the subject of architectural design (architectural composition).

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	**ARE114**
4. Modes of Attendance offered	Daily time
5. Semester/Year	1st Semester/ 1st Year
6. Number of hours tuition (total)	90 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1-To give the student a general idea of mathematics as basic principles for a student in the College of Engineering. 2- To understand the functions, drawing them, concept of limits and continuity of functions, and using it in advanced mathematics 3- with the addition the most important mathematical fields in engineering, trigonometry must

	be mentioned, some engineering applications, which are seen by students of architecture in the advanced undergraduate stages.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	a6. Studying the basic rule in mathematics of set and Intervals, its applications, and the basics. a7. Learn the mathematical methods of drawing functions using different techniques. a8. Using the concept of limit in consolidating and understanding the concept of mathematical differentiation. a9. Using the concept of limit to explain the concept of differentiation and derivatives in advanced mathematics a10. The soft skills objectives of the course. Trigonometric relation, Identities, Domain, Range and graphs of trigonometric functions. a11. Types of functions and their graphs a12. Application of quantitative and numerical methods for the purpose of solving engineering problems. a13. Studying Analytical Geometry and its applications.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. b5. Introduction -Intervals and Inequalities: [6 hrs] b6. Functions [8 hrs] b7. Limits and continuity [6 hrs] b8. Trigonometry. [6 hrs] b9. Analytical Geometry. [2 hrs] b10. Some geometric shapes and their measurements [2 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	14. Interaction within the lecture. 15. Homework and reports. 16. Quizzes (Quizzes). Tutorials hours. 17. Reading and self-learning. 18. Following up on the interest of the student who interacted more with the presented material, by increasing this interaction by requesting other programs and applications to display it. Presentations, site photos and videos are interesting to the students. 19. Training and activities during lecture. 20. Asking the questions that help to understand the material better. 21. Mid-term and final exam.

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction to calculus Numbers, Sets
Week 2	Intervals, Inequalities
Week 3	Inequalities and it's representation on real line, absolute value

Week 4	Definition of function, Types of functions
Week 5	Domain, Range of function
Week 6	Symmetry and Graph of functions patr1
Week 7	Graph of functions part2, Special functions.
Week 8	Definition of limit
Week 9	Limit of infinity, Limit application
Week 10	Solution of limit problems, continuity
Week 11	Trigonometry functions
Week 12	Trigonometry application and problems solution
Week 13	Type of trigonometric function, Trigonometric relation, Identities, Domain, Range and graphs of trigonometric functions.
Week 14	Analytical Geometry: Coordinate system in plane, equations of line, Distance formula,
Week 15	Some geometric shapes and their measurements
Week 16	**Preparatory week before the final Exam**

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	**ARE115**
4. Modes of Attendance offered	Daily time
5. Semester/Year	1st Semester/ 1st Year
6. Number of hours tuition (total)	90 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. To give the student a general principle of physics and applications for a student in the College of Engineering, architecture department. 2. To understand and define of various scientific laws of physics 3. Identifying of static, kinetic and motion for solid bodies. 4. Describing of liquid and gas kinetic theory 5. Learning of vibration and frequencies. 6. Knowing of sound properties and transition. 7. Heat and heat transfer and its effects on bodies
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	a14. Studying the basic laws of physics science. a15. Learn the measurements and units.

	a16. Static, kinetic and dynamic. a17. Newton's Laws of Motion. a18. Work, Kinetic and Potential Energy. a19. Rotation: Kinematics, Torque, Rotation. a20. Static Equilibrium of bodies in solid and liquid states. a21. Vibrations; Simple Harmonic Motion, Waves: Frequency a22. Sound and acoustics. a23. The light, reflection. a24. Heat and heat transfer.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. b11. Introduction of physical principles and expressions [2 hrs] b12. Definitions, units and measurements [2 hrs] b13. Newtons laws and theories [2 hrs] b14. Levers, rotation and torque [2 hrs] b15. Static, kinetic and dynamic [8 hrs] b16. Waves, vibration and resonance. [4 hrs] b17. Sound and acoustics. [4 hrs] b18. The light [2hrs] b19. Heat and its transfer [4hr]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	22. Interaction within the lecture. 23. Assignment, homework, and reports. 24. Quizzes (Quizzes). 25. Reading and self-learning. 26. Following up on the interest of the student who interacted more with the presented material, by increasing this interaction by requesting other programs and applications to display it. Presentations, photos, and videos are interesting to the students. 27. Training and design examples activities during lectures. 28. Asking questions that help to understand the material better. 29. Mid-term and final exam.

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Physics Units & Numbers, Science, Measurements, Estimations
Week 2	One-Dimensional Kinematics, Velocity, Acceleration, Motion with Constant Acceleration; Free Fall, Vectors: Addition, Subtraction, Components, 2D Motion, Projectiles; Relative Motion
Week 3	Newton's Laws of Motion, Newton's Laws & Gravity, Newton and Free Body Diagrams, Friction, Problems with Friction, Inclines
Week 4	Circular Motion and Centripetal Acceleration, Newton's Law of Gravitation.
Week 5	Work, Kinetic and Potential Energy, Conservation of Mechanical Energy

Week 6	Rotation: Kinematics, Torque, Rotation: Dynamics, Inertia, Angular Momentum
Week 7	Static Equilibrium of Objects, Static Fluids: Density and Pressure,
Week 8	Buoyant Forces, Bernoulli & Moving Fluids
Week 9	Vibrations; Simple Harmonic Motion, Waves:
Week 10	Frequency, Wavelength, Speed, frequency and resonance.
Week 11	Sound, Intensity and Level; Sources
Week 12	Acoustics (sound and noise)
Week 13	The light and the reflection.
Week 14	Heat: Temperature Changes, Latent Heat, Conduction, Convection, Radiation
Week 15	Heat transfer through different bodies
Week 16	**The preparatory week before the Final Exam**

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	**ARE116**
4. Modes of Attendance offered	Daily time
5. Semester/Year	1st Semester/ 1st Year
6. Number of hours tuition (total)	90 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. Studying computer fundamentals is important for students because it empowers them with necessary skills for their education as well as for future careers. Computer fundamentals are becoming more and more necessary in our increasingly digital world. 2. It also deals with the hardware and software aspects of the computer like operating system, application software and system software. It provides an overview of functions and working of central processing unit, motherboard and other peripherals. 3. Identify the role of an operating system such as Microsoft Windows and how to use its features such as modifying the user interface, changing system settings, managing files and installing/uninstalling software.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Upon successful completion of the course, the student will: 1-Identify hardware components, their functions and performance issues in various computer systems and the factors involved in purchasing a computer system. 2- Identify different types of software, their relationship to hardware, their function in

	a computer system, their task- appropriate use and considerations involved in purchasing and upgrading software. 3- Identify the role of an operating system such as Microsoft Windows and how to use its features such as modifying the user interface, changing system settings, managing files and installing/uninstalling software. 4- Use common application interface elements and commands for creating, opening, formatting, editing, saving and printing files. 5- Produce word processing documents using basic functions, graphics, tables and automated formatting tools in an application such as Microsoft Word. 6- Generate spreadsheets using formulas, functions, formatting, charts, tables, sorting and filtering in an application such as Microsoft Excel. 7- Construct effectively designed and formatted presentations in an application such as Microsoft PowerPoint. 8- Identify network fundamentals and the benefits and risks of network computing.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. b20. computer concepts, including fundamental and types of computer systems [2 hrs] b21. Hardware components and how they interact with software [4 hrs] b22. Types of systems software (operating system and utilities) [4 hrs] b23. Operating system features and commands [2 hrs] b24. Common elements of application software interfaces [4 hrs] b25. Different types of application software (word processing, spreadsheets, presentation, and browsers). [4hrs] b26. Features and use of word processing, spreadsheet, and presentation and browser software [4 hrs] b27. Network fundamentals and Internet features and usage [4 hrs] b28. Impact of computing and the Internet of society b29. Discussion. [2 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	30. Explanation and clarification using the class lectures. 31. Lab hours. 32. Reading and self-learning. 33. Home Works and present report. 34. Presentations, site photos and videos are interesting to the students. 35. Short Assignment (quizzes). 36. Training and activities during lecture. 37. Asking the questions that help to understand the material better. 38. Interaction during lectures 39. Practicing the examples, home-works, and reports. 40. Continues drawings for specified building construct by load bearing walls system. 41. Submitting and Presentations of requested drawings. 42. Mid-term and final exam.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction – to computer (what is computer? Data, Processing, output, storage, Networks) Use of computer, the stage of development of computer and the general type of computer. Representation of data in computer.
Week 2	Main Computer Parts: - 1- Hardware (Input units, Central Processing Unit (CPU), Memory Unit, Secondary Memory and Output unit). a- Software: a- System Software b- Application Software
Week 3	Computer Programing: Language type 1- Machine language 2- Assembly language 3- High Level Language (Python, C++,.....)
Week 4	Flowcharts and Algorithms: Algorithms (Pseudo code)
Week 5	Symbols and Idiomatic Forms in Flowcharts.
Week 6	Numerical Analysis (Binary, Decimal)
Week 7	Operating Systems: Disk operating system (MS-DOS): *Internal and External Commands*
Week 8	Operating Systems: Windows Operating System (Windows)
Week 9	Operating Systems: Windows Operating System (Windows)
Week 10	Applications Software: Word Processing (MS Word)
Week 11	Spreadsheet (MS Excel)
Week 12	Spreadsheet (MS Excel)
Week 13	Presentation (MS PowerPoint)
Week 14	Networks (LAN, WAN)
Week 15	Submitting of assignments and presentations
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Operating Systems: Disk operating system (MS-DOS): System files and command .com, Internal DOS files & Directories. Elementary *External DOS Commands.*
Week 2	Operating Systems: Disk operating system (MS-DOS): System files and command .com, Internal DOS files & Directories. Elementary *External DOS Commands.*
Week 3	Operating Systems: Windows Operating System (Windows): Operating system definitions

	&functions. Basic of Windows, Basic Components of Windows, Icons, Types of Icons, Taskbar, activating windows, using Desktop, title bar, running applications, exploring computer, managing files and folder, copying and moving files and folders, control Display panel properties, adding and removing software and hardware, setting data and time, screen saver and appearance, Using windows accessories.
Week 4	Operating Systems: Windows Operating System (Windows): Operating system definitions &functions. Basic of Windows, Basic Components of Windows, Icons, Types of Icons, Taskbar, activating windows, using Desktop, title bar, running applications, exploring computer, managing files and folder, copying and moving files and folders, control Display panel properties, adding and removing software and hardware, setting data and time, screen saver and appearance, Using windows accessories.
Week 5	Applications Software: Word Processing (MS Word): Introduction to word, Microsoft word window, home, Insert commends.
Week 6	Applications Software: Word Processing (MS Word): Open a work document, save a document Menu Bar, Home, File, Insert, Design, Page layout, ……
Week 7	Applications Software: Word Processing (MS Word): Tables, Cells, Merge cells, Insert rows, Insert columns, insert cells, Shading, border.
Week 8	Spreadsheet (MS Excel): Introduction to excel, Microsoft excel window, home, insert commends.
Week 9	Spreadsheet (MS Excel): Open a work book, save a work book, home operation, (clip bored, font, alignment number, styles cell, editing) insert, (tables, illustration, charts, links, text).
Week 10	1. *Spreadsheet (MS Excel): Page layout, formula, commends, Data, review commends, references commands.*
Week 11	2. *Presentation (MS PowerPoint):* ***Introduction to PowerPoint, Microsoft PowerPoint window, home,*** *insert commends. Menu Bar, Tools Bar, Slides, Slide-show, Presentation.*
Week 12	Networks (LAN, WAN): Characteristics of a Computer Network
Week 13	Similarities between Internet and Intranet
Week 14	3. *Differences between Internet and Intranet*
Week 15	Submitting of assignments and presentations
Week 16	**Preparatory week before the final Exam**

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	تعلم الحاسب الشخصي	Yes

Recommended Texts	Computer - Memory (tutorialspoint.com)	No
Websites	Channel content - YouTube Studio	

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	**ARE**121
4. Modes of Attendance offered	Daily time
5. Semester/Year	1st Semester/ 1st Year
6. Number of hours tuition (total)	90 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims
أهداف المادة الدراسية

10. To provide a scientific and physical environment that allows the student to get acquainted with the specialty of architecture engineering, as a first step in the practice of architecture.
11. To adopt design curricula in addition to educational and architectural education curricula, which are an essential pillar in the educational process to qualify the first-stage student and build it to assume his future responsibilities.
12. Work at the educational, administrative, and organizational level in a team spirit through the exchange of scientific and cultural knowledge, and the development of a cognitive social relationship between the members of the teaching team for the first stage.
13. To prepare students who are familiar with an overview of contemporary knowledge and technologies and prepare them to adapt them to the requirements of each future stage.

1. To identify the basic vocabulary that qualifies the students to achieve the functional – aesthetic – technical (performance) balance of the architectural form appropriate to its natural, climatic, economic, and social environment and make the design process a field for creativity, as this contributes to improving the local urban environment.

Module Learning Outcomes

مخرجات التعلم للمادة الدراسية

C. Cognitive Objectives:

a25. Introducing the application of design principles through three-dimensional configurations.

a26. Introduce the basics of drawing plans, elevations, their elements, and operational semantics to develop their ability to develop a design that meets reasonable costs and efforts.

D. Program-specific skill objectives:

b30. Exercises that require the students to analyze two-dimensional compositions according to design elements and principles, as well as the preparation of a form composition.

b31. Transforming the previous two-dimensional compositions to three-dimensional compositions.

b32. The application of colors to improve two-and three-dimensional figurative compositions.

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
	b33. Analysis of an integrated architectural project according to design elements and principles at the level of two-and three-dimensional compositions. b34. Creative thinking for applying design principles to design elements and dealing at the level of mass and architectural space. b35. Putting forward opinions and reasoning for the nature of the application of design principles and the use of design elements in the studied architectural practice that achieve collective agreement. Putting forward opinions and reasoning for the nature of the application of design principles and the use of design elements in the studied architectural practice that achieve collective agreement. b36. The skill of self-learning through self-reliance in deducing solutions to design and cognitive problems. The skill of self-learning through self-reliance in deducing solutions to design and cognitive problems.
Indicative Contents المحتويات الإرشادية	1. A lecture on 3D Composition & Making Volume. 2. Day sketch examination 3. Lectures about gradation of spaces from closed to open space moving through semi- closed space. 4. Day sketch examination 5. A lecture on how to conduct initial studies and collect data about a particular functional project. 6. Day sketch examination.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	43. Lecture-based explanation and clarification. 44. Presenting similar examples with projectors: data show, plasma screens, photos, and paper plates. 45. Asking questions, rising discussions and schemes within the classroom. 46. Education based on feedback and monitoring of students by the teaching staff to ensure that students' talents and skills are identified and used to further the educational program's objectives. 47. Self-learning through homework assignments and mini projects within lectures. 48. Teaching and learning the various necessary manual presentation skills as the main tools in the design process. 49. Teaching and learning computer-aided drawing and design programs commensurate with the requirements of the first stage as the main tools in the design process. 50. Scientific visits. 51. Summer internship.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1 **Week 2** **Week 3** **Week 4**	**<u>3D Composition & Making Volume:</u>** - A lecture on the third dimension in composition and architectural design by introducing volumetric relations in the relationship of mass with other, and the relationship of space with space and mass with space. - Learn the skills of making volume using a repeating unit (2.5 cm * 2.5 cm * 2.5 cm). - Practical exercises in creating 3D composition from single repetitive units. - Practical exercises in creating 3D composition (mass module) with assembled masses. **<u>Day sketch:</u>** - Test the student's ability to put forward a creative idea by showing three dimensions compositions.

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
Week 5 Week 6 Week 7 Week 8	**Gradation of Spaces:** - A lecture on the determinants of space (surfaces, base, columns, walls ....). - A lecture on the types of spaces and their gradation (moving from open space to closed space through semi-closed space. - A practical exercise by designing an outdoor space project that demonstrates the relationship between the gradation of spaces. The project is presented in stages: 1. Initial submission (one week). 2. Submission before the final (one week). 3. Final submission (one week). The student draws elevations and sections of various spaces during the project period. **Day sketch:** - Testing the student's ability to put forward a creative idea about the relationship between space and mass.
Week 9 Week 10 Week 11 Week 12 Week 13 Week 14 Week 15	**Functional Project:** - A lecture on how to conduct initial studies and collect data about a particular functional project. - A three-dimensional project in which the function is introduced to the space with the achievement of relationships between masses, space and mass, and between two spaces taking into account the aspects of creativity and innovation of the student and focusing on them. The project requires drawing elevations and sections. The project is presented according to: 1. Initial submission 2. Second submission 3. Submission before the final 4. Final submission **Day sketch:** - Testing the student's ability to put forward a creative idea.

Delivery Plan (Weekly Studio Syllabus)
المنهاج الاسبوعي العملي للمرسم

	Material Covered
Week 1 Week 2 Week 3 Week 4	**3D Composition & Making Volume:** - A lecture on the third dimension in composition and architectural design by introducing volumetric relations in the relationship of mass with other, and the relationship of space with space and mass with space. - Learn the skills of making volume using a repeating unit (2.5 cm * 2.5 cm * 2.5 cm). - Practical exercises in creating 3D composition from single repetitive units. - Practical exercises in creating 3D composition (mass module) with assembled masses. **Day sketch:** Test the student's ability to put forward a creative idea by showing three dimensions compositions.
Week 5 Week 6 Week 7 Week 8	**Gradation of spaces:** - A lecture on the determinants of space (surfaces, base, columns, walls ....). - A lecture on the types of spaces and their gradation (moving from open space to closed space through semi-closed space. - A practical exercise by designing an outdoor space project that demonstrates the

Delivery Plan (Weekly Studio Syllabus)
المنهاج الاسبوعي العملي للمرسم

	Material Covered
	relationship between the gradation of spaces. The project is presented in stages: 4. Initial submission (one week). 5. Submission before the final (one week). 6. Final submission (one week). The student draws elevations and sections of various spaces during the project period. **Day sketch:** Testing the student's ability to put forward a creative idea about the relationship between space and mass.
Week 9 **Week 10** **Week 11** **Week 12** **Week 13** **Week 14** **Week 15**	**Functional Project:** - A lecture on how to conduct initial studies and collect data about a particular functional project. - A three-dimensional project in which the function is introduced to the space with the achievement of relationships between masses, space and mass, and between two spaces taking into account the aspects of creativity and innovation of the student and focusing on them. The project requires drawing elevations and sections. The project is presented according to: 5. Initial submission 6. Second submission 7. Submission before the final 8. Final submission **Day sketch:** Testing the student's ability to put forward a creative idea.

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	• Architecture: Form, Space, and Order. Francis D. K. Ching, Steven P. Juroszek, 2004. • Design Drawing. Steven P. Juroszek, 2005.	Yes
Recommended Texts	• Introduction to Architecture Design. Francis D. K. Ching, James F. • Annual • Architectural record	
Websites		

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	**ARE**122
4. Modes of Attendance offered	Daily time
5. Semester/Year	1st Semester/ 1st Year
6. Number of hours tuition (total)	90 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	Enhancing students' skills and giving them the ability to transform imagined and observed forms, and to enhance the principle of the imagined idea and interrogate it from its mental image to its visible physical image, located on surfaces with two and three dimensions shown. By using markers to draw a variety of topics that achieve the desired purpose, provided that the topics are derived from: 1) The natural or manufactured environment. 2) Other lesson materials. 3) architectural approaches. 4) Drawing figures, engineering formations, etc. 5) Topics that students want to express.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Introducing the concept of free drawing and its importance in achieving a state of visual communication with the surroundings, as well as identifying its principles and various applications to learn how to perceive visually in order to express design ideas visually, and how to take notes through vision. 2. Determining the foundations of free drawing: drawing lines, the concept of vision and its level. 3. Introducing the various drawing materials and tools, pens, brushes, and drawing accessories. 4. Learn how to perceive the principles of lighting and shadow and the nature of showing them. 5. Study some technical forms such as different plants, pots, etc. and work on simplifying them to be the basis for the formation of different engineering units. 6. Drawing fixed and moving objects and figures inside and outside the studio. 7. Drawing the components of nature, especially those that are intertwined and buildings, which give students a picture that is closer to reality.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. b37. Make different two-dimensional linear configurations. b38. Technical perspective. The role of 3D drawing on expression. b39. 10) basic concepts of perspective; Horizon line, line of sight, vanishing points, point of view. b40. Drawing techniques using a dry pen. b41. Making three-dimensional block configurations with functional purposes, students' configurations and printing work their studies in the beauty of design and output. b42. Using natural raw materials, such as: tree branches, palm fronds, and wood residues. And industrial, such as: wooden spoons, utensils, pen bases, and others.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	52. Drawing the components of nature, especially those that are intertwined and buildings, which give students a picture that is closer to reality. 53. Make different two-dimensional linear configurations. 54. Technical perspective. The role of three-dimensional drawing and the ability to express. 55. basic concepts of perspective; Horizon line, line of sight, vanishing points, point of view. 56. Drawing techniques using a dry pen. 57. Making three-dimensional block formations with non-functional purposes that are in line with the needs of students and the nature of their studies, and taking into account the beauty of design and production. 58. Using various natural materials, such as: tree branches, palm fronds, and wood residues. And industrial, such as: wooden spoons, utensils, pen bases, and others.

