University OF MOSUL

First Cycle – Bachelor's Degree (B.Sc.) – Architectural Engineering

بكالوريوس - هندسة العمارة

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Architecture Design and Graphic (1)**		**Module Delivery**		
Module Type	**Core**		✔ **Theory** ✔ **Lecture** **Lab** **Tutorial** ✔ **Practical** ✔ **Seminar**		
Module Code	**ARC111**				
ECTS Credits	**12**				
SWL (hr/sem)	**300**				
Module Level	UGI		**Semester of Delivery**	1	
Administering Department	ARC		**College**	COE	
Module Leader	**Ahmed Abdulwahab Alfakhry**		**e-mail**	ahmed.alfakhry@uomosul.edu.iq	
Module Leader's Acad. Title	Assist. Prof		**Module Leader's Qualification**	M.Sc	
Module Tutor	Ahmed Al-Fakhry		**e-mail**	ahmed.alfakhry@uomosul.edu.iq	
Peer Reviewer Name	**Reem Al-Othman** **Esraa Aziz**		**e-mail**	Reemalothman@uomosul.edu.iq esraamalallah@uomosul.edu.iq	
Scientific Committee Approval Date			**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. Theoretical part: Introduction, Primary Elements, Visual proportion of form, Primary shapes, Platonic solid, Regular and irregular forms, Transformation of form, Additive forms, Formal collisions of geometry, Articulation of form, Defining space with horizontal & vertical elements, Closure, Qualities of Architectural Space, Openings in space / Lighting, Spatial Relationships, Spatial Organizations, Circulation, Proportion and Scale, Practice/ Preliminary Presentation Ordering Principles, Practice/ Development Introduce students to the concept of Architecture Design and Graphic in its general and applied context, highlighting its role in the field of architecture. 2. Achieve a comprehensive understanding of Architecture Design and Graphic as an idea and its application in the context of architecture. 3. Understand the relationship between Architecture Design and Graphic and the art of architecture, with a focus on ways to develop Architecture Design and Graphic through architectural work. 4. Familiarize students with Architecture Design and Graphic, including their fundamentals,. Additionally, students become acquainted with the details related to Architecture Design and Graphic, especially modern systems used in contemporary architectural buildings. 5. Explore a range of Architecture Design and Graphic 6. Open new horizons for students to explore the architectural ideas 7. Enhance the role of students and activate their participation by presenting reports on Architecture Design and Graphic, and buildings. These reports are discussed Architecture Design and Graphic 8. Bridging the Gap between academic theories and practical applications and explore the details of Architecture Design and Graphic in architectural buildings and understanding , helping students enhance their practical and theoretical skills in this field. 9. Inform students – by practice – about: 10. Architectural elements (point, line, plane, & volume) and elements of design (line, 11. direction, shape, size, texture, value, & color) to achieve Unity in design according to 12. design principles 13. The concepts of mass & space in architectural design 14. Influence of structural principles on architectural composition 15. Influence of human scale and functions on architectural design 16. Local identity in architecture

Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Identify the concept of Design and Graphic and its role in Architecture. 2. Understanding the relationship between Architecture Design , Graphic and art in architecture and ways to develop it. 3. Familiarizing students with Architecture Design and Graphic form. 4. Studying l architectural projects and their use of Architecture Design and Graphic. 5. Encouraging exploration of architectural ideas and Architecture Design and Graphic development. 6. Enhancing student roles through report presentations and discussions. 7. Linking academic theories with practical applications and providing hands-on exercises. 8. Encouraging active learning and collaborative work among students. 9. Effective communication with Architecture Design and Graphic. 10. Functioning effectively as a team member, providing leadership, collaboration, and goal achievement. 11. Encouraging active learning Architecture Design and Graphic and collaboration through group presentations showcasing students' skills and collective work. 12. Acquiring and applying new knowledge using Architecture Design and Graphic learning strategies. 13. Program skill goals: - Practicing exercises and small projects in design studios, Design work in the design - studio occupies the main part in the course with a significant role of high-quality - architectural rendering in presenting results .
Indicative Contents المحتويات الإرشادية	1. Graphic and the concept of advanced Architecture Design and its relationship to architecture. 2. The most important elements and principles of advanced Architecture Design and Graphic and their applications in contemporary global projects. 3. The important elements and principles of advanced Architecture Design and Graphic and its significant classifications. 4. Important elements and principles of advanced Architecture Design and Graphic materials and their applications in global projects. 5. Elements and principles of advanced Architecture Design and Graphic, with international examples. 6.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1. Encouraging students' active participation through pre-lecture readings and class discussions the important elements and principles of advanced Architecture Design and Graphic. 2. Promoting an interactive learning important elements and principles of advanced Architecture Design and Graphic by implementing reverse learning, where students explore and research the Architecture Design and Graphic, contemporary building elements, and new architectural design principles, leading to discussions and a deeper understanding of the subject matter.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	123	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	8
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	177	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	11.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	300		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Report**	2	5%	22,26	22,26
	(Day Sketch	1	10% (10)	9	3,6
	Fınal Presentatıon	10	50%	4,8,10,14,16,24,26,28,29,31	6,8,9,10,11,12,13,14
	Discussions&Analysis teams work	2	5%(10)	22,26	
Summative assessment	**Midterm Exam(Day Sketch 1)**	2 hr	20% (20)	31	
	Final Exam (Day Sketch2)	4	10% (10)	32	

Total assessment	100% (100 Marks)		