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to the subject: Introducing the concept of drawing and its importance to the student of architecture in creating and demonstrating creative design ideas and achieving a state of communication with the surroundings and using it in its applications, as well as defining its principles and applications to learn visual perception of how to express design ideas visually, taking notes through vision.
Week 2	materials used; Its importance and how to deal with it: Standing on the importance of free drawing with defining its foundations, concepts and applications in the different artistic and architectural currents and explaining how the lines were drawn, with an explanation of the concept of vision and its level.
Week 3	materials used; Its importance and how to deal with it: Introduction to manual drawing materials and their types, such as using HP graphite pens to draw straight, horizontal, vertical, and inclined lines...etc. And the use of it in various architectural and artistic styles and trends and its importance in showing architectural design.
Week 4	Direct drawing exercises using pencils: Hand exercises to use different drawing pens in achieving circular and zigzag lines and pairing them through direct exercises inside the hand drawing studio.
Week 5	Size and shape perception exercises in different angles and directions: The stage of planning with a graphite pen and starting with students' exercises to draw explicit geometric shapes such as cubes, cones, cylinders...etc., with only external lines, to train the eye to recognize the proportions between shapes and volumes, their connection to multiple angles of view, and how to measure and deal with them in the design of buildings and sites.
Week 6	Multiple practical exercises: Learn to recognize the principles of light and shadow and the nature of their manifestation. The stage of shading with graphite pencils through the approved drawing applications of light maneuver in achieving shadow and light symmetries in the architectural landscape.
Week 7	Multiple practical exercises: Rounding and abstracting free forms and approximating them to the closest known and perceived geometric shape with drawing different free forms.
Week 8	Multiple practical exercises: Studying various technical forms such as different plants, pots, etc., and working on simplifying them to be the basis for the formation of various engineering units. Through lessons in the techniques used in drawing and showing materials (glass, wood, metal), live drawing of different materials (mugs, jars, buckets, etc.)
Week 9	Multiple practical exercises: Exercises in drawing fixed and moving bodies and shapes inside and outside the studio, to give students a visual sense that is more in touch with reality.
Week 10	Multiple practical exercises: Lesson drawing (spatial adjacencies) of the components of nature, especially those overlapping and buildings, which give students a picture closer to reality. With the techniques of drawing plants and trees (drawing a plant branch with a few leaves, then drawing trees outside the hand-painting studio).
Week 11	Multiple practical exercises: Make different two-dimensional linear configurations.
Week 12	Basic principles of artistic perspective: Principles of perspective for spherical, cylindrical, and other geometric shapes with individual exercises for multiple geometric shapes and artistic perspective.
Week 13	Perspective study of a building with one vanishing point (parts of a building facade) with the use of different techniques in drawing through a single light source and shown using shadows.
Week 7	**Preparatory week before the final Exam**

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	1- Laseu, P(2004) Freehand Sketching: an Introduction. W.W. Nortom & Company 2- Ching, F(2009, 5th ed). Architectural Graphic. NY, Wiley 3- Reyna R(1996). How to Draw What You See. NY, Watson-Guptill 4- Simmonds, J,(2002). You Can Sketch: A Step-by-Step Guide for Absolute Beginners. NY, Watson-Guptill	Yes
Recommended Texts	-	Yes
Websites	https://faculty.uobasrah.edu.iq/portal/dc4c44f624d600aa568390f1f1104aa0/teaching	

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	**ARE**123
4. Modes of Attendance offered	Daily time
5. Semester/Year	1st Semester/ 1st Year
6. Number of hours tuition (total)	90 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1-To enable the students to achieve academic oral and written communication to the standard required at university level. 2- Students can acquire advanced architectural terms in this course 3- The course integrates all language skills with emphasis on writing. 4- To stimulate students' imagination and promotes personal expression. 5-Train students to apply critical thinking skills to a wide range of challenging subjects from various academic disciplines.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	a27. Writing various types of academic essays. a28. Acquiring advanced architectural terms. a29. Acquiring advanced academic vocabulary.

	a30. Getting involved in group of discussion and debates. a31. Students who are able to prove their own point of view without hesitation or fear.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. b43. English Language skills b44. Architecture-related information b45. Grammar b46. Common architectural terms

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	59. Giving the student a chance to gain courage by explaining his specific article as a professor. 60. Interaction between students within the lecture. 61. Reports. 62. Quizzes. 63. Reading and writing. 64. PowerPoint presentations. 65. Training and activities during lecture. 66. Asking the questions that help to understand the material better. 67. Mid-term and final exam.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Architecture-related information
Week 2	Basic grammar 1
Week 3	Architectural terms 1
Week 4	Grammar 2
Week 5	Architecture-related information (reading)
Week 6	Quiz
Week 7	English skills (how to write reports or articles ?)
Week 8	Reports 1 (architecture\buildings)
Week 9	Architecture-related information (drawing)
Week 10	English skills (how to contact with others?)
Week 11	The discussion of famous structures or buildings in English.
Week 12	The discussion of famous structures or buildings in English.
Week 13	Common architectural terms 2
Week 14	Reports 2(Students' dreams/favorite architects)
Week 15	Quiz

Week 16	Preparatory week before the final Exam

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Intermediate: Workbook: Teacher's Book	No
Recommended Texts	English Syllabus - Listening, Speaking, Reading, Writing (supermaths.co.uk)	No
Websites		

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	**ARE**124
4. Modes of Attendance offered	Daily time
5. Semester/Year	1st Semester/ 1st Year
6. Number of hours tuition (total)	90 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1. To be able to find and interpret the derivatives of function 2. To understand the meaning of derivatives in terms of a rate of change, and to use the derivatives to solve a problem. 3. To understand the meaning of definite integral 4. To be able to find the integral of functions 5. To be able to find the areas and volumes, speed.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	a32. Studying Derivative by the law of definition. a33. Knowing derivative applications and implicit derivatives a34. learning the concept multiple derivatives and Solution of derivative problems a35. Using the concept of limit to explain the concept of differential equation a36. Integration (Anti-derivatives), Rules of integration.

	a37. Integration of mathematical functions and solution of integration problems. a38. Application on definite integral: Area, volume, surfaces area, arc length. a39. Identifying the acceleration, speed and displacement.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. b47. Derivative [12 hrs] b48. Unspecified integration [8 hrs] b49. The boundary conditions and determinants of peripheral integration [2hrs] b50. Solution of specified integration. [2 hrs] b51. Calculation of areas. [2 hrs] b52. Calculation of volumes, surfaces area, arc length [2 hrs] b53. Acceleration, speed and displacement [2 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	68. Interaction within the lecture. 69. Homework and reports. 70. Quizzes (Quizzes). Tutorials hours. 71. Reading and self-learning. 72. Following up on the interest of the student who interacted more with the presented material, by increasing this interaction by requesting other programs and applications to display it. Presentations, site photos and videos are interesting to the students. 73. Training and activities during lecture. 74. Asking the questions that help to understand the material better. 75. Mid-term and final exam.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Derivative by the law of definition
Week 2	Derivative (sum, difference, multiplication, division), Derivative applications
Week 3	Implicit derivatives, Multiple derivatives, Solution of derivative problems
Week 4	High-Order derivatives, Solution of derivative problems
Week 5	Chain rule, Derivative of the trigonometric function
Week 6	Derivative of the exponential and Logarithmic, Tangent lines
Week 7	Definition of integration
Week 8	Integration law
Week 9	Integration of mathematical functions
Week 10	Methods of integration
Week 11	The boundary conditions and determinants of peripheral integration
Week 12	Solution of specified integration

Week 13	Calculation of areas
Week 14	Calculation of volumes, surfaces area, arc length
Week 15	Acceleration, speed and displacement
Week 16	**Preparatory week before the final Exam**

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	The Original Edition of "A First Course in Calculus" Serge Lang"	Yes
Recommended Texts	Thomas. G. B. & Finney. R. L., "Calculas and Analytic Geomatry".	Yes
Websites	https://www.ulm.edu.pk/departments/admin/upload/downloads/202110030921.pdf	

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	**ARE**125
4. Modes of Attendance offered	Daily time
5. Semester/Year	1st Semester/ 1st Year
6. Number of hours tuition (total)	90 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims
أهداف المادة الدراسية

a40. Introducing students to the basic principles of human rights and clarifying those rights according to various sources.

a41. Addressing the basic concepts of democracy and its historical development.

a42. The ultimate goal of human rights education is people working together to bring about human rights, justice, and fear for all.

a43. Connecting the students of the Faculty of Engineering with the practical reality, especially since most of the student's dealings are within the framework of private institutions.

a44. Shedding light on the legal status of engineers in the event of a contract with them, as well as stating their material and moral rights, in a more specific way.

a45. Creating a student who knows his rights and his duties, and this matter is necessary for

	every student, regardless of his field of specialization
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- The student in the College of Engineering should know his rights in accordance with Iraqi law, so that he will not be deceived, cheated or misled in practice. 2 -Teaching students the foundations upon which human rights and the democratic system are built. 3- Preparing the graduate from the Faculty of Engineering in the work environment, whether the work is governmental or private 4-The student acquainted with the constitutional rights in the Iraqi law 5- An important outcome of human rights education is empowerment, a process through which people and communities increase their control of their own live. 6- Educating the student on the principles and laws related to the subject of human rights.
Indicative Contents المحتويات الإرشادية	- Universal Declaration of Human Rights - It is indicative to help students understand human rights, value human rights, and take responsibility for respecting, defending, and promoting human rights. An important outcome of human rights education is empowerment, a process through which people and communities increase their control of their own lives and the decisions that affect them. - Manage discussions on topics related to the curriculum

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	- Teaching and learning strategies of Human rights and democracy of whole class, group of five students and individual activities and jobs to examine abilities, skills and learning. - Learn about most of the ideas and theories related to the systems of political governance and the way of looking at the issue of human rights and democratic behavior. - Studying Iraqi law in line with the status of a university student: Example (Penal Code, Labor Law, Iraqi Constitution) - How to preserve the right of opposition constitutionally - Preserving the rights of minorities in society - Manage discussions on topics related to the curriculum - Methods of democratic dialogue - Mid-term and final exam.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	General concepts about the idea of right and freedom
Week 2	The historical development of the idea of right and freedom
Week 3	Sources of human rights and the way they are organized
Week 4	Internal sources of human rights
Week 5	International Resources for Human Rights
Week 6	The Iraqi constitution as a basic source of rights
Week 7	Examples of rights and freedoms and the position of the law on them
Week 8	Examples of rights (the right to life, the right to privacy)
Week 9	Examples of rights (the right to a nationality, the right to demonstrate)
Week 10	Examples of freedoms (freedom of opinion and expression, freedom of movement and residence) & Examples of freedoms (freedom of publication and media, freedom of belief and religion)
Week 11	The right to work in the Iraqi Labor Law
Week 12	Means of protecting human rights
Week 13	Constitutional means to protect human rights and freedoms
Week 14	**Judicial means to protect human rights and freedoms**
Week 15	The international judicial position on ways to protect the right and freedom
Week 16	Preparation for Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Human rights, children and democracy for the Ministry of Education Human rights and children and democracy for the Ministry of Higher Education and Scientific Research - University of Tikrit	Yes
Recommended Texts	Curriculum prepared by the subject professor, as well as the Iraqi constitution, penal code, labor law, civil law, Coalition authority order, other laws	Yes
Websites		

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering

3. Course title/code	**ARE**126
4. Modes of Attendance offered	Daily time
5. Semester/Year	2nd Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	2. Promoting innovation and creativity in architectural design through the use of computerized programs 3. Improve the quality of design and planning through the use of advanced design tools and modern technologies 4. . Learn how to use the various tools in the AutoCAD program to create two-dimensional drawings and show details accurately. 5. Learn how to create drawings in more than one language, giving the opportunity to work in many different countries
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Upon successful completion of the course, the student will: 1-Identify Auto-CAD components, their functions and performance issues in various applications. 2- Explain different types of commands. 3- Identify the scientific role of an AutoCAD related to Engineering view. 4- Use common scientific application interface elements and commands for creating, formatting, editing, drawing, saving and printing. 5- Learn layers, block, and modifications commands 6- Produce coordinate system as a major function for drawings. 7- Construct effectively a presentation in annotation list and what are the most important commands and their contains. 8- Import and Export.
Indicative Contents المحتويات الإرشادية	1. Introduction to the AutoCAD Program [2 hrs] 2. Explain the menu bar and command input. Drawing orders [2 hrs] 3. Learn how to execute drawing commands in several different ways [4 hrs] 4. Learn how to draw with kind of layers [2 hrs] 5. learn how to create a block and insert a block, as well as learn notation for shapes and writing text. [2 hrs] 6. How to execute various modification commands [4hrs] 7. learn how to create layers [2 hrs], 8. Explain the global coordinate system and how to deal with it [4 hrs] 9. Explain the annotation list and what are the most important commands it contains [2 hrs] 10. Explain the PROPERTIES list and what are the most important commands it contains [2 hrs]

	11. Explain EXPORT, IMPORT ORDER [2 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	76. Explanation and clarification using the class lectures. 77. Tutorials hours. 78. Reading and self-learning. 79. Home Works. 80. Presentations, site photos and videos are interesting to the students. 81. Short Assignment (quizzes). 82. Training and activities during lecture. 83. Asking the questions that help to understand the material better. 84. Interaction during lectures 85. Practicing the examples, home-works, and reports. 86. Mid-term and final exam.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to the AutoCAD Program, Program Interface
Week 2	Explain the menu bar and command input. Drawing orders
Week 3	Learn how to execute drawing commands in several different ways, such as line command, circle commands and pointing
Week 4	Learn how to draw with polyline, polygon command
Week 5	Learn how to draw with kind of layers
Week 6	learn how to create a block and insert a block, as well as learn notation for shapes and writing text.
Week 7	How to execute various modification commands and their applications such as copy, offset, move commands
Week 8	Explain modification commands (SCALE, rotate, trim)
Week 9	learn how to create layers for charts, how to apply them,
Week 10	Explain the global coordinate system and how to deal with it
Week 11	learn how to draw with coordinate system
Week 12	Explain the annotation list and what are the most important commands it contains
Week 13	Explain the PROPERTIES list and what are the most important commands it contains
Week 14	Explain EXPORT, IMPORT ORDER
Week 15	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Explore the program interface, drawing area, menu bar, drawing and editing commands
Week 2	Apply the drawing commands in the program and find out the ways to execute the commands.
Week 3	applying block orders and exceeding them, as well as hashing and modifying their properties
Week 4	execution of modification orders, methods of execution and characteristics of each order
Week 5	How to implement layers layers by drawing lines and activating them
Week 6	drawing a two-dimensional House map with an area of 200 m2 using previous orders
Week 7	drawing a two-dimensional PROJECT (PLAN, SACTIONS, SITE, ELEVATIN) using previous orders

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	ARE211
4. Modes of Attendance offered	Daily time
5. Semester/Year	2nd Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents	
Module Aims	The third level in the architectural study represents an important transitional stage that moves the student from the stage of preparing designs of an abstract defining nature (represented in the first year) to a more comprehensive stage in defining what architecture is and its performances as (Firmitas (Durability), Utilitas (utility), Venustas (beauty). With an emphasis on the concept of local specificity and integration with the urban context and landscape.
Module Learning Outcomes	a46. Initial understanding and recognizing the importance and impact of the performance aspects (functional, environmental, energy) on the architectural design process as a representation process. a47. Study and realizing the importance of the formal aspects and their relations with the performance aspects in the architectural design process. a48. Initial understanding and awareness of the importance of sustainability and its applications in the architectural design process.
Indicative Contents	Indicative content includes the following.

	b54. Concepts in Architecture. [4 hrs.] b55. Concepts and limits of the architectural function. [4 hrs.] b56. Sustainability in architecture. b57. Initial Spatial analysis. [4 hrs.] b58. Initial site analysis (Formal, historical, geographical, social, etc.). [4 hrs.] b59. Analyze similar models. [4 hrs.] b60. Discussion. [4 hrs.]

Learning and Teaching Strategies

Strategies	87. Explanation and clarification using the class lectures. 88. Criticism & Tutorials hours. 89. Reading, watching, analyzing and self-learning. 90. Home duties. 91. Presentations, plans, sections, elevations, site plans, photos and videos are interesting to the students. 92. Assignment (day sketches, sketch design). 93. Training and activities during lecture. 94. Asking the questions that help to understand the material better. 95. Interaction during lectures 96. Practicing the examples, home-works, and reports. 97. Continues drawings for architectural projections. 98. Submitting and Presentations of requested drawings.

Delivery Plan (Weekly Syllabus)

	Material Covered
Week 1-5	**The first project:** A simple introductory project, the aim of which is to retrieve the information that the student was exposed to in the second stage and to create a state of mental warm-up to transfer the student from the abstract stage to a stage characterized by realism and functionalism. During this period, the summer homework required of students is discussed and evaluated.
Week 6-16	**The second project:** The project of designing a residence house, the aim of which is to identify the design principles of specialized buildings. The residence house represents the building closest to the student's mind. Through this project, the functional, structural, environmental and expressive determinants are identified, and the specificity of local architecture, local building materials and building systems.

Learning and Teaching Resources

	Text	**Available in the Library?**
Required Texts	Nuefert, Architects Data - written by Ernest &Peter nuefert	Yes
Recommended Texts	Design process books	No
Websites		

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	ARE212
4. Modes of Attendance offered	Daily time
5. Semester/Year	2nd Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	6. The architectural presentation course provides the architecture student with scientific information and practical applications in the way of using engineering tools correctly and recognizing the types of geometric lines, 7. Helps the student by drawing geometric projections, diagrams, facades and engineering sections of the presented project and how horizontal Schemes turn into three-dimensional drawings, in exchange for developing artistic taste in the choice of colors and their impact on the overall project structure , and the appropriate selection of materials used in the demonstration, between the engineering demonstration and the technical demonstration, 8. the basis of the program is to walk a parallel line of architectural design materials for the stage, which is an integrated loop that prepares the student to present an integrated architectural engineering project.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1-Introducing the student to the nature of geometric projection and its importance in architecture 2-definition of the relationship between blocks and distances on the reality of the drawing. 3-introducing the student to how a two-dimensional scene turns into a three-dimensional scene through perspective 4-introducing the student to how to draw perspective from different points and with multiple scenes and visions 5-Understand the process of transformation from the horizontal plan to the section and interface. 6-developing the student's sensitivity to color and how to perceive color. 7-the importance of the scale, determining the basic metrics, converting plans and the ability to choose inputs and outputs within the designed project and the final presentation method.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. b61. Teach the student to draw the internal and external perspective from different points b62. Teaching the student how to draw cubes and their overlaps in ISO-metric style and at different scales b63. Emphasis on how to draw light and shadow and projection within the perspective while teaching the student how to control the angle of projection of the Prism according to the eye of the viewer

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم	
Strategies	99. Explanation and clarification using the class lectures. 100. Tutorials hours. 101. Reading and self-learning. 102. Home Works. 103. Presentations, site photos and videos are interesting to the students. 104. Short Assignment (quizzes). 105. Training and activities during lecture. 106. Asking the questions that help to understand the material better. 107. Interaction during lectures 108. Practicing the examples, home-works, and reports. 109. Continues drawings for specified building construct by load bearing walls system. 110. Submitting and Presentations of requested drawings. 111. Mid-term and final exam.

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	**Isometric**
Week 2	Isometric -Isometric definition
Week 3	Isometric -Formative exercises that include various free forms
Week 4	Isometric -External architectural isometric Isometric -Internal architectural isometric
Week 5	**The perspective** - exterior perspective-Introduction to perspective - its characteristics and basics of perspective drawing-the two-perspective scale - exterior perspective -How to draw a first cube with two vanishing points in the manner of an ordinary person's eye with exercises and homework. - exterior perspective- How to draw a first cube with two vanishing points in a bird's eye way with exercises and homework. - exterior perspective- Drawing more complex shapes, including cylinders and arches. - exterior perspective- Drawing architectural forms in the external perspective with two vanishing points, such as the house project, for example, in the above two ways. - exterior perspective- How to draw architectural perspective from one vanishing point. - exterior perspective- Drawing architectural forms with the external perspective from one vanishing point, such as the house project, for example, in the two previous methods. - Interior perspective- How to draw the inner perspective with one vanishing point with exercises and assignments. - Interior perspective- Drawing the internal perspective of a particular architectural subject with training in techniques of drawing internal spaces such as techniques and methods of showing
Week 6	
Week 7	
Week 8	
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	

	in ink, colors and collage.
Week 14	**light and shadows**- How to draw light and shadows on different shapes and surfaces in internal perspective
Week 15	shapes
Week 16	**Exam**

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	**homework+ assignment class**
Week 2	Isometric -Isometric definition
Week 3	Isometric -Formative exercises that include various free forms
Week 4	Isometric -External architectural isometric Isometric -Internal architectural isometric
Week 5	**homework+ assignment class** - exterior perspective-Introduction to perspective - its characteristics and basics of perspective drawing-the two-perspective scale - exterior perspective -How to draw a first cube with two vanishing points in the manner of an ordinary person's eye with exercises and homework. - exterior perspective- How to draw a first cube with two vanishing points in a bird's eye way with exercises and homework. - exterior perspective- Drawing more complex shapes, including cylinders and arches. - exterior perspective- Drawing architectural forms in the external perspective with two vanishing points, such as the house project, for example, in the above two ways. - exterior perspective- How to draw architectural perspective from one vanishing point. - exterior perspective- Drawing architectural forms with the external perspective from one vanishing point, such as the house project, for example, in the two previous methods. - Interior perspective- How to draw the inner perspective with one vanishing point with exercises and assignments. - Interior perspective- Drawing the internal perspective of a particular architectural subject with training in techniques of drawing internal spaces such as techniques and methods of showing in ink, colors and collage.
Week 6	
Week 7	
Week 8	
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	
Week 14	**homework+ assignment class**
Week 15	light and shadows- How to draw light and shadows on different shapes and surfaces in internal perspective shapes
Week 16	**Exam**

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Principles of architectural drawing	Yes
Recommended Texts	Form, space and order, by Francis DK , ching	No
Websites		

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	ARE212
4. Modes of Attendance offered	Daily time
5. Semester/Year	2nd Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	9. To develop construction of buildings skills and understanding of build materials and methods of erection. 10. Recognizing of general principles of construction technique. 11. To understand load-bearing buildings components with all necessary drawings. 12. This course deals with the damp proofing and thermal insulations for buildings. 13. Identify procedure of construction of low raise masonry buildings. 14. Learning of drafting and drawing of constructional plans, sections, elevations, and details.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	a49. Recognize of load bearing buildings elements, and function of each one. a50. Illustrate and detail of each component. Such as sub-structure and super-structure parts. a51. knowledge of load bearing walls masonry traditional methods. a52. Explain of different kinds of walls. a53. Summarize the footings, walls, lintels and slabs. a54. Discuss the types of reinforced concrete slabs. a55. Describe of stairs and their parts. a56. Thermal and water proofing constructional techniques.

Indicative Contents المحتويات الإرشادية	Indicative content includes the following. b64. Specifications of load bearing walls construction system. [2 hrs] b65. Identifications of soils and reinforced concrete foundations. [4 hrs] b66. Knowledge of masonry walls and other types. [4 hrs] b67. RC beams over openings (Lintels). [2 hrs] b68. RC slabs types, using and details. [4 hrs] b69. Explained connections between slab and walls. [4hrs] b70. Identify of stairs components and details. [4 hrs] b71. Insulations and water proofing. [4 hrs] b72. Discussion. [2 hrs]

Learning and Teaching Strategies
استراتيجيات التعلم والتعليم

Strategies	112. Explanation and clarification using the class lectures. 113. Tutorials hours. 114. Reading and self-learning. 115. Home Works. 116. Presentations, site photos and videos are interesting to the students. 117. Short Assignment (quizzes). 118. Training and activities during lecture. 119. Asking the questions that help to understand the material better. 120. Interaction during lectures 121. Practicing the examples, home-works, and reports. 122. Continues drawings for specified building construct by load bearing walls system. 123. Submitting and Presentations of requested drawings. 124. Mid-term and final exam.

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction – of various types of soils and sub-base soils.
Week 2	RC footings definitions, types and details.
Week 3	Strength reinforcements and dimensions of foundations.
Week 4	Various types of walls and masonry walls.
Week 5	Method of construction of brick walls and types of binding.
Week 6	RC beams over openings (Linteling)
Week 7	Arches and domes construction methods
Week 8	RC slabs kinds and which were using.
Week 9	One-way, two-way slabs, waffle and flat slab detailing.
Week 10	Slabs connection with walls with drawings
Week 11	RC stairs kinds and layout.
Week 12	RC slabs components and details
Week 13	Thermal, sound and damp insulations
Week 14	Water proofing techniques.
Week 15	Submitting of assignments and presentations
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Plan drawings of a load-bearing system-based construction building project.
Week 2	Structural drawing - floor plans of the building project.
Week 3	construction drawing - plans and sections for the foundations of the required building.
Week 4	Drawings a section showing the project building's footings, walls and the lintels above the openings.
Week 5	Drawing of floor slab/slabs and roof slab.
Week 6	General sections drawings.
Week 7	Elevations drawings submitting.

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Construction of buildings - written by Eng. Atef Al-Suhairi	Yes
Recommended Texts	The construction of Buildings, By: R. Barry	No
Websites	https://faculty.uobasrah.edu.iq/faculty/1300/teaching.	

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	ARE213
4. Modes of Attendance offered	Daily time
5. Semester/Year	2nd Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	8. To give the student a general idea of statistics as basic principles for a student in the college of Engineering, architecture department. 9. To understand Inferential statistics and probability models, populations and samples. 10. In addition, the most important statistical fields in engineering, some engineering applications, which are seen by students of architecture in the advanced undergraduate stages. 11. Learning the mean, standard deviation, arithmetic , probability and expectation.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	a57. Studying the basic rules in statistics and their applications. a58. Learn the statistical principles and expressions. a59. Using the inferential statistics and probability models, populations and samples. a60. Understanding the importance of static data and their collections. a61. Recognizing and analyzing of data and sampling. a62. Measures of location and dispersion and their appropriate uses. a63. Probability. a64. Probability distribution and sampling.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. b73. Introduction -statistics expressions [4 hrs] b74. Presentation of statistic data [4 hrs] b75. Measures of location and dispersion [16 hrs] b76. Probability distribution [4 hrs] b77. Sampling distribution[2 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	125. Interaction within the lecture. 126. Assignment, homework and reports. 127. Quizzes (Quizzes). 128. Reading and self-learning. 129. Following up on the interest of the student who interacted more with the presented material, by increasing this interaction by requesting other programs and applications to display it. Presentations, photos and videos are interesting to the students. 130. Training and statistical activities during lecture. 131. Asking the questions that help to understand the material better. 132. Mid-term and final exam.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to statistics.
Week 2	Inferential statistics and probability models, populations and samples
Week 3	Collecting data sensibility, statistical studies; observations and experimentation
Week 4	Frequency distributions and bar charts and Relative frequency
Week 5	Cumulative frequency distribution & Ascending cumulative frequency
Week 6	Descending cumulative frequency & Relative cumulative frequency
Week 7	Graphical representation of the frequency distribution / Histograms
Week 8	Measures of location The mid-range The mode The arithmetic mean
Week 9	The median The Geometric mean Harmonic mean
Week 10	Mean of the classified data Mode of the classified data
Week 11	Median of the classified data
Week 12	Measures of dispersion Mean absolute deviation
Week 13	Standard of deviation
Week 14	Discrete probability distribution Discrete uniform distribution
Week 15	-Sampling distribution of the mean
Week 16	**Preparatory week before the final Exam**

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	"Introduction to Statistics and Data Analysis" 3rd Edition, Thomas USA 2008, by: Roxy Peck, Chris Olsen and Jay Devore	No
Recommended Texts		Yes
Websites	Elementary statistics / Applied statistics	

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering

3. Course title/code	ARE214
4. Modes of Attendance offered	Daily time
5. Semester/Year	2nd Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	12. To give the student a general idea of statistics as basic principles for a student in the college of Engineering, architecture department. 13. To understand Inferential statistics and probability models, populations and samples. 14. In addition, the most important statistical fields in engineering, some engineering applications, which are seen by students of architecture in the advanced undergraduate stages. 15. Learning the mean, standard deviation, arithmetic , probability and expectation.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	a65. Studying the basic rules in statistics and their applications. a66. Learn the statistical principles and expressions. a67. Using the inferential statistics and probability models, populations and samples. a68. Understanding the importance of static data and their collections. a69. Recognizing and analyzing of data and sampling. a70. Measures of location and dispersion and their appropriate uses. a71. Probability. a72. Probability distribution and sampling.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. b78. Introduction -statistics expressions [4 hrs] b79. Presentation of statistic data [4 hrs] b80. Measures of location and dispersion [16 hrs] b81. Probability distribution [4 hrs] b82. Sampling distribution[2 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	133. Interaction within the lecture. 134. Assignment, homework and reports. 135. Quizzes (Quizzes). 136. Reading and self-learning. 137. Following up on the interest of the student who interacted more with the presented material, by increasing this interaction by requesting other programs and applications to display it. Presentations, photos and videos are interesting to the students. 138. Training and statistical activities during lecture. 139. Asking the questions that help to understand the material better. 140. Mid-term and final exam.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to statistics.
Week 2	Inferential statistics and probability models, populations and samples
Week 3	Collecting data sensibility, statistical studies; observations and experimentation
Week 4	Frequency distributions and bar charts and Relative frequency
Week 5	Cumulative frequency distribution & Ascending cumulative frequency
Week 6	Descending cumulative frequency & Relative cumulative frequency
Week 7	Graphical representation of the frequency distribution / Histograms
Week 8	Measures of location The mid-range The mode The arithmetic mean
Week 9	The median The Geometric mean Harmonic mean
Week 10	Mean of the classified data Mode of the classified data
Week 11	Median of the classified data
Week 12	Measures of dispersion Mean absolute deviation
Week 13	Standard of deviation
Week 14	Discrete probability distribution Discrete uniform distribution
Week 15	-Sampling distribution of the mean
Week 16	**Preparatory week before the final Exam**

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	"Introduction to Statistics and Data Analysis" 3rd Edition, Thomas USA 2008, by: Roxy Peck, Chris Olsen and Jay Devore	No
Recommended Texts		Yes
Websites	Elementary statistics / Applied statistics	

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	ARE215
4. Modes of Attendance offered	Daily time
5. Semester/Year	2nd Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	15. Studying architectural history enables students to understand the society and culture they represented 16. Offering the knowledge that What we build as human beings becomes the legacy we leave behind 17. The architecture student learns the most important ancient Iraqi buildings and landmarks and how to get inspiration from them in his academic work 18. Studying the materials and building techniques that were used in Mesopotamia and Ancient Egypt, and the method used by the ancient architects in dealing with the environment. 19. Helping students to learn what good architecture is, and directing them to respect past accomplishments and giving them answers about the issues they face.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Develop students' knowledge of their cultural and architectural history, and the ability to consciously draw inspiration from history in their academic work or the design process in general. 2. Understanding the principle of historical continuity, where the student

	realizes how great civilizations preserved their cultural heritage in order to reach the same ways to preserve ours 3. Developing the student's ability to analyze different buildings and classify them according to their time periods, depending on the type of building, its style, the materials used in its construction, and other factors, and thus he has a historical architectural culture. 4. Understanding the importance of dealing with the environment and its inherent human values (spiritual, intellectual, social, religious, etc.), where historical buildings are a reflection of those concepts. 5. Realizing the importance of adopting environmental experiences and current problems to achieve Iraqi cadres capable of dealing with the local reality with its urban legacy 6. Investing in the mechanisms of the ancients in dealing with the environment and investing in its resources to create buildings with a high sustainability.
Indicative Contents المحتويات الإرشادية	• History of the architecture of Mesopotamia: b83. A general introduction to Mesopotamia during history, its historical eras, and the factors influencing it . [2 hrs] b84. Akkadian Empire and the third dynasty of Ur (Royal tombs in Ur. Ziggurat Ur. Ziggurat of Uruk., ancient temples planning). [2 hrs] b85. Ancient Babylonian period (Buildings of the Old Babylonian era. The Hittites and the Kassites). [2 hrs] b86. Assyrian Civilization (The ancient Assyrian capitals ; Ashur, Kalah (Nimrud), Dor-Sharrukin (Khorsabad), Nineveh). [2 hrs] b87. The last Babylonian period (Planning the city of Babylon.- Planning the Ishtar Gate.- Royal palaces in Babylon.- Construction materials in Babylon and Assyria.- Ziggurats and their architectural styles in Mesopotamia.) [2 hrs] b88. Mesopotamia in the Middle Ages (the foreign era) : Architecture of the Achaemenid era, Alexander the Great and the Seleucids Parthian architecture, Sasanian architecture [4 hrs] b89. The architecture of Iraq in the Middle Ages (before the Islamic era), the Kingdoms of Hatra and Al-Hira [4 hrs] • Ancient Egyptian architecture : b90. An introduction to the Egyptian civilization and the general characteristics and factors affecting the Egyptian architecture [2 hrs] b91. Egyptian stone architecture and structural architecture [2 hrs] b92. The architecture of life, the architecture of eternity, and the pharaonic thought. Royal tombs and pyramids with examples of these buildings [2 hrs] b93. Types of columns in ancient Egyptian architecture and the most important characteristics of temples and buildings [4 hrs]. b94. Discussion. [2 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	141. Explanation and clarification with presentations in class lectures. 142. Tutorials hours. 143. Reading and self-learning.

	144. Home Works. 145. Presentations 3D videos and photos to Help student imagining ancient buildings. 146. Short Assignment (quizzes). 147. Training and activities during lecture. 148. Asking the questions that help to understand the material better. 149. Interaction during lectures 150. Mid-term and final exam.

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	History of the architecture of Mesopotamia :A general introduction to Mesopotamia during history, its historical eras, and the factors influencing it
Week 2	Akkadian Empire and the third dynasty of Ur (Royal tombs in Ur. Ziggurat Ur. Ziggurat of Uruk., ancient temples planning).
Week 3	Ancient Babylonian period (Buildings of the Old Babylonian era. The Hittites and the Kassites).
Week 4	Assyrian Civilization (The ancient Assyrian capitals ; Ashur, Kalah (Nimrud), Dor-Sharrukin (Khorsabad), Nineveh).
Week 5	The last Babylonian period (Planning the city of Babylon.- Planning the Ishtar Gate.- Royal palaces in Babylon.- Construction materials in Babylon and Assyria.- Ziggurats and their architectural styles in Mesopotamia.)
Week 6	Mesopotamia in the Middle Ages (the foreign era) : Architecture of the Achaemenid era, Alexander the Great
Week 7	Complete the Mesopotamia in the Middle Ages (the foreign era) : the Seleucids Parthian architecture, Sasanian architecture
Week 8	The architecture of Iraq in the Middle Ages (before the Islamic era), the Kingdoms of Hatra
Week 9	The architecture of Iraq in the Middle Ages (before the Islamic era), the Kingdoms of Al-Hira
Week 10	Ancient Egyptian architecture : An introduction to the Egyptian civilization and the general characteristics and factors affecting the Egyptian architecture
Week 11	Egyptian stone architecture and structural architecture
Week 12	The architecture of life, the architecture of eternity, and the pharaonic thought. Royal tombs and pyramids with examples of these buildings
Week 13	Types of columns in ancient Egyptian architecture
Week 14	The plans and explain for the most important temples and buildings in ancient Egypt.
Week 15	**Report submission**

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	• The Archaeology of Mesopotamia, Seton Frederick Lloyd • Ancient Egyptian Construction and Architecture by Somers Clarke & R.Engelbach. • Royal architecture in Mesopotamia, Hassan Abdel-Haq The architecture of residential houses in Mesopotamia by Hikmat Bashar Al-Aswad	No
Recommended Texts	• Ancient Mesopotamia : portrait of a dead Civilization by A. Leo Oppenheim • Architecture and Mathematics in Ancient Egypt By Corinna Rossi • Architecture in Ancient Egypt, Dr. Mohamed Anwar Shoukry	No
Websites		

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	ARE216
4. Modes of Attendance offered	Daily time
5. Semester/Year	2nd Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	20. Promoting innovation and creativity in architectural design through the use of computerized programs 21. Improve the quality of design and planning through the use of advanced design tools and modern technologies 22. . Learn how to use the various tools in the AutoCAD program to create two-dimensional drawings and show details accurately. 23. Learn how to create drawings in more than one language, giving the opportunity to work in many different countries
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. The ability to use and apply the basics of AutoCAD to create and edit engineering diagrams. 2. Three-dimensional graphics 3. Understand the concepts of designing two-and three-dimensional graphics

	using AutoCAD. 4. The ability to add dimensions, labels and comments to engineering diagrams using AutoCAD. 5. The ability to create advanced engineering schemes 6. Using advanced AutoCAD tools. 7. Ability to manage files, print, 8. Export and import from AutoCAD
Indicative Contents المحتويات الإرشادية	1. Introduction to the AutoCAD 3DProgram, Program Interface[2 hrs] 2. Detailed explanation of the Command Bar and submenus[2 hrs] 3. explanation of MODELLING MENUE [4 hrs] 4. explanation of MESH MENUE (SMOOTH OPJECT) [2 hrs] 5. explanation of 3D COORDINATES MENU [2 hrs] 6. explanation of SOLID EDITING MENU[2 hrs] 7. explanation of SURFACE MENU[4 hrs] 8. explanation of RENDER MENU[2 hrs] 9. explanation of VISUALIZE MENU[2 hrs] 10. INTRODECTION ABOUT of ARCHITECRUAL AUTOCAD[6 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	151. Explanation and clarification using the class lectures. 152. Tutorials hours. 153. Reading and self-learning. 154. Home Works. 155. Presentations, site photos and videos are interesting to the students. 156. Short Assignment (quizzes). 157. Training and activities during lecture. 158. Asking the questions that help to understand the material better. 159. Interaction during lectures 160. Practicing the examples, home-works, and reports. 161. Mid-term and final exam.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to the AutoCAD 3DProgram, Program Interface
Week 2	Detailed explanation of the Command Bar and submenus
Week 3	explanation of MODELLING MENUE (BOX, CONE,….)
Week 4	explanation of MODELLING MENUE (EXTRUDE, REVOLVE, LOFT….)
Week 5	explanation of MESH MENUE (SMOOTH OPJECT)
Week 6	explanation of 3D COORDINATES MENU
Week 7	explanation of SOLID EDITING MENU
Week 8	explanation of SURFACE MENU
Week 9	explanation of SURFACE CREATE MENU
Week 10	explanation of RENDER MENU
Week 11	explanation of VISUALIZE MENU
Week 12	INTRODECTION ABOUT of ARCHITECRUAL AUTOCAD
Week 13	explanation of ARCHITECRUAL AUTOCAD, HOW TO DRAW 2D PLANS
Week 14	HOW TO DRAW ARCHITECTURE PROJECT IN ARCHITECRUAL AUTOCAD
Week 15	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Application of modelling Menu
Week 2	Application of mesh menu
Week 3	Application of 3D COORDINATES menu
Week 4	Application of solid menu
Week 5	Application of render menu
Week 6	drawing a two-dimensional House map using architectural drawing
Week 7	drawing PROJECT (PLAN, SACTIONS, SITE, ELEVATIN) using architectural drawing

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	1_AutoCAD 2021: A Problem-Solving Approach by Sham Tickoo 2. Mastering AutoCAD 2021 and AutoCAD LT 2021 by George	NO

	Omura and Brian C. Benton	
Recommended Texts	. AutoCAD 2021 For Beginners by CADFolks	No
Websites		

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	ARE221
4. Modes of Attendance offered	Daily time
5. Semester/Year	2nd Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents

Module Aims	This level represents the stage of developing the student's design and performance skills (functional, symbolic, environmental, structural, etc.), which he obtained in the previous semester, with the aim of preparing him for the fifth level.
Module Learning Outcomes	a73. Deep understanding and recognizing the importance and impact of the performance aspects (functional, environmental, energy) on the architectural design process as a representation process. a74. Study and realizing the importance of the formal aspects and their relations with the performance aspects in the architectural design process. a75. Understanding and awareness of the importance of sustainability and its applications in the architectural design process.
Indicative Contents	Indicative content includes the following. b95. Concepts in Architecture.[4 hrs.] b96. Concepts and limits of the architectural function. [4 hrs.] b97. Sustainability in architecture. b98. Initial Spatial analysis. [4 hrs.] b99. Initial site analysis (Formal, historical, geographical, social, etc.). [4 hrs.] b100. Analyze similar models. [4 hrs.] b101. Discussion. [4 hrs.]

Learning and Teaching Strategies

Strategies	162. Explanation and clarification using the class lectures. 163. Criticism & Tutorials hours. 164. Reading, watching, analyzing and self-learning. 165. Home duties. 166. Presentations, plans, sections, elevations, site plans, photos and videos are interesting

	to the students. 167. Assignment (day sketches, sketch design). 168. Training and activities during lecture. 169. Asking the questions that help to understand the material better. 170. Interaction during lectures 171. Practicing the examples, home-works, and reports. 172. Continues drawings for architectural projections. 173. Submitting and Presentations of requested drawings.

Delivery Plan (Weekly Syllabus)

	Material Covered
Week 1-5	**The first project:** Preparing working drawings plans for the residential house designed in the previous project.
Week 6-16	**The second project:** A project to design a building of a public service character (such as a club, museum, or gallery...etc.) whose aim is to identify the design principles of specialized buildings of a public service nature that include spaces of small, medium, and sometimes relatively large sizes. This project transfers the student from the stage of thinking about buildings of a mass character and load-bearing walls to another type of building that adopts the combination of more than one structural system and within more complex contextual and expressive determinants than the housing project as an initial stage of the stages of preparing the student for the third grade.

Learning and Teaching Resources

	Text	**Available in the Library?**
Required Texts	Nuefert, Architects Data - written by Ernest &Peter nuefert	Yes
Recommended Texts	Design process books	No
Websites		

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	ARE222
4. Modes of Attendance offered	Daily time
5. Semester/Year	2nd Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	Enhancing students' skills and giving them the ability to transform imagined and observed forms, and to enhance the principle of the imagined idea and interrogate it from its mental image to its visible physical image, located on surfaces with two and three dimensions shown. By using markers to draw a variety of topics that achieve the desired purpose, provided that the topics are derived from: 6) The natural or manufactured environment. 7) Other lesson materials. 8) architectural approaches. 9) Drawing figures, engineering formations, etc. 10) Topics that students want to express.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Introducing the concept of color and its importance in achieving a state of visual communication with the surroundings. 2. Determine the different principles and applications of color in reality, and put forward similar examples in architectural designs 3. Introducing different coloring materials and tools, pens, brushes, and other accessories.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. 102. 1. Learn the color wheel, its components, divisions, and functions. b103. Various color exercises and applications inside and outside the studio so that students become familiar with the linear and color aspects, while gaining experience in distributing and installing colors and how to use them. b104. Drawing the facades of different buildings quoting from (images, reality, imagination).

Learning and Teaching Strategies
استراتيجيات التعلم والتعليم

Strategies	174. Studying the direct realistic effects of shadow and light on the color values of surfaces. 175. Using various natural and manufactured materials such as: tree branches, palm fronds, leftover wood, wooden spoons, utensils, and leftover architectural models for a design study to create consistent color compositions. 176. Carrying out color studies and approaches to international and local works of art to enrich students' thinking and imagination.

Delivery Plan (Weekly Lab. Syllabus)
المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Introduction to the subject matter: Definition of the concept of color and its importance in achieving a state of visual communication with the ocean. As well as identifying the principles and applications of the different color, in fact, put similar examples in architectural designs.
Week 2	The annual exhibition of students' productions with the participation of subject teachers to motivate them to experiment.
Week 3	materials and coloring tools: Definition of the different materials and coloring tools, pens, brushes, and other belongings of your paper and cans of various colors.
Week 4	colors circle: Learn the color wheel, its components, its divisions, reading.
Week 5	Read colored surfaces: Learn how to read colored surfaces, learn to think according to readings of color and degrees of variation optical design to express ideas visually colored.
Week 6	Reading the colored surfaces by studying and building a color composition: Study the direct real effects of light and shadow on the color values of surfaces. Make color combinations of various materials that are in line with the needs of students
Week 7	Drawing and creating colored surfaces: Exercises and applications on coloring and shaping different colored surfaces inside and outside the studio so that students gain experience in color and linear aspects, color distribution, composition and how to use them.
Week 8	Drawing realistic shapes by drawing and imagining the roofs of buildings: Draw the facades of different buildings, using pictures, truth and imagination.
Week 9	Drawing shapes and surfaces of realistic and imagined local buildings: Practice building drawings of local buildings to enrich students' chromatic taste and imagination.

Week 10	Tradition of watercolor paintings: Watercolor drawing Watercolor paintings with direct application on them.
Week 11	Optical color values: Learn (silhouette) techniques that use black on a white background to show the appearance of the outer limits of techniques, which are sometimes called counter-imaging because they are implemented in backlighting or painting. With the adoption of the use of fountain pen techniques.
Week 12	Exercise on the techniques of color materials: Relying on types of exercises to show brilliance, reflection, and glass techniques.
Week 13	Multiple practical exercises: Carrying out combinations of planning, coloring, and inking techniques in building drawings using watercolor with inks, pencils, wooden colors, and ballpoint pens.
Week 7	Preparatory week before the final Exam.

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	5-Laseu, P(2004) Freehand Sketching: an Introduction. W.W. Nortom & Company 6-Ching, F(2009, 5th ed). Architectural Graphic. NY, Wiley 7-Reyna R(1996). How to Draw What You See. NY, Watson-Guptill 8-Simmonds, J,(2002). You Can Sketch: A Step-by-Step Guide for Absolute Beginners. NY, Watson-Guptill	Yes
Recommended Texts	-	Yes
Websites	https://faculty.uobasrah.edu.iq/portal/dc4c44f624d600aa568390f1f1104aa0/teaching	

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	ARE223
4. Modes of Attendance offered	Daily time
5. Semester/Year	2nd Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	24. Identify of skeletal buildings technique and understanding of construction methods. 25. Recognizing of general principles of frame reinforced concrete technique. 26. To understand skeletal RC buildings components with all necessary drawings. 27. This course deals with the partition's types and construction detailing. 28. Identify procedure of construction of high raise buildings and long spans spaces.

	29. Realizing of finishing with detail drawings. 30. Knowledge of types, materials and installation ways of doors and windows. 31. Interactions of services with the RC structure. 32. Learning of drafting and drawing of constructional plans, sections, elevations, and details.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	a76. Recognize of skeletal buildings elements, and significance of each component. a77. Illustrate and detail of each component. Such as sub-structure and super-structure skeletal parts. a78. Summarize the detailing of footings that use with skeletal structures. a79. knowledge of partitions walls, such as masonry traditional methods. a80. Explain of different kinds of partitions walls. a81. Discuss the types of reinforced concrete slabs and connections with columns. a82. Describe of beams and columns with drawings and detailing. a83. Realizing of finishings methods and techniques. a84. Interactions of electrical, plumbing and mechanical services with construction and means of transition between levels.. a85. Study of doors and windows kinds, materials and installations. a86. Continuous plan and detail drawings of specified Skeletal building.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. b105. Specifications of skeletal building construction system. [2 hrs] b106. Identifications of reinforced concrete foundations and connection detailing with super-structure. [4 hrs] b107. Knowledge of partition masonry walls and other types. [4 hrs] b108. RC beams over openings (simple or continuous lintel). [2 hrs] b109. RC columns and beams types and details. [4 hrs] b110. Explained connections between slab and beams, columns and/or shear walls. [2hrs] b111. Identify of finishing of walls, floors and ceiling. [4 hrs] b112. Doors and windows, types, materials and installations. [4 hrs] b113. Discussion about services and interaction with construction. [2 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	177. Explanation and clarification using the class lectures. 178. Tutorials hours. 179. Reading and self-learning. 180. Home Works. 181. Presentations, site photos and videos are interesting to the students. 182. Short Assignment (quizzes). 183. Training and activities during lecture. 184. Asking the questions that help to understand the material better. 185. Interaction during lectures 186. Practicing the examples, home-works, and reports. 187. Continues drawings for specified building construct by load bearing walls system. 188. Submitting and Presentations of requested drawings. 189. Mid-term and final exam.

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction – Skeletal cast in situation reinforced concrete building construction specifications
Week 2	RC footings that used with skeletal RC building, and connection with superstructure detailing.
Week 3	Choice of foundation, dimensions and detailing
Week 4	Various types of partition walls, such as masonry walls and other types.
Week 5	Connection details between partition and structure.
Week 6	Special RC beams over openings for skeletal buildings
Week 7	RC columns and beams types and construction methods
Week 8	RC slabs and connection details
Week 9	Services and interaction with construction
Week 10	Means of transition between levels .
Week 11	Finishings for walls
Week 12	Finishings of floors and ceilings.
Week 13	Exterior finishing
Week 14	Doors, types, materials and installation
Week 15	Windows, types, materials and installation
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Plan drawings of a skeletal building system-based structure building project.
Week 2	Structural drawing - floor plans of the building project.
Week 3	construction drawing - plans and sections for the foundations of the required building.
Week 4	Drawings a section showing the project building's footings, RC columns and/or shear walls, partition walls and the lintels above the openings. Also drawing of floor slabs and roof slab.
Week 5	Doors and windows drawing.
Week 6	General sections drawings.
Week 7	Elevations drawings submitting.

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Construction of buildings - written by Eng. Atef Al-Suhairi	Yes

Recommended Texts	The construction of Buildings, By: R. Barry	No
Websites	https://faculty.uobasrah.edu.iq/faculty/1300/teaching.	

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	ARE225
4. Modes of Attendance offered	Daily time
5. Semester/Year	2nd Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	33. Searching for a clear way to reach the optimal architectural design . 34. What is the design process and what are the its primary and secondary requirements . 35. Knowing the basic criteria which the design process is committed. 36. What is the definition of design from point of view of modernists. 37. What is the methodology what is meant by it and what are its scientific properties. 38. What is logic and what is the impact of studying it on intellectual curricula.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	a87. Introducing the basic rules of the study which are arguments their types and specifications types of inductive thinking independence and the role of language mathematical . a88. Introducing the student to the most prominent theorists and their intellectual approaches and introducing him to the most prominent intellectual historical topics and points with a focus on contemporary and modern intellectual approaches . a89. Presenting learning methods through realistic design problems and giving the students opportunities to solve then in an intellectual manner and in a clear architectural language. a90. Evaluation based on the ability to deduce solutions to the presented problem within a realistic design environment . a91. Providing the student with an intellectual culture to increase his ability to have a broad view of the intellectual approaches within the design process and to acquire the skill of teamwork in solving design problems . a92. The skill of thinking through the conscious distinction between the different intellectual approaches and their distribution in the design process by building an appropriate strategy to solve the design problem .
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. b114. The general framework of the design methodology. [2 hrs] b115. Cognitive approaches. [2 hrs]

	b116. Rational thinking and intuitive thinking. [2 hrs] b117. Discuss the design problem. [2 hrs] b118. Introducing the first historical approaches. [2 hrs] b119. The most prominent first historical station. [2hrs] b120. Contemporary historical approaches. [2 hrs] b121. Stations in the history of modern methodology. [2 hrs] b122. Discussion. [2 hrs] b123. Introducing the science of methodology of logic.{2hrs} b124. Systematic logic in practice.{2hrs} b125. Logic and its connection to the way of thinking according to the principles and intellectual documents .{2hrs} b126. The special time associated with logic.[2hrs} b127. The product of ideas and correct applications .{2hrs} b128. Logical way of organization give importance to imagination and creativity.{2hrs}

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	190. Explanation and clarification using the class lectures. 191. Tutorials hours. 192. Reading and self-learning. 193. Home Works. 194. Short Assignment (quizzes). 195. Asking the questions that help to understand the material better. 196. Interaction during lectures 197. Practicing the examples, home-works, and reports. 198. Mid-term and final exam.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction – The general framework
Week 2	Cognitive approaches
Week 3	Rational thinking
Week 4	design problem
Week 5	Introducing historical approaches
Week 6	first historical station
Week 7	Contemporary historical approaches
Week 8	the history of modern methodology
Week 9	Discussion
Week 10	Introducing the science of methodology of logic
Week 11	Systematic logic

Week 12	Logic and its connection
Week 13	The special time associated with logic
Week 14	The product of ideas
Week 15	**Logical way**

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Notes on the Synthesis of Form	NO
Recommended Texts	DESIGN METHODS	NO
Websites	https://faculty.uobasrah.edu.iq/faculty/1300/teaching.	

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	ARE225
4. Modes of Attendance offered	Daily time
5. Semester/Year	2nd Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	39. Preparation of the theoretical base that integrates with the material of the history of architecture. 40. Inform the student to the basics of architecture and its relationship with the rest of the fields of knowledge in general and the historical field with the experiences of the former in the field of architecture in particular. 41. Developing the cognitive ability of the architectural student. 42. Giving a clear vision of the correlation and overlap of the knowledge field and the creative field in architecture and the integration of the relationship between them. 43. The ability to distinguish different architectural styles, both according to the era to which it belongs.
Module Learning Outcomes مخرجات التعلم للمادة	a93. Taste and understand the architectural works in general and understand the contents of styles and patterns in particular. a94. The basic principles on which architecture is based as a cognitive text. a95. Knowledge of Characteristics and features for each Architecture style, and analysis of

الدراسية	historical architectural works of each architectural style as formal and functional theses that include philosophical knowledge. a96. Development of the analysis, interpretation and reading of historical architectural works and identification of theoretical and philosophical theses for each architectural style within the specified time periods in the semester. a97. Clarification of the basic concepts in the field of knowledge of the history of architecture and previous experiences, show many works of many architects in all styles. a98. Acquire the skill in dealing with topics related to the history of architecture. a99. Acquire basic skills to use and build individual perspectives related to related concepts. a100. Gain experience in the adoption, inspection and research of the field of knowledge. a101. Maturing the ability to deal with theoretical investigations of the history of architecture
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. b129. Studying the Architecture in the Greek period, with examples of many architects famous and buildings [6 hrs] 2. Studying the Architecture in the Roman period, with examples of many architects famous and buildings [6 hrs] 3. Studying the Architecture in the Medieval period, the first style – Early Christian Architecture- with examples of many architects famous and buildings [4 hrs] 4. Studying the Byzantine Architecture, with examples of many architects famous and buildings [4 hrs] 5. Studying the Romanesque Architecture, with examples of many architects famous and buildings [4 hrs] 6. Studying the Gothic Architecture, with examples of many architects famous and buildings [4 hrs] 7. Knowledge of the important features planning of Medieval cities. [2 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	199. Explanation and clarification using the class lectures. 200. Reading and self-learning. 201. Home Works. 202. Presentations, historic buildings photos and videos are interesting to the students. 203. Short & quick tests (quizzes). 204. Assignments (practice to draw historic buildings). 205. Asking the questions that help to understand the material better. 206. Interaction during lectures. 207. Home-works, and reports. 208. Mid-term and final exam.

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction to Greek Architecture, Factors influencing in Greek Architecture, Characteristics and features of Greek Architecture (Plans, Structure of buildings – with columns styles- and Aesthetic vocabulary in Greek Architecture especially the optical corrections , Greek motifs & finishing materials…etc.).
Week 2	Distinctive examples for famous buildings types in Greek Architecture (Temples, Towers of the winds, Monuments, Houses, Theatres,……etc.) with study a famous works for each type.
Week 3	Characteristics and features of Greek cities, Greek Cities planning.
Week 4	Introduction to Roman Architecture, Factors influencing in Roman Architecture, Characteristics and features of Roman Architecture (Plans, Structure of buildings – with columns styles- and Aesthetic vocabulary in Roman Architecture especially space treatment by domes, Roman motifs, arches & finishing materials….etc.).
Week 5	Distinctive examples for famous buildings types in Roman Architecture (Temples, Basilica, Amphitheaters, Villas & palaces, Theatres, Thermae, Triumphal arches……etc.)with study a famous works for each type.
Week 6	Characteristics and features of Roman cities, Roman Cities planning.
Week 7	Introduction to Medieval Architecture , Early Christian Architecture, Factors influencing in Early Christian Architecture, Modify the Roman Basilica to Church.
Week 8	Characteristics and features of Early Christian Architecture (Plans, Structure of buildings and Aesthetic vocabulary especially motifs….etc.)., Types of churches in Early Christian Arch., Distinctive examples for famous works
Week 9	Introduction to Byzantine Architecture, Factors influencing in Byzantine Architecture.
Week 10	Characteristics and features of Byzantine Architecture (Types of Plans, Structure of buildings – with Domes types in Byzantine arch.- and Aesthetic vocabulary especially motifs….etc.)., Distinctive examples for famous works
Week 11	Introduction to Romanesque Architecture, Factors influencing in Romanesque Architecture, Characteristics and features of Romanesque Architecture (Plans, Structure of buildings and Aesthetic vocabulary in Romanesque Arch.).
Week 12	The most prominent features of general appearance & architectural determinants in Romanesque Arch., Distinctive examples for famous works & new types of religious buildings.
Week 13	Introduction to Gothic Architecture, Factors influencing in Gothic Architecture, Characteristics and features of Gothic Architecture (Plans, Structure of buildings and Aesthetic vocabulary in Gothic Arch.).
Week 14	The most prominent features of general appearance & architectural determinants in Gothic Arch., French gothic style, England Gothic style, Distinctive examples for famous works.
Week 15	Characteristics and features of Medieval century cities, Medieval century Cities planning.
Week 16	**Preparatory week before the final Exam**

Learning and Teaching Resources

مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	1- Historical Dictionary of Architecture, By: Allison Lee Palmer 2- City Morphology, By: Khalis Alashaab	Yes
Recommended Texts	Graphic History of Architecture, By: John Manibridge	Yes
Websites		

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	ARE226
4. Modes of Attendance offered	Daily time
5. Semester/Year	2nd Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims
أهداف المادة الدراسية

1. Familiarization with 3d software (3ds Max): The aim is to introduce students to the software and its interface, tools, and capabilities specific to architectural modeling and visualization.
2. Architectural Modeling: The aim is to teach students the techniques and best practices for creating accurate and detailed 3D models of architectural designs. This includes modeling various architectural elements such as walls, floors, doors, windows, and furniture.
3. Texturing and Materials: The aim is to explore the material creation and application process
4. Lighting and Rendering: The aim is to teach students how to effectively use lighting techniques and create realistic lighting setups for architectural scenes.
5. Camera: familiarize students with camera settings and techniques to capture different perspectives and showcase architectural designs effectively.
6. Integration with CAD Software
7. Project-based Learning: The aim is to provide students with practical hands-on experience by working on real-world architectural projects. This allows them to apply their knowledge and skills acquired throughout the module in a comprehensive manner.

Overall, the module aims to equip students in the Architecture Engineering Department with the necessary skills and knowledge to utilize 3d software (3ds Max) as a powerful tool for architectural modeling, visualization, and presentation.

Module Learning

1. Knowledge and Understanding: Students will acquire a solid understanding of the

Outcomes مخرجات التعلم للمادة الدراسية	fundamental concepts, principles, and functionalities of 3d software (3ds Max) as applied to architectural modeling and visualization. 2. Modeling Skills: Students will develop the ability to create accurate and detailed 3D models of architectural designs using appropriate modeling techniques, tools, and commands 3. Texturing and Materials: Students will demonstrate knowledge in applying textures, creating realistic materials, and mapping them onto architectural models to achieve desired visual effects. 4. Lighting and Rendering Techniques: Students will acquire the skills to create realistic lighting setups, simulate natural and artificial lighting conditions, and produce renderings of architectural scenes using appropriate lighting and rendering techniques. 5. Camera Manipulation: Students will be able to effectively use cameras to capture different perspectives and showcase architectural designs 6. Integration and Workflow: Students will understand the with other CAD software commonly used in architectural design. They will be able to import architectural models from CAD software, refine and enhance them in 3ds Max, and export them back to the CAD environment. 7. Project Execution and Problem-Solving: Students will demonstrate the ability to apply their knowledge and skills in 3d software (3ds Max) to execute architectural projects effectively. They will analyze project requirements, make informed decisions, and solve problems related to modeling, texturing, lighting, and rendering. By achieving these learning outcomes, students will be equipped with the necessary skills and competencies to utilize 3ds Max effectively in their future careers as architects or architectural visualizers.
Indicative Contents المحتويات الإرشادية	https://help.autodesk.com/view/3DSMAX/2022/ENU/

Learning and Teaching Strategies
استراتيجيات التعلم والتعليم

Strategies	1. Hands-on Practice: Provide ample opportunities for students to engage in hands-on practice with 3ds Max. This can include in-class exercises, assignments, and projects that require students to actively apply the software's tools and techniques to create architectural models and visualizations. 2. Project-based Learning: Emphasize project-based learning, where students work on real-world architectural projects using 3ds Max. This approach allows students to contextualize their learning, apply concepts to practical scenarios, and develop problem-solving skills. 3. Step-by-Step Tutorials: Provide step-by-step tutorials and demonstrations to guide students through different tasks and techniques in 3ds Max. These tutorials can be in the form of written instructions, video tutorials, or a combination of both, allowing students to learn at their own pace and revisit concepts as needed. 4. Feedback and Assessment: Provide timely and constructive feedback on students' work to help them improve their skills and understanding. Use formative assessments, such as critiques, peer evaluations, or self-assessment exercises, to encourage reflection and growth throughout the learning process. 5. Resources and Support: Provide students with a variety of learning resources, including textbooks, online tutorials, and documentation, to support their independent learning. Additionally, offer assistance and support through regular office hours or dedicated help sessions to address any questions or challenges students may encounter. 6. Continuous Learning and Updates: Encourage students to stay updated with the latest developments and advancements in 3ds Max by providing resources for self-directed learning beyond the module. This can include recommending relevant websites, forums, or online communities where students can explore new features and techniques.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to the module and course overview, and transformation tools
Week 2	Creating and editing primitive geometry and shapes
Week 3	editing using modify list and compound objects
Week 4	Introduction to basic modeling tools in 3ds Max (such as Extrude & bevel)
Week 5	Applying modifiers for non-destructive modeling workflows
Week 6	Cloning, alignment, model viewing tools
Week 7	Introduction to sub-object selection and manipulation (vertex, edge, and face selection)
Week 8	Working with Editable Poly objects and modifying their geometry
Week 9	Importing architectural models from CAD software and refining them in 3ds Max
Week 10	Introduction to material creation and application in 3ds Max
Week 11	Lighting fundamentals and techniques for architectural scenes
Week 12	Introduction to camera manipulation and composition for architectural visualization
Week 13	Rendering settings and output options
Week 14	Introduction to post-processing techniques for enhancing architectural renderings
Week 15	Preparatory week
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Introduction to the module and course overview, and transformation tools
Week 2	Creating and editing primitive geometry and shapes
Week 3	editing using modify list and compound objects
Week 4	Introduction to basic modeling tools in 3ds Max (such as Extrude & bevel)
Week 5	Applying modifiers for non-destructive modeling workflows
Week 6	Cloning, alignment, model viewing tools
Week 7	Introduction to sub-object selection and manipulation (vertex, edge, and face selection)
Week 8	Working with Editable Poly objects and modifying their geometry Project work and individual consultations Reviewing and refining ongoing student projects
Week 9	Importing architectural models from CAD software and refining them in 3ds Max
Week 10	Introduction to material creation and application in 3ds Max
Week 11	Lighting fundamentals and techniques for architectural scenes
Week 12	Introduction to camera manipulation and composition for architectural visualization
Week 13	Rendering settings and output options
Week 14	Introduction to post-processing techniques for enhancing architectural renderings

Week 15	Preparatory week

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Kelly L. Murdock's Autodesk 3ds Max 2021 Complete Reference Guide	no
Recommended Texts	Autodesk 3ds Max 2021 Fundamentals	no
Websites	https://help.autodesk.com/view/3DSMAX/2022/ENU/	

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	ARE311
4. Modes of Attendance offered	Daily time
5. Semester/Year	3th Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1-The third academic year is the final stage of the information base in the field of architectural design. 2-The student gets acquainted with complex and multi-functional projects for their various exploitation and service spaces Structural capabilities and implementation technology are at the forefront of the design proposal. 3-Identifying projects with short and medium-term construction spans that can be implemented using reinforced concrete structures and steel structures. 4-The student learned about the most important construction details of the projects through the design subtraction of the data of the designed project and put it into practice with the construction of buildings throughout the school year.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	**1-Knowledge and understanding** **a**-Understand the specificity of each project, know how to analyze the project site according to viewing angles, neighborhoods, elevation, and location Points of attraction, temperature, solar radiation. **b**-Knowing the types of structural systems in general, classifying structural systems according to the dimensions of space and its function. **c**-Understanding the job analysis method and functional activities. **d**-Knowledge of the method of analyzing similar examples and describing them in the project

	in terms of the design idea, activities, and location. **f-**Student's understanding of the symbolic aspect of each project and the symbolic characteristics of each project. **2-Subject-specific skills** **a-**Building the architectural personality of the student and highlighting a certain specificity in the architectural production. **b-**The specificity of the project design by the student in the light of functional, design and symbolic data. **c-**How to keep up with the latest developments in the design process.
Indicative Contents المحتويات الإرشادية	1-Employing information about the lectures in the design process and building the student's intellectual base. The design process of any project. 2-Developing the creative side of thinking in the architectural design process in light of the rules and principles of design. 3- Stimulating the imaginative side of the student through projects designed in terms of the spatial composition of the blocks. 4- Enhancing the student's architectural personality and how to build his independent personality. 5-Interactive discussion among students.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	209. Visiting the site dedicated to designing the project and preparing special analytical studies for that in terms of identifying the determinants of the site, the neighborhoods, and the axes of movement around the site 210. make analytical studies of the functional activities and the relationships between them and studying the standards of the project spaces to conclude a functional program for the spaces of the project spaces 211. Opening the field of the student by expanding his imagination towards finding solutions to the design problems of the project 212. Developing students' technical skills through the required show and making models 213. Make many sketches design to discover the student's ability to design

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Submitting1 / project1
Week 2	Submitting2 / project1
Week 3	Submitting3/ project1
Week 4	Prelim/ project1
Week 5	Pre-final / project1
Week 6	Sketch design
Week 7	Final / project1
Week 8	Submitting1/project 2

Week 9	Submitting2/project 2
Week 10	Submitting3/project 2
Week 11	Submitting4/project 2
Week 12	Prelim/project 2
Week 13	Sketch design
Week 14	Pre-final /project 2
Week 15	Sketch design
Week 16	Final /project 2

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Neufert	
Recommended Texts	Architects' data	
Websites	https://faculty.uobasrah.edu.iq/faculty/1253/teaching	

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	ARE312
4. Modes of Attendance offered	Daily time
5. Semester/Year	3th Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	44. To develop construction of precast buildings skills and understanding of precast materials and methods of erection. 45. Recognizing of general principles of construction technique. 46. To understand types buildings components with all necessary drawings. 47. This course deals with the precast construction unites and fixing technique for buildings.

	48. Identify procedure of construction of multi-story precast buildings. 49. Learning of drafting and drawing of constructional plans, sections, elevations, and details.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	a102. Recognize of method of manufacturing of buildings elements, and function of each one. a103. Illustrate and detail of each component. Such as sub-structure and super-structure parts. a104. knowledge of construction precast building fixing and connection methods. a105. Explain of different kinds of precast elements. a106. Summarize the footings, walls, beams, columns and slabs. a107. Discuss the types of connection methods (columns with footing, wall with columns, beam with column, etc.…. a108. Describe of precast stairs and their parts. a109. Thermal and water proofing constructional techniques for precast slabs.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. b130. Specifications of precast construction systems. [2 hrs] b131. Identifications of soils and precast reinforced concrete foundations. [4 hrs] b132. Knowledge of precast walls, beams, colums and other types. [4 hrs] b133. Methods of connections. [2 hrs] b134. RC precast slabs types, using and details. [4 hrs] b135. Explained connections between footing, columns, slab and walls. [4hrs] b136. Identify of stairs components and details. [4 hrs] b137. Insulations and water proofing. [4 hrs] b138. Discussion. [2 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	214.Explanation and clarification using the class lectures. 215.Tutorials hours. 216.Reading and self-learning. 217.Homeworks. 218.Presentations, site photos and videos are interesting to the students. 219.Short Assignment (quizzes). 220.Training and activities during lecture. 221.Asking the questions that help to understand the material better. 222.Interaction during lectures 223.Practicing the examples, home-works, and reports. 224.Continues drawings for specified building construct by load bearing walls system. 225.Submitting and Presentations of requested drawings. 226.Mid-term and final exam.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction – development of precast concrete technique.
Week 2	Precast RC footings definitions, types and details.
Week 3	Strength precast reinforcements and dimensions of Precast elements.

Week 4	Various types of walls, columns, beams and slabs.
Week 5	Method of construction of precast concrete and types of binding.
Week 6	Basement construction methods
Week 7	Arches and domes construction methods
Week 8	RC precast slabs kinds and which were using.
Week 9	Methods and types of joints in precast buildings
Week 10	Slabs connection with walls and columns with drawings
Week 11	RC precast stairs kinds and methods of connections.
Week 12	RC slabs components and details
Week 13	Thermal, sound and damp insulations
Week 14	Water proofing techniques.
Week 15	Submitting of assignments and presentations
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Plan drawings of a precast system-based construction building project.
Week 2	Structural drawing - floor plans of the building project.
Week 3	construction drawing - plans and sections for the foundations of the required building.
Week 4	Drawings a section showing the project building's footings, walls and the hollow core slabs.
Week 5	Drawing of precast construction items, (walls, footings, columns beams and slabs)
Week 6	Methods of connection drawing.
Week 7	Elevations drawings submitting.

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	**Available in the Library?**
Required Texts	Precast concrete structures - written by Alfred Steinle	Yes
Recommended Texts	Precast concrete structures - written by Elliott, Kim S.	No
Websites	https://faculty.uobasrah.edu.iq/faculty/1300/teaching.	

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	ARE313

4. Modes of Attendance offered	Daily time
5. Semester/Year	3th Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	50. Preparation of the theoretical base that integrates with the material of the history of architecture. 51. Inform the student to the basics of architecture and its relationship with the rest of the fields of knowledge in general and the historical field with the experiences of the former in the field of architecture in particular. 52. Developing the cognitive ability of the architectural student. 53. Giving a clear vision of the correlation and overlap of the knowledge field and the creative field in architecture and the integration of the relationship between them. 54. The ability to distinguish different architectural styles, both according to the era to which it belongs.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	a110. Taste and understand the architectural works in general and understand the contents of styles and patterns in particular. a111. The basic principles on which architecture is based as a cognitive text. a112. Knowledge of Characteristics and features for each Architecture style, and analysis of historical architectural works of each architectural style as formal and functional theses that include philosophical knowledge. a113. Development of the analysis, interpretation and reading of historical architectural works and identification of theoretical and philosophical theses for each architectural style within the specified time periods in the semester. a114. Clarification of the basic concepts in the field of knowledge of the history of architecture and previous experiences, show many works of many architects in all styles. a115. Acquire the skill in dealing with topics related to the history of architecture. a116. Acquire basic skills to use and build individual perspectives related to related concepts. a117. Gain experience in the adoption, inspection and research of the field of knowledge. a118. Maturing the ability to deal with theoretical investigations of the history of architecture
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. b139. Studying the Architecture in the Renaissance period. with examples of many architects famous and buildings [8 hrs] b140. Studying the Baroque Architecture. with examples of many architects famous and buildings [4 hrs] b141. Studying the Rococo Architecture. with examples of many architects famous and buildings [2 hrs] b142. Studying the Neo-classical. with examples of many architects famous and buildings [4 hrs] b143. Knowledge of the important features planning of the renaissance cities. [2 hrs] b144. Studying the Architecture in the nineteenth century period with all architectural

	directions, with examples of many architects famous and buildings. [8 hrs] b145. Knowledge of the important features planning of the nineteenth century cities. [2 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	227. Explanation and clarification using the class lectures. 228. Reading and self-learning. 229. Home Works. 230. Presentations, historic buildings photos and videos are interesting to the students. 231. Short & quick tests (quizzes). 232. Assignments (practice to draw historic buildings). 233. Asking the questions that help to understand the material better. 234. Interaction during lectures. 235. Home-works, and reports. 236. Mid-term and final exam.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction – Renaissance Architecture in Europe, Factors influencing in Renaissance Architecture.
Week 2	Plans, Structure of buildings and Aesthetic vocabulary in Renaissance Architecture .
Week 3	Characteristics and features of Renaissance Architecture.
Week 4	Distinctive examples for works of famous Architects in different countries & cities of Renaissance.
Week 5	Introduction to Baroque Architecture, Factors influencing in Baroque Architecture.
Week 6	Characteristics and features of Baroque Architecture, Distinctive examples for works of famous Architects in different cities of Baroque.
Week 7	Introduction to Rococo Architecture, Factors influencing in Rococo Architecture, Characteristics and features of Rococo Architecture.
Week 8	Introduction to Neo-Classical Architecture, Factors influencing in Neo-Classical Architecture.
Week 9	Characteristics and features of Neo-Classical Architecture, Distinctive examples for works of famous Architects in different cities of Neo-Classical.
Week 10	Characteristics and features of Renaissance cities, Renaissance Cities planning.
Week 11	Introduction to Nineteenth century Architecture, the first direction in Nineteenth century Architecture (Eclectic Architecture) in three groups (Revival of gothic & Greek style, Revival of Renaissance, Byzantine and ancient Egyptian styles, Aggregate style) with examples for works of famous Architects.

Week 12	The second direction (Simplicity in Architecture), Factors contributing to the emergence this direction, Applications for works of Architects such as Tony garner, August Perret, peter Behrens, Louis Sullivan.
Week 13	- Beginning of Modern Architecture in Nineteenth century (the scattered beginnings in works of different architects such as Lab roust, Violet de luc and Gaudete). - Needs of new big space buildings such as expo building –crystal palace-
Week 14	The prevailing architectural schools in the architecture of the nineteenth century such as Chicago school, Art novo school,…..etc. with examples for works of famous Architects.
Week 15	Characteristics and features of Nineteenth century cities, Nineteenth century Cities planning.
Week 16	**Preparatory week before the final Exam**

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	**Available in the Library?**
Required Texts	1- Historical Dictionary of Architecture, By: Allison Lee Palmer 2- City Morphology, By: Khalis Alashaab	Yes
Recommended Texts	Graphic History of Architecture, By: John Manibridge	Yes
Websites		

1. Teaching Institution	University of basra
2. University Department/Centre	Architecture engneering
3. Course title/code	ARE314
4. Modes of Attendance offered	Daily time
5. Semester/Year	3th Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	55. To understand and use the general ideas of force vectors and equilibrium of particle and rigid. 56. To understand and use the general ideas of structural analysis and internal force and friction.

	57. To understand and use the general ideas of center of gravity, centroids and moments of inertia 58. This course deals with the static analysis for force system, moments and simply supported structural system. 59. Learning the basic analyses of stresses and strain on rigid materials. 60. Knowing of structural behavior and load effect on displacement accrues on beams and columns. 61. To understand bending moment and shear force analyses and sketch diagram of it. 62. Analysis of stress distribution on beam section.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	a119. Recognize physical analyses of vector and force system. a120. Illustrate of various kinds of force types and its components. a121. knowledge of loads types, load paths and performance of structure under the loads. Also, summarize the behavior of structure to sustain the loads. Thus, stress-strain relations must be explained. a122. Knowledge of equilibrium equations used for solving the problems in static a123. Describe load distribution on members. As well as shear force, bending moment and deflection will be recognized. a124. Recognize of specifications of various types of support system and how to draw free body diagram. a125. knowledge of centroid and center of gravity for different shapes and areas. a126. Improve the ability for analysis for force, stress and strain.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. b146. Static basics and important definitions. [2 hrs] b147. Vectors and the process on it. [2hrs] b148. Knowledge of static and dynamic relations. [4 hrs] b149. Studying behavior of rigid body under concentrated and uniform distributed load. [2 hrs] b150. Knowledge of loads and loading distribution. [2 hrs] b151. Introduction for force system and resultant of force. [2 hrs] b152. Equilibrium and the equations that solve problems. [4 hrs] b153. Supporting methods and free body diagram analyses. [2 hrs] b154. Solving the problems in static. [2 hrs] b155. Definition of center of gravity and centroid. [2 hrs] b156. How to calculate moment of inretia. [4 hrs] b157. Studying properties of materials. [2 hrs] b158. Knowledge of stress and strain with the relationship between. [2 hrs] b159. How to calculate the displacement. [2 hrs] b160. Introduction for shear force and bending moment. [4 hrs] b161. How to sketch shear and bending moment diagrams. [2 hrs] b162. Discussion. [2 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	237. Explanation and clarification using the class lectures. 238. Tutorials hours. 239. Reading and self-learning. 240. Home Works. 241. Presentations, site photos and videos are interesting to the students. 242. Short Assignment (quizzes).

	243.Training and activities during lecture. 244.Asking the questions that help to understand the requirements better. 245.Interaction during lectures 246.Practicing the examples, home-works, and reports. 247.Visual examination of static relations at laboratory. 248.Tutorials and discussions. 249.Mid-term and final exam.

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction – static and dynamic definitions .
Week 2	Vectors and processes on it.
Week 3	Force systems and resultant of force.
Week 4	Moment of force and how to calculate its magnitude
Week 5	Types of loads and its effects on the structural member.
Week 6	Resultant of parallel force and distributed force.
Week 7	Equilibrium and definitions of theory of it.
Week 8	How to draw the free body diagram and types of support systems.
Week 9	Using of equilibrium equations to solve the problems.
Week 10	Centroid and center of gravity and how to calculate moment of inertia for rigid body.
Week 11	Stress-strain relationships for steel and rigid materials.
Week 12	Displacement and how to calculate it.
Week 13	Stress calculations and types of stresses.
Week 14	Bending moment and shear force definitions
Week 15	Sketch of bending moment and shear force diagrams.
Week 16	**Preparatory week before the final Exam**

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Reinforced Concrete Design, By: Svetlana Brzev & John Pao	Yes
Recommended Texts	Structural Design for Architecture, By: Angus J. Macdonald	Yes
Websites	https://faculty.uobasrah.edu.iq/faculty/1300/teaching.	

1. Teaching Institution	University of basra

2. University Department/Centre	Architecture engneering
3. Course title/code	ARE315
4. Modes of Attendance offered	Daily time
5. Semester/Year	3th Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	16. Realize the student basic principles of sanitary design. 17. Design of cold and hot water pipes for the multi-story buildings 18. Design of sewers and drainage system for the constructions. 19. Learning of Refuse disposal for the structures. 20. Storage of water methods. 21. Baths and swimming pools design and layout. 22. To understand sanitary facilities. 23. Knowledge of drainage.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	a127. Plumbing : Water supply, hot and cold-water pipe sizing a128. Vent system. a129. Pipes materials and cost a130. Learn of design of baths and swimming pools. a131. Layout of various types of baths for miscellaneous projects (parking, comfort station, comp) a132. The drainage system. a133. Baths public health fixtures. a134. Swimming pools sanitary design. a135. Refuse storage system for the buildings.
Indicative Contents المحتويات الإرشادية	b163. Introduction sanitary services syllabus [2 hrs] b164. Describing and using of the water pipe sizes charts, knowing the properties of the pipes and materials, solving the problems depending on the charts chart [4 hrs] b165. Learning of sewer size methods and charts, choosing of suitable sewer pipe, solution of the problems depending on the charts chart [4 hrs] b166. Bathroom and toilet sanitary design and layout for different constructions. [8 hrs] b167. Storage systems [2 hrs]

	b168. Drainage systems [2 hrs] b169. Swimming pools sanitary design [4 hrs] b170. Refuse disposal and storage for buildings. [4 hrs]

Learning and Teaching Strategies
استراتيجيات التعلم والتعليم

Strategies	250. Interaction within the lecture. 251. Assignment, homework, and reports. 252. Quizzes (Quizzes). 253. Reading and self-learning. 254. Following up on the interest of the student who interacted more with the presented material, by increasing this interaction by requesting other programs and applications to display it. Presentations, photos, and videos are interesting to the students. 255. Training and design examples activities during lectures. 256. Asking questions /answers that help to understand the material better. 257. Mid-term and final exam.

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

	Material Covered
Week 1	Plumbing, building plumbing system.
Week 2	Fixture, plumbing fixtures and equipment for baths, toilets and kitchen.
Week 3	Design schemes for sanitary fixtures
Week 4	Water supply system, direct, storage and pump system
Week 5	Water distribution in buildings
Week 6	Water demand (consumption) in building.
Week 7	Examples and exercises for water demand in buildings.
Week 8	Domestic water heaters.
Week 9	Wastewater piping and elements (Sewer).
Week 10	Wastewater pipe size calculations
Week 11	Storm water design and drainage systems.
Week 12	Storm water pipe size calculations
Week 13	Swimming pools, requirements and types
Week 14	Swimming pools layout and design.
Week 15	Refuse and recycling storage
Week 16	**The preparatory week before the Final Exam**

2. University Department/Centre	Architecture engneering
3. Course title/code	ARE316
4. Modes of Attendance offered	Daily time
5. Semester/Year	3th Year

6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	This course covers Building Information Modeling (BIM), including its use and application for small- and large-scale building construction projects. Students will learn terminology associated with buildings, the theory and evolution of BIM, and how to develop BIM models using Autodesk Revit. As time allows, this course will also cover selected topics on how BIM is used to help prepare or feed into key project items, such as cost estimation, architectural renderings, interference checking, and modeling of energy consumption.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Develop building and infrastructure vocabulary to be able to describe a building, its components, and its systems, including the architectural, MEP (mechanical, electrical, plumbing), and structural components. 2. Describe the evolution and development of BIM from its origination to today. 3. Be able to compare, including the advantages and disadvantages of BIM vs. 2D and 3D CAD 4. Explain the challenges and roadblocks still facing the use of BIM. 5. Demonstrate proficiency in commonly used BIM software (Autodesk Revit), including project document development and professional presentation of a BIM model. 6. Understand applications of BIM, such as cost estimation, architectural renderings, interference checking, and modeling of energy consumption
Indicative Contents المحتويات الإرشادية	

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main objective is to ensure that students understand the basic concepts and developing their problem solving strategies. Most engineering students have difficulty in application of the fundamental concepts they have learned to specific cases. Therefore, the lecture material is incorporated with as many possible illustrative examples in order to facilitate the application of principles to actual problems. Importance is placed on the significance of the results obtained for physical problems, as it is often the case nowadays with the development of engineering software, that the student is concerned with merely "solving the problem" and obtaining results without their interpretation physically.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction
Week 2	Building components and systems (architectural, MEP, structural)
Week 3	Building components and systems (architectural, MEP, structural)
Week 4	Building vocabulary
Week 5	Building drawings, specifications
Week 6	Building drawings, specifications
Week 7	Building design process and roles of owners, managers, designers, engineers and contractors/subcontractors
Week 8	Building design process and roles of owners, managers, designers, engineers and contractors/subcontractors
Week 9	What is BIM?
Week 10	How can BIM be a part of the building design process?
Week 11	Evolution and development of BIM & object-based parametric modeling
Week 12	Evolution and development of BIM & object-based parametric modeling
Week 13	BIM platforms
Week 14	BIM platforms
Week 15	Preparatory week
Week 16	Final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	BIM Handbook: A Guide to Building Information Modeling for Owners, Designers, Engineers, Contractors, and Facility Managers	no
Recommended Texts		
Websites		

2. University Department/Centre	Architecture engneering
3. Course title/code	ARE325
4. Modes of Attendance offered	Daily time

5. Semester/Year	3th Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	24. To give the student a general idea of air conditioning and refrigerating as basic principles for a student in the College of Engineering, architecture department. 25. To understand and Define Air conditioning, Air properties, and thermodynamic laws. 26. In addition, the most important chart for air properties, is the heat transfer methods. 27. Design and layout of air-conditioning various types of units. 28. Selection of the suitable Cooling System for Buildings.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	a136. Studying the basic rules of air-conditioning and refrigerating. a137. Learn the properties of air and heat transfer. a138. The first thermodynamic law. a139. The second thermodynamic law. a140. Compressive refrigerator and refrigeration unit. a141. Measuring air properties by the psychrometric chart. a142. Fourer's law, and heat transfer calculations by conduction and convection. a143. Calculations of external loads and internal design conditions a144. Air conditioning design and layout of units. a145. Identifying air conditioning systems design and distribution related to the building's architectural design spaces.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. b171. Introduction -air-conditioning principles and expressions [4 hrs] b172. Definition and using of the psychrometric chart, knowing the properties of the air by the psychrometric chart, solving the problems depending on the psychrometric chart [8 hrs] b173. Heat transfer methods, Fourer's law and heat transfer calculations by conduction and convection, Calculations of external loads and internal design conditions [8 hrs] b174. Home air conditioning organization (window unit and split units), Combined air conditioning system, Central air conditioning systems, and Advantages of different air conditioning systems. [6 hrs] b175. Selection of the suitable Cooling System for Buildings, Design buildings

	taking into consideration the required spaces of each cooling system. [4 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	258. Interaction within the lecture. 259. Assignment, homework, and reports. 260. Quizzes (Quizzes). 261. Reading and self-learning. 262. Following up on the interest of the student who interacted more with the presented material, by increasing this interaction by requesting other programs and applications to display it. Presentations, photos, and videos are interesting to the students. 263. Training and design examples activities during lectures. 264. Asking questions that help to understand the material better. 265. Mid-term and final exam.

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	32	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2.13
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	18	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.20
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	5, 10	LO #1, 2, and 6
	Assignments	2	20% (20)	3, 8	LO # 3, 4, 6 and 7
	Projects / Lab.	-	-	-	-
	Report	1	10% (10)	13	LO # 5 and 8
Summative assessment	**Midterm Exam**	1.5 hr	10% (10)	7	LO # 1-7
	Final Exam	2hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Air properties, Units of measurement in air conditioning.
Week 2	The first thermodynamic law, The second thermodynamic law.
Week 3	Compressive refrigerator and refrigeration unit.
Week 4	Definition of the psychrometric chart and how to use it, Measuring of air properties by the psychrometric chart
Week 5	Solving problems by using the psychrometric chart / Part 1
Week 6	Solving problems by using the psychrometric chart / Part 2
Week 7	Heat transfer methods, Fourer's law, and heat transfer calculations by conduction and convection.
Week 8	External loads
Week 9	Internal design conditions
Week 10	Calculations of external loads and internal design conditions/ Part1
Week 11	Calculations of external loads and internal design conditions/ Part2
Week 12	House Cooling system units (window unit and split unit), Combined-Cooling system, Central unit systems.
Week 13	Advantages, and Disadvantages of different air conditioning systems.
Week 14	Selection of the suitable Cooling System for Buildings
Week 15	Designing buildings regarding the required spaces of each cooling system
Week 16	**The preparatory week before the Final Exam**

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	مبادئ هندسة تكييف الهواء و التثليج / خالد احمد الجودي / كلية الهندسة / جامعة البصرة 1998	Yes

Recommended Texts	Principles of air conditioning and refrigeration engineering	No
Websites	https://www.academia.edu/44326110/Ashrae_handbook_fundamentals_si_edition	

2. University Department/Centre	Architecture engneering
3. Course title/code	ARE327
4. Modes of Attendance offered	Daily time
5. Semester/Year	3th Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	This course covers Building Information Modeling (BIM), including its use and application for small- and large-scale building construction projects. Students will learn terminology associated with buildings, the theory and evolution of BIM, and how to develop BIM models using Autodesk Revit. As time allows, this course will also cover selected topics on how BIM is used to help prepare or feed into key project items, such as cost estimation, architectural renderings, interference checking, and modeling of energy consumption.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Develop building and infrastructure vocabulary to be able to describe a building, its components, and its systems, including the architectural, MEP (mechanical, electrical, plumbing), and structural components by application on buildings design. 2. Describe the evolution and development of BIM from its origination to today in buildings. 3. Be able to compare, including the benefits of building information modelling 4. Explain the challenges and roadblocks still facing the use of BIM. 5. Demonstrate proficiency in commonly used BIM software (Autodesk Revit), including project document development and professional presentation of a BIM model. Revit will be applied. 6. Understand applications of BIM, such as cost estimation, architectural renderings, interference checking, and modeling of energy consumption, using exercises on the constructions.
Indicative Contents المحتويات الإرشادية	

Learning and Teaching Strategies
استراتيجيات التعلم والتعليم

Strategies	The main objective is to ensure that students understand the building information modeling by advance way related to REVIT program. Most engineering students have difficulty in application of the fundamental concepts they have

	learned to specific cases. Therefore, the lecture material is incorporated with as many possible illustrative examples in order to facilitate the application of principles to actual problems. Importance is placed on the significance of the results obtained for physical problems, as it is often the case nowadays with the development of engineering software, that the student is concerned with merely "solving the problem and applications" , and obtaining results without their interpretation physically.

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Mass and concept modeling
Week 2	Mass and concept modeling
Week 3	Detailed modeling
Week 4	Detailed modeling
Week 5	Creating, importing, and modifying families of objects and elements
Week 6	Creating, importing, and modifying families of objects and elements
Week 7	Architecture, MEP, and Structural applications
Week 8	Architecture, MEP, and Structural applications
Week 9	Creating plans, sections, details, schedules, and cover page
Week 10	Cost Estimating
Week 11	Energy Modeling
Week 12	Conflicts/Interference checking
Week 13	Future of BIM
Week 14	Future of BIM
Week 15	Preparatory week
Week 16	Final Exam

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	BIM Handbook: A Guide to Building Information Modeling for Owners, Designers, Engineers, Contractors, and Facility Managers	No
Recommended Texts		
Websites		

2. University Department/Centre	Architecture engneering

3. Course title/code	ARE**412**
4. Modes of Attendance offered	Daily time
5. Semester/Year	4th Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	14. The ability to introduce students to the most specialized design aspects of the interior space at the level of design-oriented thought and the level of human sensory perception of space. 15. Develop a mental ability to understand cultural and artistic intellectual orientations, especially those that overlap with industrial design, craft production, materials, and those that overlap with the artistic thought of interior design, service systems, lighting, acoustics, heating, cooling, furniture pieces, and others. 16. Documenting and expanding students ' imagination and creativity at the intellectual levels and using basic interior design elements in shape, color, lighting, furniture, and their role in focusing on realistic aspects. 17. Expanding the circle of knowledge of aspects of human sensory perception and acceptance of the surrounding space inside and human variables at the level of individuals and communities.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	**Program-specific skill objectives:** b176. Improve the quality of (interior space design) by understanding the requirements of the internal environment of the building and the physical comfort requirements of the beneficiary individuals (space user) in addition to the aesthetic requirements of the design. b177. Give a clear idea of how to take advantage of lighting systems, acoustics, colors, furniture, heating, and cooling. b178. Definition of the function of good interior design, through which the utilitarian function is secured inside the space or group of spaces, in addition to the use of innovative artistic forms inside the space or spaces. b179. Identify concepts related to the realization of the main functions of the internal space (operational function, environmental function, symbolic function). b180. Development of the mechanism of construction and organization of design elements of the interior space and ways of grouping them depending on their diverse visual relationships. b181. Enabling understanding of the physical determinants of internal spaces. b182. Enhance the skills of aesthetic expression through the use of modern visual aids and advanced design tools such as 3D-Max three-dimensional programs.
Indicative Contents المحتويات الإرشادية	**The curriculum is divided into two aspects, the first theoretical and the second practical, as follows:** **Theoretical: [15 hrs]** **In addition to what has been indicated, the student is exposed to:** 1- Understanding the function of good interior design (securing the utilitarian function within the space). 2-meet the requirements of the internal environment of the building and the requirements of the physical comfort of the beneficiary individuals (space users). 3-achieving the aesthetic requirements of design by enhancing the skills of aesthetic expression using modern visual aids and advanced design tools such as 3D-Max three-dimensional

	programs and Autodesk Revit programs. 4-students submit reports on selected topics covering aspects of knowledge related to interior design with discussion. **Practical: [45 hrs]** The student prepares the necessary designs and schemes for two types of interior spaces within two consecutive projects with multiple goals and graded in size, the first relates to the design of an interior space (private) for a specific building and a specific event, the second relates to the design of an interior space (public) for a multiple set of overlapping spaces and various events.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1- Theoretical lectures supported by visual means of presentation and demonstration, scientific documentaries. 2- Creative idea (Discussion, Analysis and criticism of design ideas individually or collectively) 3- Interaction within the lesson through participation and group discussions 4- Periodic submission of practical projects in the lesson 5- Quick tests (Sketch Design) complementary to the two practical projects. 6- Visits to selected design sites to combine reality and theorizing. 7- Methodological reports that allow expanding and taking into account multiple topics related to external spaces. 8- Quarterly and final examinations of theoretical subjects

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	**Introduction to interior design** (Development of the concept of interior space and Interior Environment).
Week 2	**Requirements for the internal environment**: (psychological, physical, and aesthetic requirements).
Week 3	**Function and interior design:** A lecture about how to enable the building to secure the required need and benefit. This lecture is followed by a series of the following lectures: - Operational function - Environmental function - Symbolic function
Week 4	
Week 5	
Week 6	
Week 7	**Interior design elements**: A lecture on how to organize the design elements of the interior space according to spatial and visual patterns
Week 8	Styles of interior space design
Week 9	Movement in internal spaces (their shape, size, pattern)
Week 10	Methods of assembling interior design elements
Week 11	Horizontal and vertical delimiters of internal spaces
Week 12	Completion of the previous lecture and guidance of students on the topics of the methodological report
Week 13	Systems of internal space (how to make use of lighting systems, acoustics, colors, furniture, heating and cooling .. Etc.)
Week 14	Applying the potential of contemporary architecture in interior design.
Week 15	Discussion of methodological reports
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Practical Syllabus) المنهاج الاسبوعي العملي	
	Material Covered
Week 1	**The first practical project:** Definition of the project, its purpose, beneficiary, location.
Week 2	Studies on the project.
Week 3	Concept.
Week 4	First prelim.
Week 5	Sketch design 1.
Week 6	Pre final.
Week 7	**Final presentation.**
Week 8	**The second practical project:** Definition of the project, its purpose, beneficiary, location.
Week 9	Studies on the project.
Week 10	Concept.
Week 11	First prelim.
Week 12	Second prelim.
Week 13	Sketch design 2.
Week 14	Pre final.
Week 15	**Final presentation.**

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts		
Recommended Texts	A. B. Interior Design/ Namir Qasim Khalaf, 2005	No
Websites		

2. University Department/Centre	Architecture engneering
3. Course title/code	ARE**413**
4. Modes of Attendance offered	Daily time
5. Semester/Year	4th Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	The lesson aims to address the problems that appear in contemporary cities, and explain the reasons that led to this, and to present recommendations for the solutions that would reduce the burden of problems on urban residents, as well as to familiarize students with many theories of city planning, and to introduce students to the land uses of cities and the criteria for the areas of those landuses.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	**1-Knowledge and understanding** • Giving a general idea of the concept of the urban planning process in cities or part thereof. • Learn about the components of the city and its various main events. • Introducing methods to achieve an effective and humane urban environment. **2-Subject-specific skills** • Giving the student the ability to understand the plans of cities of different ages and to analyze them formally. • The ability to discover defects in the lack of functional integration of these cities • Giving students the ability to diagnose formal transformations in the elements and environments of these cities. • Introducing the design strategies adopted in cities and the mechanisms of dealing with the urban form.
Indicative Contents المحتويات الإرشادية	1. Theories and previous experiences in city planning 2. land use standards. 3. The reality of urban problems. 4. Models similar of city planning. 5. Modern city planning methods.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	266.. Conducting field studies to analyze the existing problems of cities 267. Giving a role to the student to present proposals to find solutions to the problems that cities suffer from 268. Prepare reports for each student explaining his perception of the problems he suffers from within his urban environment, and provide recommendations for solutions according to his scientific vision. 269. Students are present in a virtual space through exploratory films, whether from the Internet or tourist visits from the students themselves - applying the idea of virtual education in real reality 270. Theoretical knowledge is reinforced through field visits to the city of Basra and even at the level of other cities. 271. Preparing explanatory means in the form of power points programs and sheets for the model that is analyzed by the students as a photo or video report that approaches reality

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction – planning, urban planning
Week 2	Theories of cities planning /1
Week 3	Theories of cities planning /2
Week 4	Theories of cities planning /3
Week 5	Planning the Arab Islamic cities
Week 6	The problems of contemporary cities- (Quizzes)
Week 7	Study of population
Week 8	Land use study
Week 9	Housing in contemporary cities
Week 10	Commercial land use - Midterm Exam
Week 11	Industrial land use
Week 12	Pollution in cities-(Quizzes)
Week 13	Services in cities
Week 14	Transportation planning– (report)
Week 15	Laws and legislation & Planning of Smart cities and Digital, technology cities
Week 16	Preparation for Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Theories of cities planning book Dr. Khalaf Hosni Ali (Urban Planning: Foundations and Concepts), International Scientific	Yes
Recommended Texts	Dr. Mudhaffar Al-Jabri (Urban Planning - Part One)	
Websites	https://faculty.uobasrah.edu.iq/faculty/1253/teaching	

2. University Department/Centre	Architecture engneering
3. Course title/code	ARE**414**
4. Modes of Attendance offered	Daily time
5. Semester/Year	4th Year
6. Number of hours tuition (total)	120 hrs

7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	63. Integrate with design process 64. Enable architect to solve building problems. 65. Help students to perception all part of building 66. This course focuses on interior building environment. 67. Helps to right chose for space dimension.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	a146. Belt knowledge about architectural acoustics for different space types. a147. Put the necessary standards for acoustics solutions. a148. Train to find the appropriate reverberation time for architectural space. a149. Train to resolve the actual and exemplary reverberation time. a150. The acoustics conditions must be in architecture close space. a151. The acoustics golden ratio. a152. Have ability to choose best site to building a153. Know the source of noise and how to raise it.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. b183. Architectural acoustics and its dimensions. [4 hrs] b184. The role of acoustics in shaping listening rooms throughout history. [4 hrs] b185. Sound phenomena in closed space. [2 hrs] b186. Absorbent materials. [2 hrs] b187. Absorption coefficient. [2 hrs] b188. General Conditions and Sound Defects. [4 hrs] b189. Voice reverberation time. [4 hrs] b190. Volumetric ratio and voice reverberation time. [2 hrs] b191. Halls Design. [2 hrs] b192. Design of musical halls. [2 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	272. Explanation and clarification using the class lectures. 273. Tutorials hours. 274. Reading and self-learning. 275. Home Works. 276. Short Assignment (quizzes). 277. Training and activities during lecture. 278. Asking the questions that help to understand the material better. 279. Interaction during lectures 280. Practicing the examples, home-works, and reports. 281. Tutorials and discussions.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	General introduction–Definition of the lesson of architectural acoustics- Objectives of sound design - The relationship of sound physics with science and arts - Sound and vibration - Sound wavelength - Vocal power - Sound intensity- Reasons of Sound generation - Sound field - Frequency and frequency range - Basic elements of architecture acoustics - The mechanics of the human ear and the listening process.
Week 2	The role of acoustics in shaping listening rooms throughout history- Greek Theater - Roman Theater - Middle Ages
Week 3	The role of acoustics in shaping listening rooms throughout history- Renaissance - nineteenth century - twentieth century - twenty-first century.
Week 4	Sound phenomena in closed space- - Reflection -absorption - diffusion - Diffraction – FERMATs Base for sound wave propagation - Acoustic design methodology (wave model, graphical model, energy model, stereoscopic models).
Week 5	Absorbent materials- - Sound-absorbing systems (membrane systems, resonance systems, perforated faces) - Sound-absorbing materials (fibrous materials, suspended materials)
Week 6	Absorption coefficient- - Concept and methods of its occurrence - Absorption and absorption efficiency - Factors affecting absorption efficiency - The importance of sound absorption in the design of listening rooms - Absorption coefficient and frequencies.
Week 7	General Conditions and Sound Defects- - Conditions that must be met in the vocal space (speech intelligibility, loudness, natural characteristics of sound, etc.- acoustic defects (echo, repeated echo, early initial reflections, late early initial reflections, Audio ado, acoustic coloring,
Week 8	Sound Defects- Focal Focus, Resonance, Noise (Noise Standard, Background Noise Level, noise in urban spaces) - Acoustic Insulation (Insulating Materials, Single, Double and Composite Separators) - Passive Isolation.
Week 9	Voice reverberation time- Factors affecting the time of voice reverberation time - Actual voice reverberation time - How to calculate the time of voice reverberation time - Practical example
Week 10	Voice reverberation time- - The ideal voice reverberation time and how to calculate it - Practical example - Modifying the actual voice reverberation time to approach the ideal
Week 11	Volumetric ratio and voice reverberation time- - Ideal volumetric ratio of spaces - The effect of volumetric ratio on Voice reverberation time - Practical examples
Week 12	Speech Hall Design- - Audio design parameters for speech spaces - lecture halls - meeting rooms -Speech Hall Design- theaters
Week 13	- The role of the computer in sound design - Steps and objectives of sound design for listening rooms - Audio design determinants.
Week 14	Design of musical halls- - Acoustic design parameters of music halls - Prank entrance to the design of musical halls - Other determinants of the design of musical halls (musicians, shape, music training rooms)
Week 15	**Report submission and daily test**

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Architecture acoustics	Yes
Recommended Texts	THEATERS AND AUDITORIUMS	Yes
Websites	All.	

2. University Department/Centre	Architecture engneering
3. Course title/code	ARE**415**
4. Modes of Attendance offered	Daily time
5. Semester/Year	4th Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1- Educating the student about the importance of technology in life by researching the contents of technology from ancient times to the present day 2- Clarify the nature of technology by presenting the ancient, modern and contemporary philosophies of technology according to theorists, its components and its connections to man, nature and science. 3- Researching the relationship between technology and architecture, especially in the technological development after the great industrial revolution in Europe and its effects on the creation of modern architectural materials. 4- Clarifying the impact of technological development on the establishment of the essence of the architectural structure and the impact of the successive development of building materials on the development of the architectural structure and the emergence of the modern classification of contemporary systems of structure since the era of modern architecture until our time. 5- Presenting the successive development in the classifications of the contemporary architectural structure as a result of the emergence of materials that mainly affected the concept of the origin of the super heights, the light weight origin, the structures of the vast spaces, and the transparent structures. ...etc.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1- Introduction to technology - definition - concept of technology and technique - philosophies of technology 2- Components of technology and their links with humans through connection with the environment, science and society

	3- The foundations of technology and its impact on the material, structure and architecture 4- The development of modern material and its impact on the development in the classification of architectural structure systems. 5- Architectural classifications (types, classification bases, relationship of architecture type to construction classification type) 6- The outputs of the constructional classifications for the types of contemporary architecture and presenting examples of those classifications and the forms of architectural outputs through these classifications.
Indicative Contents المحتويات الإرشادية	1- The general concept of technology and technique. [2 hrs] 2- Components of technology and their connections to material and architecture. [2 hrs] 3- Technology foundations (conceptual, cognitive, technical, and material foundations). [2 hrs] 4- The concept of building material and the impact of technology on its development. [2 hrs] 5- The relationship of the architectural material development with the development of the formations of the architectural structure systems. [4 hrs] 6- The concept of classification of architectural structure systems and the types of those classifications in architecture. [4 hrs] 7- The outputs of architecture within the evolution of the classification of architectural structure. [6 hrs] 8- The relationship between the types of architecture produced from the contemporary classifications of structure systems with digital architecture and smart architecture as technological outputs. [4 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	282. Explanation and clarification using the class lectures. 283. Tutorials hours. 284. Reading and self-learning. 285. Home Works. 286. Presentations, site photos and videos are interesting to the students. 287. Short Assignment (quizzes). 288. Training and activities during lecture. 289. Asking the questions that help to understand the material better. 290. Interaction during lectures 291. Mid-term and final exam.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	General introduction and definitions, review of course syllabus and identification of topics for student reports.
Week 2	Technology... Its definition... its importance... its types... its historical development... views on technology.

Week 3	Technology foundations (conceptual basis, cognitive basis, technical basis, physical basis)
Week 4	Technology and architecture 1 . Definition of architecture from a technological point of view, technological architecture
Week 5	Technology and architecture 2. The relationship of technology to architecture, the impact of technology on architecture (at the level of design, implementation, performance, communication...etc.)
Week 6	The development of modern materials (iron, concrete and glass) and its impact on the capabilities of the architectural structure systems.. and the development of the forms of structures.
Week 7	Classification of Structural Systems 1: - Bulk - active structure system
Week 8	Classification of Structural Systems 2: Form-active structure system It is classified into cables systems, tent systems, arches systems, and pneumatics systems, which include double membrane systems and internal pressure systems.
Week 9	Classification of Structural Systems 3: - Active vector construction systems: (vector -active structure system) These include straight gable systems, arched gable systems, and space frame systems. - Construction systems for tall buildings (Tall Building structural Building).
Week 10	Classification of Structural Systems 4: Surface-active structure system They include single-arc shell systems, double-arc cortical systems, rotationally formed cortical systems, as well as prismatic-folded and pyramidal systems.
Week 11	daily test and discussion
Week 12	structure systems technology, digital and informatics technology 1: Its content, its technologies in the stages of design, construction and implementation.
Week 13	structure systems technology, digital and informatics technology 2: Building materials, construction systems and digital implementation processes).
Week 14	structure systems technology, digital and informatics technology 3: Smart architecture: Its generations, its systems, its smart wrappers.

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	**Available in the Library?**
Required Texts	- Structure and Architectural Space, The Potential Effect of Structure in Space Configurations of Contemporary Architecture	**yes**
	- Macdonald, Angus J. ;" Structure and Architecture", Department of Architecture, University of Edinburgh, A division of Reed Educational and Professional Publishing Ltd Second edition, 2001.	**N0 Websites**
	- New Architecture and Technology, Gyula Sebestyen Associate Editor: Chris Pollington , First published 2003	yes
Recommended Texts	- العلي، صبا سامي مهدي; " تكنولوجيا العمارة التاريخية في العراق ودورها في تغير الطرز"، أطروحة دكتوراه، مقدمة إلى جامعة بغداد كلية الهندسة, 2010.	yes
Websites	- Architectural Technology: the technology of architecture, Gill Armstrong, Sam Allwinkle Conference Paper · December 2017 https://www.researchgate.net/publication/321514227	

Week 15	Report submission and daily test

2. University Department/Centre	Architecture engneering
3. Course title/code	ARE**416**
4. Modes of Attendance offered	Daily time
5. Semester/Year	4th Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	The aim of this Module is to provide the student with a deep understanding of surveying and construction activities; practical application of topographic surveying skills, an awareness of the preliminary considerations involved in construction developments and a knowledge of the materials and procedures employed in construction of small commercial/industrial building works.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Understand the fundamental principles and concepts of surveying in the context of architectural engineering. 2. Develop proficiency in using surveying instruments and equipment, including total stations, theodolites, and levels. 3. Demonstrate the ability to conduct accurate and precise measurements of distances, angles, and elevations using various surveying techniques. 4. Apply trigonometric and geometric principles to solve surveying problems related to architectural engineering, such as determining heights, slopes, and areas. 5. Interpret and analyze survey data, including maps, plans, and field notes, to extract relevant information for architectural design and construction.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. **1. Introduction to Surveying:** • Definition and importance of surveying in architectural engineering • Role of surveying in the design and construction process **2. Measurement Fundamentals:** • Units and conversions in surveying • Distance measurement techniques: tape surveying, electronic distance measurement (EDM) • Angle measurement techniques: theodolites, total stations, electronic theodolites • Leveling techniques: leveling instruments, benchmarking, differential leveling. **3. Basic Surveying Instruments:** • Level instrument • Theodolite surveying • Total station instruments and their applications

	• Global Navigation Satellite Systems (GNSS) and their use in surveying 4. **Construction Surveys:** • Setting out and layout of building foundations • Control points and benchmark establishment • Monitoring of construction activities using surveying techniques • As-built surveys and data documentatio

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	292. Explanation and clarification using the class lectures. 293. Field work and Tutorials hours. 294. Reading and self-learning. 295. Home Works. 296. Presentations, site photos and videos are interesting to the students. 297. Short Assignment (quizzes). 298. Asking the questions that help to understand the material better. 299. Interaction during lectures 300. Practicing the examples, home-works, and reports. 301. Tutorials and discussions. 302. Mid-term and final exam.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction – Definition and importance of surveying in architectural engineering
Week 2	Role of surveying in the design and construction process
Week 3	Measurement Fundamentals – Units; conversions and scales in surveying
Week 4	Distance measurement techniques: tape surveying, electronic distance measurement (EDM)
Week 5	Angle measurement techniques: theodolites, total stations, electronic theodolites
Week 6	Leveling techniques: leveling instruments, benchmarking, differential leveling.
Week 7	Basic Surveying Instruments
Week 8	Level instrument
Week 9	Theodolite surveying
Week 10	Total station instruments and their applications
Week 11	Global Navigation Satellite Systems (GNSS) and their use in surveying
Week 12	Construction Surveys
Week 13	Control points and benchmark establishment
Week 14	Setting out and layout of building foundations
Week 15	Principles of Geographic Information System (GIS)

Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر

	Material Covered
Week 1	Direct Distance Measurement
Week 2	Tape Survey
Week 3	Setting up of Level
Week 4	Measuring points elevation using Level instrument
Week 5	Surveying using Total Station
Week 6	Height of target determination
Week 7	

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	**Available in the Library?**
Required Texts	Chandra, A. N. (2006). Plane Surveying 2nd edition, New Age International Limited: New Delhi, India.	Yes
Recommended Texts	“Surveying for Engineers" by J. Uren and W.F. Price (Year: 2014)	Yes
Websites	https://faculty.uobasrah.edu.iq/faculty/1300/teaching.	

2. University Department/Centre	Architecture engneering
3. Course title/code	ARE**422**
4. Modes of Attendance offered	Daily time
5. Semester/Year	4th Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1- Introducing students to the most specialized aspects of design in outer space at the level of design-oriented thought and the level of human perception of open outer space. 2- Formulating a mental ability to understand the cultural and artistic intellectual trends,

	especially those intertwined with industrial design, craft production, materials, and those intertwined with the artistic thought of external design, service systems, external lighting, pieces of furniture, and others. 3- Documenting and expanding the students' imagination and creativity at the intellectual levels, and using the basic external design elements in shape, color, lighting, furniture, materials, etc., and their role in focusing on the realistic aspects. 4- Expanding the circle of knowledge about aspects of man's sensory perception and acceptance of the open outer space surrounding him and human variables at the level of individuals and societies.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	**Program-specific skill objectives:** 1- Improving the quality of (Exterior Spaces Design) by understanding the requirements of the external environment of the building and the physical comfort requirements of the beneficiary individuals (the user of the outer space) in addition to the aesthetic requirements of the design. 2- Studying the development of outer space or the garden landscape throughout history, with a focus on temporal and spatial aspects related to the design thought of outer space, especially within contemporary trends. 3- Defining the function of a good exterior design through which the utilitarian function of a space or group of spaces is secured, in addition to the use of innovative artistic forms within the space or multiple spaces. 4- Identify concepts related to the realization of the main functions of outer space (operational function, environmental function, symbolic function). 5- Developing a mechanism for building and organizing the design elements of outer space and methods of assembling them according to their various visual relationships. 6- Enabling an understanding of the physical determinants of external spaces and their impact on the public and private visual landscape. 7- Enhancing aesthetic expression skills through the use of modern visual aids and advanced design tools such as 3D-Max three-dimensional programs..
Indicative Contents المحتويات الإرشادية	**The curriculum is divided into two aspects, the first theoretical and the second practical, as follows:** **Theoretical: [15 hrs]** **In addition to what has been indicated, the student is exposed to:** 1-the study of the evolution of outer space or the garden landscape through history. 2-studying the temporal and spatial aspects related to the design thought of outer space with a focus on contemporary trends. 3-achieving the aesthetic requirements of design by enhancing the skills of aesthetic expression using modern visual aids and advanced design tools such as 3D-Max three-dimensional programs and Autodesk Revit programs. 4-students submit reports on selected topics covering aspects of knowledge related to interior design with discussion. **Practical: [45 hrs]** The student prepares the necessary designs and plans for two types of outdoor spaces within two consecutive projects with multiple goals and graduated in size, the first relates to the design of the architectural and specific outdoor space for a specific building, and the second relates to the design of the urban and public outdoor space for a multiple group of buildings.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1- Theoretical lectures supported by visual means of presentation and demonstration, scientific documentaries. 2- Creative idea (Discussion, Analysis and criticism of design ideas individually or collectively) 3- Interaction within the lesson through participation and group discussions 4- Periodic submission of practical projects in the lesson 5- Quick tests (Sketch Design) complementary to the two practical projects.

	6- Visits to selected design sites to combine reality and theorizing. 7- Methodological reports that allow expanding and taking into account multiple topics related to external spaces. 8- Quarterly and final examinations of theoretical subjects

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1-2	**Introductory lecture:** The nature of Exterior Spaces, space design principles, location and its components, idea construction, sources, reports.
Week 3-4	**Manifestations of space formations:** Coordination of urban spaces, complements of urban space, vocabulary (elements) of coordination of urban space.
Week 5-6	Structural components in the space and garden landscape.
Week 7-8	Plants and rocks in the garden landscape.
Week 9-10	The water element of the garden landscape.
Week 11-12	**The evolution of the garden landscape throughout history:** Antiquity, Renaissance, classical era,modern and contemporary.
Week 13-14	**The garden scene in Islamic thought:** Islamic parks and spaces (local, Arab, regional).
Week 15	Discussion of reports.
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Practical Syllabus) المنهاج الاسبوعي العملي	
	Material Covered
Week 1	**The first practical project:** Definition of the project, its purpose, beneficiary, location.
Week 2	Studies on the project.
Week 3	Concept.
Week 4	First prelim.
Week 5	Sketch design 1.
Week 6	Pre final.
Week 7	**Final presentation.**
Week 8	**The second practical project:** Definition of the project, its purpose, beneficiary, location.
Week 9	Studies on the project.
Week 10	Concept.

Week 11	First prelim.
Week 12	Second prelim.
Week 13	Sketch design 2.
Week 14	Pre final.
Week 15	**Final presentation.**

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts		
Recommended Texts	1- Visualization in Landscape and Environmental Planning, Technology and Applications/ Ian D.Bishop and Eckart Lange. 2- From Concept to Form in Landscape Design/ Grant W. Reed 3- Foundations of Landscape Architecture, Integrating Form and Space Ueing the Landscape of Site Design/ Norman K. Booth.	No
Websites		

2. University Department/Centre	Architecture engneering
3. Course title/code	ARE**425**
4. Modes of Attendance offered	Daily time
5. Semester/Year	4th Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	68. To develop physical ideas, solutions and skills for light as a science. Furthermore, understanding of lighting applications for constructions under specific standardizations. 69. Describe of lighting terms and units with physical identifications. 70. Deep learning of light and reflection and their principles 71. To understand lighting applications for buildings. 72. This course deals with the light criterion with reference of beneficials. 73. Estimate and choice of lamps using and distribution with drawings.
Module Learning Outcomes	a154. Recognize light as physical science.

مخرجات التعلم للمادة الدراسية	a155. Illustrate of lighting various terms and units. a156. knowledge of light qualities and features, Lighting and space. a157. Summarize the lamp types, and light fittings. a158. Discuss the mounting methods, and fitting layout a159. Photometric data, and lighting calculations will be recognized. a160. Improve the ability for taking an economic consideration in account. a161. Practice of Computer aided lighting design. a162. Describe Astronomy and Light Pollution
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. b193. What is the light. [2 hrs] b194. Light and Lighting as science and art. [2 hrs] b195. Light Qualities and features, and Lighting and space. [4 hrs] b196. Lamp types, and light fittings. [4 hrs] b197. Mounting methods, and fitting layout. [4 hrs] b198. Photometric data, lighting calculations. [4 hrs] b199. Economic considerations for lighting. [2 hrs] b200. Suitable lighting Vs function and orientation of buildings. [4hr] b201. Computer aided lighting design. [4 hrs] b202. Astronomy and Light Pollution. [2 hrs] b203. Discussion. [2 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	303. Explanation and clarification using the class lectures. 304. Tutorials hours. 305. Reading and self-learning. 306. Home Works. 307. Presentations, site photos and videos are interesting to the students. 308. Short Assignment (quizzes). 309. Training and activities during lecture. 310. Asking the questions that help to understand the material better. 311. Interaction during lectures 312. Practicing the examples, home-works, and reports. 313. Visual examination of concrete and steel test at laboratory. 314. Tutorials and discussions. 315. Mid-term and final exam.

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introduction to light and important scientific definitions.
Week 2	Terms and units.
Week 3	Light Qualities and features.
Week 4	Lighting and space.
Week 5	Lamp types and light fittings
Week 6	Mounting methods
Week 7	Fitting layout
Week 8	Photometric data
Week 9	Lighting calculations
Week 10	Economic considerations
Week 11	Lighting selection and distribution (Indoor and Outdoor)
Week 12	Computer aided lighting design
Week 13	Examples and Exercises
Week 14	Astronomy and Light Pollution
Week 15	Discussions
Week 16	**Preparatory week before the final Exam**

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts		Yes
Recommended Texts	Lighting Concepts 2019 / Lamp Awards/ Roger Narboni Lighting designer President of the 2019 Jury / Lamp S. A. U	No
Websites	https://onlinelibrary.wiley.com/doi/book/10.1002/9783527670147	

2. University Department/Centre	Architecture engneering
3. Course title/code	ARE**422**
4. Modes of Attendance offered	Daily time
5. Semester/Year	4th Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	74. exposing the student to a large knowledge base for all the fundamental ideas of how the natural world and architecture interact. 75. educating the student on the physical characteristics of natural climatic conditions at the regional and local levels, using the regions of Iraq as an example of hot, dry regions.. 76. focusing primarily on outlining the fundamental lines of residential and public building treatments so that the student can use them into his design work, whether at the academic or practical levels. Identify procedure of construction of low raise masonry buildings. 77. Understanding the Basics of Sustainable Architecture: The lesson aims to introduce students to the concept of sustainable architecture and its importance in protecting the environment and preserving natural resources
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	7. Climatic characteristics of dry hot regions 8. Put the necessary standards for Climate solutions. 9. the ability to determine the correct orientation of architectural buildings 10. Belt knowledge about the basics of thermal transfer through the outer shell and what are the methods of insulation 11. the behaviors of aerobic movement and its impact on reducing the thermal burdens of hot and dry areas 12. Identify the concept of sustainability and its most important criteria 13. Conceptual Development of sustainable architecture and urban disegn
Indicative Contents المحتويات الإرشادية	b204. General environmental concepts, [2 hrs] b205. identifying the bioclimatic assessment [2 hrs] b206. Concepts in the basics of thermal transfer from the outer shell of the building[4 hrs] b207. Concepts in the origins and behaviors of aerobic movement[4 hrs] b208. Identify of Sustainability and its criteria[4 hrs] b209. Ecosystem and ecological design[2 hrs] b210. The components and principles of green architecture[2 hrs] b211. Sustainability in the experiences of local architecture 4 hrs] b212. Discussion. [2 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	316. Explanation and clarification using the class lectures. 317. Tutorials hours. 318. Reading and self-learning. 319. Home Works. 320. Presentations, site photos and videos are interesting to the students. 321. Short Assignment (quizzes). 322. Training and activities during lecture.

	323.Asking the questions that help to understand the material better. 324.Interaction during lectures 325.Mid-term and final exam.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	General environmental concepts, familiarizing the student with the most important climatic characteristics of different regions of the world, focusing on hot, humid and dry climates
Week 2	, identifying the bioclimatic assessment and deriving the most important general planning and design decisions to control the external and internal environment
Week 3	Solar radiation and orientation concepts in hot dry areas by studying the relationship between the intensity of solar thermal loads and guidance and indication of thermal loads through the approved guidance for building facades with the application of a selection of examples.
Week 4	* Concepts in the basics of thermal transfer from the outer shell of the building and its origins in the adoption of architectural details to reduce the impact of thermal transfer through thermal insulation.
Week 5	Concepts in the origins of urban formation relative to the peculiarities of the surrounding natural environment and identification of the most important decisions adopted relative to the influencing climatic conditions.
Week 6	Concepts in the origins and behaviors of aerobic movement and its impact on reducing the thermal burdens of hot and dry areas
Week 7	Definitions of the concept of sustainability, sustainable development and the conditions that led to the emergence of the idea of sustainable development, the requirements and foundations of sustainable development, its components, objectives.
Week 8	The concept of sustainability in architecture and its connection with the design aspect-definitions of Sustainable Architecture - Conceptual Development of sustainable architecture - the civilizational and philosophical dimension of sustainable architecture.
Week 9	Ecosystem and ecological design in architecture and urban planning, the use of renewable energies.
Week 10	The components and principles of green architecture, the benefits and features of green architecture and its impact on the city's environment, architecture and its relationship with the environment, economy and society.
Week 11	Sustainable city and building design standards, LEED standards.
Week 12	Sustainability in global architecture experiments-presentation of applied models according to an analytical method.
Week 13	Sustainability in the experiences of local architecture-presentation of applied models according to an analytical method.
Week 14	**The relationship of Impact,and response between contemporary architecture (smart, interactive) between the variables of the different climatic environment and the focus on the hot dry zone.**

Week 15	Report submission and daily test

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Sustainable Architecture: Principles, Paradigms, and Case Studies" ـل David Bergman. 2. "Green Architecture: Advanced Technologies and Materials" ـل Osman Attmann.	Yes
Recommended Texts	. "Designing for Sustainability: A Guide to Building Greener Digital Products and Services" ـل Tim Frick.	No
Websites	https://www.usgbc.org/	

2. University Department/Centre	Architecture engneering
3. Course title/code	ARE**511**
4. Modes of Attendance offered	Daily time
5. Semester/Year	5th Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1. Enhancing the student confidence for choosing a project that matches to his imagination in order to designing a specific building in the city. 2. Enabling the student to evaluate the different areas in the city that have architectural and urban value, depending on the Standards and the experiences that they got during the previous courses. 3. Enabling the student to analyzing comparable international experiences, to delve deeper into relevant case studies, and to invest the previous experiences through analyzing similar examples to the student's project. 4. Encourage students to explore multiple design options and solutions, and evaluating the pros and cons of each option. 5. Increasing the Knowledge of the student regarding structural systems, building materials, environmental sustainability, building codes and regulations, and other

	relevant technical requirements. 6. Enhance students' presentation and communication skills. Encourage them to effectively communicate their design ideas through drawings, models, renderings, diagrams, and written reports.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. The Benefits from the output of the project in rising the awareness of the local community and society regarding the current situation of the city and how it might be after development and the proposed project. 2. Develop the ability to conduct independent and comprehensive research on architectural topics, including site analysis, case studies, and relevant theoretical frameworks. 3. Demonstrate proficiency in organizing spaces and developing functional programs that align with the identified design goals and respond to user needs. 4. Collaborate effectively in a multidisciplinary team environment, demonstrating the ability to work with professionals from other fields and integrate their expertise into the design process. 5. Develop basic project management skills, including time management, organization, and resource allocation, to successfully complete the design thesis within given constraints. 6. Effectively present and defend the design thesis, showcasing the ability to communicate design intentions, articulate design decisions, and respond to questions and critiques.
Indicative Contents المحتويات الإرشادية	1. Introduction 2. Research Methodologies 3. Site Analysis and Context Studies 4. Concept Development 5. Design Development and Refinement 6. Communication and Presentation Skills 7. Project Management 8. Final Presentation and Evaluation

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	326. Project-Based Learning 327. Studio Critiques and Reviews 328. Research and Analysis Workshops 329. Peer Collaboration and Teamwork 330. Field Trips and Site Visits 331. Digital Tools and Technologies 332. Practice and Self-Assessment 333. Presentations and Exhibitions 334. Feedback and Assessment

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction
Week 2	Research and Analysis
Week 3	Concept Development
Week 4	Design Exploration
Week 5	Technical Aspects
Week 6	Review and Feedback
Week 7	Design Development and Refinement
Week 8	Presentation and Communication Skills
Week 9	Collaboration and Teamwork
Week 10	Professional Development
Week 11	Design Refinement and Documentation
Week 12	Final Review Preparation
Week 13	Final Review and Exhibition
Week 14	Final Review and Exhibition
Week 15	Reflection and Conclusion
Week 16	

2. University Department/Centre	Architecture engneering
3. Course title/code	ARE**512**
4. Modes of Attendance offered	Daily time
5. Semester/Year	5th Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	7. Enabling student to realize that there are areas in the city that have architectural and urban value, but they suffer from problems that require treatment and improvement of their condition. 8. Developing the student's experience in examining the site under study and discovering the different dimensions of its architectural, urban, historical and

	other specifications. 9. Ripening of the student's vision by delving into the possible future image of this part of the city. 10. Developing students' skills in dialogue and discussion in order to reach collective decisions, recommendations and proposals regarding the study, analysis and development of the site under study. 11. Preparing the student to present his proposals regarding the distribution or change of the land use function of the urban area according to directions for the development of the area and its connection with the rest of the city through kinetic axes. 12. - Enabling the student to view comparable Arab and international experiences, to delve deeper into relevant theoretical propositions, and to invest in the expertise of previous experiences.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	7. Developing the student's ability to provide an advanced treatment for a realistic problem that suffers from physical and architectural backwardness. 8. Investing the results obtained from this project in educating the architectural community and civil society about the condition of a part of the city and how it might be after care and development 9. Referring to the possibility of benefiting the investment sector and government agencies from the conclusions and proposals of these projects. 10. Directing the student to realize the problems that cities suffer from and develop his vision to find solutions to the crises that cities suffer from, according to a perspective based on scientific foundations, so that this is reflected in architectural design projects.
Indicative Contents المحتويات الإرشادية	9. Arab and international Previous experiences 10. - Realistic factors for a part of the city that is in use, which reveals factors of clear weakness in its urban performance.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	335. Maturation of the student's culture and the development of his relationship with the city. 336. Continuous follow-up of the reality of the city's condition and discovering its weaknesses and urban imbalances. 337. Conducting analytical site studies to reach conclusions and recommendations. In light of this, planning and design proposals and alternatives are presented according to set goals and choosing the best alternative for developing the urban area within policies that are appropriate to the nature of the city. 338. Developing students' skills in dealing with the urban environment as the incubator for every architectural work. 339. Preparing the student's capabilities so that he is ready to perform corresponding work that confirms his ability and skill in architecture and urban development, and this provides the student's readiness to work in government departments and the private sector as well.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Primary studies
Week 2	Primary studies
Week 3	Concept
Week 4	Concept
Week 5	Submitting design 1
Week 6	Submitting design 2
Week 7	Submitting design 3
Week 8	Prelim
Week 9	Pre-final
Week 10	Sketch design
Week 11	Final project
Week 12	Individual design / Submitting design 1
Week 13	Submitting design 2
Week 14	Pre-final
Week 15	Sketch design
Week 16	Final project

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**

Required Texts	Neufert	Yes
Recommended Texts	Architects' data	YES
Websites		

2. University Department/Centre	Architecture engneering
3. Course title/code	ARE**513**
4. Modes of Attendance offered	Daily time
5. Semester/Year	5th Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	1. developing the student's skill on how to analyze the elected models 2. knowledge of the historical transitions of each architectural movement, while developing the student's skills in the possibility of diagnosing each model within its movement and the directions of its designers
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1.Understanding the works of classical, modern and postmodern architecture 2.Know the most important features and characteristics of each movement and the most important aspects emphasized by each of them 3-analyzing the architectural works of the most important pioneers of each movement to diagnose the lines of similarity and difference between them so that the student knows the general framework on which each movement moves. 4-knowledge of the role of theories, their origins, types and how they affected architecture 5-introducing the student to the power of the Industrial Revolution and its effects on the scientific, intellectual and cultural aspects 6-introducing the student to the reasons for the transition of modern architecture to late modernity 7-introducing the student to the foundations and rules of architectural thought within the trends of late modernity, which is an entrance to postmodernism
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. 1. introduce the student to the concept of theory and how to build it 2. introducing the student to the stages of the historical philosophical transition of the theory through history 3. intellectual development of students about the most important trends and movements of architecture and its change due to the scientific and industrial revolutions 4. giving a clear vision of each movement with its details, characteristics and the

	most important products that move within it. 5. emphasis on the modernism movement, its most important schools and the results it has advanced

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	340. Explanation and clarification using the class lectures. 341. Tutorials hours. 342. Reading and self-learning. 343. Home Works. 344. Presentations, site photos and videos are interesting to the students. 345. Short Assignment (quizzes). 346. Training and activities during lecture. 347. Asking the questions that help to understand the material better. 348. Interaction during lectures 349. Practicing the examples, home-works, and reports. 350. Continues drawings for specified building construct by load bearing walls system. 351. Submitting and Presentations of requested drawings. 352. Mid-term and final exam.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction to the theory of architecture
Week 2	Positivist theory and normative theory
Week 3	Theories of modernization in architecture
Week 4	Innovative and creative directions
Week 5	Directions of functional architecture
Week 6	Directions of organic architecture
Week 7	Directions of the Bauhaus school
Week 8	Directions of the Archi gram school
Week 9	Trends of Brutalist architecture
Week 10	Oral exam
Week 11	Trends of late modernity
Week 12	high tech school orientation
Week 13	Directions of the school of metaphysics
Week 14	Estimate a report for each student that includes one of the offered schools
Week 15	Discussion of student reports, which include one of the proposed schools
Week 16	**Final exam**

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Theories of architecture: Revolting and drafting for a contemporary architectural compass (architecture between 1954- now)/ Amjad Almusaed	Yes
Recommended Texts		No
Websites	https://faculty.uobasrah.edu.iq/faculty/1191/teaching	

2. University Department/Centre	Architecture engneering
3. Course title/code	ARE**514**
4. Modes of Attendance offered	Daily time
5. Semester/Year	5th Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	78. Raise students' awareness of the importance of architectural documentation as an important stage in the preservation of projects. 79. Increasing awareness of the importance of urban heritage as a cultural and economic resource.. 80. Learn about ways to protect heritage and reuse it within a contemporary framework. 81. Identify the environmental and cultural factors affecting the texture and character of local architecture. 82. Exchanging experiences and expertise in the field of documenting, recording, classifying and preserving urban heritage sites, and rehabilitation. 83. Learn about the most important international agreements that emphasize the importance of digital documents for heritage buildings and the need for accreditation Modern technologies in documentation
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	a163. Enhancing students' awareness of the objectives of the educational program for documenting heritage a164. Studying and realizing the importance and necessity of preserving heritage buildings. a165. The important role of architectural documentation in the success of conservation and restoration projects. a166. The importance of using a combination of techniques and modern methods of architectural preservation to obtain information and data. a167. Accurate and comprehensive documentation of heritage buildings. a168. The ability to identify the appropriate tools and techniques for projects to

	revive heritage buildings. a169. The ability to measure and record current field conditions (i.e. identify information and data needed to maintain. a170. The ability to use digital imaging and the use of visual media tools and various computer programs in documentation, and this aspect enhances the student's knowledge of a set of computer programs such as: - AutoCAD- 3DSMax-Photoshop and Augmented Reality technologies.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. • **Introduction: basic and historical definitions** 1-Definitions of preserving heritage buildings. [2 hrs] 2-the importance of preserving and restoring historical buildings - and the reasons for their deterioration. 4hrs] 3-Basic international institutions and documents and their role in establishing conservation concepts. [4 hrs] 4-Different levels of preservation of heritage buildings and areas. [4 hrs] 5-Phases of conservation projects. [4 hrs] **The integrated approach in the use of various methods and modern techniques for architectural documentation** 6-Modern techniques and methods for architectural lifting and documentation. [4 hrs] 7- Using the combination of different techniques and tools in architectural documentation. [4 hrs] 8- A case study of examples of architectural conservation projects at the local and international levels. [4 hrs]

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	353. Explanation and clarification using the class lectures. 354. Interactive discussions during the lecture. 355. Explanation with the application. 356. Explanatory videos. 357. Practical applications. 358. **Doing quizzes-** It is a 15-minute quiz in the first lecture of every 3 weeks to assess the student's understanding of the previous lectures and measure their progress. 359. **Assignments "Practical Assessment** -A set of tasks that are assigned to students as applications of the theoretical parts of the curriculum, most of which depend on analysis and conclusion 360. **Projects – Fieldwork**-The student works on it in groups of three to four, and a work group request is prepared The project goes through a set of stages to coincide with the volume of information provided to the student through the lectures.The student completes her project at the end of the course

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction –.Introduction: basic and historical definitions
Week 2	the importance of preserving and restoring historical buildings - and the reasons for their deterioration
Week 3	the importance of preserving and restoring historical buildings - and the reasons for their deterioration
Week 4	Basic international institutions and documents and their role in establishing conservation concepts
Week 5	Basic international institutions and documents and their role in establishing conservation concepts
Week 6	Different levels of preservation of heritage buildings and areas

Week 7	Different levels of preservation of heritage buildings and areas
Week 8	Different levels of preservation of heritage buildings and areas
Week 9	Phases of conservation projects
Week 10	Phases of conservation projects
Week 11	Modern techniques and methods for architectural lifting and documentation.
Week 12	Using the combination of different techniques and tools in architectural documentation
Week 13	A case study of examples of architectural conservation projects at the local and international levels.
Week 14	Discussions
Week 15	Discussions
Week 16	**Preparatory week before the final Exam**

2. University Department/Centre	Architecture engneering
3. Course title/code	ARE**521**
4. Modes of Attendance offered	Daily time
5. Semester/Year	5th Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents
أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية

Module Aims أهداف المادة الدراسية	13. Focus on developing students' proficiency in technical detailing and construction documentation. Emphasize the importance of accuracy, clarity, and adherence to building codes and standards in producing comprehensive and well-coordinated construction drawings. 14. Explore different construction materials, systems, and techniques relevant to the project type. Help students understand the relationship between design decisions and constructability, considering factors such as durability, cost, and environmental impact. 15. Introduce students to the evaluation of building performance through the use of appropriate tools and software. Emphasize the importance of energy efficiency, daylighting, thermal comfort, and acoustics in architectural design. 16. Enhance students' presentation skills by emphasizing effective visual communication techniques. Encourage the use of advanced software tools for 3D modeling, rendering, and animation to create compelling design presentations 17. Enhancing collaboration skills by encouraging students to work in interdisciplinary teams that simulate real-world project dynamics. Promote

	effective communication, coordination, and integration of inputs from various disciplines, such as structural engineering, mechanical, electrical, and landscape design. 18. Encourage students to be in touch deeply with project management principles and techniques. Introduce them to project scheduling tools and methods to understand the importance of time management, milestones, and deadlines in architectural practice.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	11. Students will demonstrate advanced design skills by developing creative and innovative architectural solutions for complex projects, integrating various design considerations and meeting programmatic requirements. 12. High level of technical proficiency in producing detailed construction drawings, specifications, and documentation that adhere to building codes, standards, and best practices. 13. Achieving full understanding of different construction materials, systems, and techniques and their appropriate application in architectural design. They will be able to make right decisions regarding materiality, durability, sustainability, and constructability. 14. The ability to assess and evaluate the performance of architectural designs in terms of energy efficiency, environmental impact, daylighting, thermal comfort, and acoustics. They will utilize appropriate tools and software to analyze and optimize building performance. 15. Acquire project management skills and demonstrate an understanding of project scheduling, time management, and coordination. They will be able to develop project schedules and manage tasks and resources effectively. 16. Develop visual communication skills, utilizing advanced software tools for 3D modeling, rendering, and animation to create compelling and persuasive design presentations. 17. The ability to analyze complex design problems, evaluate multiple options, and make informed decisions based on rigorous research, critical thinking, and evaluation of design alternatives.
Indicative Contents المحتويات الإرشادية	11. Advanced Design Concepts 12. Advanced Design Tools and Techniques 13. Sustainable Design Strategies 14. Technical Detailing and Documentation 15. Building Systems Integration 16. Construction Methods and Materials 17. Project Management and Professional Practice 18. Design Presentation and Communication 19. Design Critique and Evaluation

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	361. Project-Based Learning 362. Studio Critiques and Reviews 363. Research and Analysis Workshops

	364. Peer Collaboration and Teamwork 365. Field Trips and Site Visits 366. Digital Tools and Technologies 367. Practice and Self-Assessment 368. Presentations and Exhibitions 369. Feedback and Assessment

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Overview of the design project and its requirements
Week 2	Research on precedents and case studies related to the design problem
Week 3	Initial design exploration and sketches
Week 4	Development of design concepts
Week 5	Presentation and critique of design concepts
Week 6	Further development of the selected design concept
Week 7	Introduction to construction detailing
Week 8	construction drawing techniques and standards
Week 9	Construction detailing and documentation development
Week 10	sustainable materials and construction methods
Week 11	advanced rendering techniques and presentation skills
Week 12	Final design presentation and critique by faculty and peers
Week 13	specialized area of architecture (e.g., sustainable design, parametric design)
Week 14	self-evaluation of the design process
Week 15	Submission of the design project and portfolio
Week 16	Final review and feedback session

2. University Department/Centre	Architecture engneering
3. Course title/code	ARE**522**
4. Modes of Attendance offered	Daily time
5. Semester/Year	5th Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents

Module Aims	The lesson deals with Iraqi architecture, starting from the period of the British occupation, passing through the most important stages and stations in the contemporary history of Iraq through the temporal and spatial study of local architecture and the extent to which it meets the requirements of identity, in order to direct the student's awareness towards the right path in drawing the features of Iraqi architecture in the future, by identifying the most important basic features Which formed the character of Iraqi architecture.

Module Learning Outcomes	a171. Recognizing and perceiving the foundations and philosophy of Iraqi architecture during the period of British occupation and the establishment of the contemporary Iraqi state (the twenties and thirties of the twentieth century). a172. Recognizing and perceiving Iraqi architecture and identifying its intellectual and formal characteristics during its crystallization period in the forties and fifties of the twentieth century until the end of the monarchy in Iraq. a173. Recognizing and perceiving Iraqi architecture from the beginning of the transition to the republican system until the end of the sixties of the twentieth century, and identifying its intellectual and formal characteristics. a174. Recognizing and perceiving Iraqi architecture during the period of economic prosperity (the seventies and eighties of the twentieth century) and identifying its intellectual and formal characteristics. a175. Recognizing and perceiving Iraqi architecture and its architectural models during the period of economic blockade (the nineties of the twentieth century) and identifying its intellectual and formal characteristics. a176. Recognizing and perceiving the intellectual and formal characteristics of Iraqi architecture after the millennium, and the impact of local political changes, and global intellectual and technical developments on it. a177. Recognizing and perceiving the trends of contemporary Iraqi architectural discourse, and crystallizing a discourse to foresight the future.
Indicative Contents	Indicative content includes the following. b213. The impact of political, economic, social, technical and artistic transformations on contemporary Iraqi architecture. [2 hrs.] b214. Iraqi Architectural Customs and Traditions (Local Architectural Heritage). [2 hrs.] b215. International architectural trends (modernity, postmodernism, post-postmodernism) and their impact on contemporary Iraqi architecture. [2 hrs.] b216. Contemporary Iraqi architectural discourse [2 hrs.] b217. Discussion. [4 hrs.]

Learning and Teaching Strategies

Strategies	370. Explanation and clarification using the class lectures. 371. Reading, and self-learning. 372. Asking the questions that help to understand the material better. 373. Interaction during lectures 374. Short Assignment (quizzes). 375. Reports. 376. Mid-term and final exam.

Delivery Plan (Weekly Syllabus)

	Material Covered
Week 1	An introductory lecture on the nature of matter, a summary of the most important events in the contemporary history of Iraq, the periods that contemporary Iraqi architecture went through.
Week 2	Iraqi architecture at the end of the nineteenth century and the beginning of the twentieth century and the impact of the Ottoman Empire on it... Its features, its most prominent architectural products.
Week 3	Iraqi architecture during the period of the British occupation and its impact on it.... its features, its most prominent architectural products.

Week 4	Iraqi architecture during the establishment of the modern Iraqi state (decade of the twenties of the twentieth century) ... its features, its most prominent architectural products.
Week 5	Iraqi architecture in the period of its crystallization and establishment (decade of the thirties of the twentieth century) ... its features, its most prominent architectural products.
Week 6	Iraqi architecture in the period of the forties and fifties of the twentieth century until the end of the royal regime ... its features, the most prominent of its architectural products.
Week 7	Iraqi architecture during the establishment of the republican regime (the sixties of the twentieth century) and its impact on it ... its features, its most prominent architectural products.
Week 8	Midterm Exam
Week 9	Iraqi architecture in the period (the seventies to the mid-eighties of the twentieth century) and the impact of the economic prosperity in the early seventies and the war in the early eighties ... its features, the most prominent of its architectural products.
Week 10	Iraqi architecture in the period (the seventies to the mid-eighties of the twentieth century) and the impact of the economic prosperity in the early seventies and the war in the early eighties ... its features, the most prominent of its architectural products.
Week 11	The Iraqi architecture during the economic blockade period (the nineties of the twentieth century) and the impact of the economic blockade and the previous regime... Its features, the most prominent of its architectural products.
Week 12	Iraqi architecture in the third millennium and the impact of the political transformation in Iraq, and the global intellectual and technical change on it... Its features, its most prominent architectural products.
Week 13	Contemporary Iraqi Architectural Discourse... Its Philosophy, Features and Characteristics
Week 14	Evolution in the concept of the Iraqi house... its characteristics and models.
Week 15	**Heritage and environmental treatments in contemporary Iraqi architecture**
Week 16	**Discussion: Preparatory week before the final Exam**

Learning and Teaching Resources

	Text	**Available in the Library?**
Required Texts	The writings of theorists and critics of Iraqi architecture... Refaat Al-Chadirji, Muhammad Makiya...etc.	No
Recommended Texts	Encyclopedia of Iraqi architecture ... Muhammad Reda Chalabi	No
Websites		

2. University Department/Centre	Architecture engneering

3. Course title/code	ARE**525**
4. Modes of Attendance offered	Daily time
5. Semester/Year	5th Year
6. Number of hours tuition (total)	120 hrs
7. Date of production/revision of this	2021

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	The aim of this module is to help students develop an understanding about the fundamentals of engineering economy. More specifically, this Module helping students to understand: 1. Project Selection Process 2. Estimation of Construction Cost 3. Project Cash Flow 4. Project Risk Management 5. The Basis of construction contracts 6. Resource Management 7. Stakeholder Management.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	By the end of this module, students should be able to exhibit the following key learning outcomes: 1. Carry out the required calculation of Simple & compound interest, Present & future worth of money, Net Present Value (NPV), Internal Rate of Return (IRR), Payback Period (PP), Return on Investment (ROI), Benefit to Cost Ratio (BCR) and Accounting Rate of Return (ARR) 2. Be able to estimate construction project cost using the top down and bottom-up methods. 3. Be able to draw a project Bar chart. 4. Carry out project network analysis. 5. Calculate the project cash flow. 6. Carry out project risk analysis. 7. Discuss, explain, and carry out the basic calculations of construction contracts. 8. Discuss and explain the factors and theories behind the resource management subject. 9. Discuss and explain the factors and theories behind the stakeholder's management subject.
Indicative Contents المحتويات الإرشادية	

Learning and Teaching Strategies استراتيجيات التعلم والتعليم

Strategies	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. This will be achieved through classes, interactive tutorials and by considering type of simple experiments involving some sampling activities that are interesting to the students.

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
	Material Covered
Week 1	- Introduction to Feasibility study and Project Selection process - Simple and compound interest, Present & future worth, Net Present Value (NPV)
Week 2	Internal Rate of Return (IRR), Payback Period (PP), Return on Investment (ROI), Benefit to Cost Ratio (BCR), and Accounting Rate of Return (ARR)
Week 3	Project Cost Estimation - Part 1
Week 4	Project Cost Estimation - Part 2
Week 5	Bar chart (Gantt Chart) – Part 1 Quiz 1
Week 6	Bar chart (Gantt Chart) – Part 2
Week 7	Midterm Exam
Week 8	Network Analysis Technique
Week 9	Project Cash Flow Part 1
Week 10	Project Cash Flow Part 2
Week 11	Risk Management
Week 12	The Basis of construction contracts – Part 1
Week 13	The Basis of construction contracts – Part 2 Quiz 2
Week 14	Resource Management
Week 15	Stakeholder Management
Week 16	**Preparatory week before the final Exam**