FIRST SEMISTER (Weekly Syllabus) المنهاج الاسبوعي		
	Material Covered	
Week 1	General introduction	General principles.
Week 2	Engineering tool, elements	Architectural Compositions.
Week 3	Architectural design principles	Pencils Techniques.
Week 4	Point	Types of Lines (one dimension) **Fınal Presentatıon**
Week 5	Line (one dimension) linear elements	Day sketch.
Week 6		Engineering shapes (Circle, Square, Triangle)…etc
Week 7	Plan(2D) walls, roofs ,floors	Regular & Irregular in practice.
Week 8	Volumes components of volume, volume dual.	Presentation in graphic. **Fınal Presentatıon**
Week 9	Form (3d).	Day sketch.
Week 10	Properties of form.	Texture in Architecture &Materials. **Fınal Presentatıon**
Week 11	Primary shapes, primary solids.	Light Degrees between (white, gray & black)
Week 12	Irregular shapes ,transformation of form	Use Colors between Art composition & Engineering shapes.
Week 13	Method of a joining forms	Colage.
Week 14	Types of compositions	Planes (two dimensions) **Fınal Presentatıon**.
Week 15	Edges, Articulation of forms	Day Sketch.
Week 16	Engineering Volumes (three dimensions).	Fınal Presentatıon

SECOND SEMISTER (Weekly Syllabus) المنهاج الاسبوعي		
	Material Covered	
Week 17	Form & space, surface& edge	Dimensions & Architectural design
Week 18	Functional analysis in Architecture, organization, circulation, proportion	The relation between shape & space.
Week19		Indoor & outdoor Function.
Week 20	Residential function	Residential Use ant its concentrates.
Week 21	Small house design	Day Sketch.
Week 22	Report , Discussions& Analysis team's work	Functional Analysis of house
Week 23	Indoor & outdoor movement	Bed rooms , living rooms, kitchens, Bath rooms.
Week 24	Vertical movement	Human Scale. **Fınal Presentatıon**
Week 25	Mass & outdoor Environment	The Relation between Human Scale & Architecture .
Week 26	Report , Discussions& Analysis team's work	Furniture design. **Fınal Presentatıon**
Week 27	Furniture	Day Sketch.
Week 28	Plans	Plans drawing **Fınal Presentatıon**
Week 29	Elevations	Elevations drawing & its details. **Fınal Presentatıon**
Week 30	Sections	Sections Drawing.
Week 31	Pre. Fınal Presentatıon, Exam	The Relation between indoor & outdoor functions in site plan .
Week 32	Site plan& land Scape Design	3D Model Fınal Presentatıon & Day Sketch.

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	- Architecture, Form, Space and Order, Franic Ching, Van Nostrand Reinhold Company, New York, 1996	No
Recommended Texts	• "Sources of architectural form", Manchester University Press, MANCHESTER and NEW YORK-USA) • (Gelernter, M. "Sources of architectural form", Manchester University Press, MANCHESTER and NEW YORK-USA) • The Art of Color and Design, Maitland Graves, McGraw Hill Book Com. Inc., New York, 1951	No

Websites	

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Descriptive geometry & Engineering Drawing**			**Module Delivery**	
Module Type	**S**			☐**Theory** ☒**Lecture** ☒ **Lab** ☐**Tutorial** ☒ **Practical** ☐**Seminar**	
Module Code	**ARC112**				
ECTS Credits	6				
SWL (hr/sem)	**150**				
Module Level	UGI		**Semester of Delivery**	1	
Administering Department	ARC		**College**	COE	
Module Leader	Reem Ali Talib Alothman Aseel Ibrahim Khalil		**e-mail**	reemalothman@uomosul.edu.iq Aseel.ibrahim@uomosul.edu.iq	
Module Leader's Acad. Title	Teacher		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Mafaz Tariq		**e-mail**	E-mail	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date			**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. Descriptive Geometry provides a training of the students' intellectual capability of space perception and spatial reasoning. 2. Training the student's mind to visualize imaginary objects and represent them in reality. The subject aims at developing the skills needed for documenting designs using drawings and for performing graphical analysis of two dimensional and three dimensional problems. This course develops the ability of the students to understand geometric projection and learn the types of geometric projection. Students will learn how to use deferent drawing scales. The course develops the basic engineering drawing skills in one plane of the students and use drawing tools.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	.1 Remember and understand the most ways to draw different shapes. .2 Comparing the different methods of drawing. .3 Describe different ways that used for drawing the same object. .4 Naming and describing the different scales. .5 Carrying out the final 2d and 3d drawing of any project. .6 The use of different architectural drawing tools. .7 Benefit from the ways of drawing in engineering and architectural work after graduation
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. .1 Introducing the engineering drawing subject. .2 How to draw different shapes. .3 How to draw 3d models. .4 How to draw projection.

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 practical sessions and home works.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	63
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.1	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	87
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative	**Quizzes**	1	10% (10)	5	

assessment	**Projects / Lab. Class work**	12	15% (10)	1,3,7,10,12, 14	
	Projects / Home work	12	15% (10)	2,4,6,9,11,13,15	
Summative assessment	**Midterm Exam**	2 hr	20% (20)	8	
	Final Exam	3 hr	40% (40)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	**Monge's Orthographic Projection** **Defining points for Monge's descriptive geometry analysis**
Week 2	**Defining lines for Monge's descriptive geometry analysis**
Week 3	**Solve for various projections (1) such as: True size and shape projections, True angles, Distances between points and lines.**
Week 4	**Solve for various projections (2) such as: True size and shape projections, True angles, Distances between points and lines.**
Week 5	Mid term exam
Week 6	**Auxiliary Views. Defining principle views relative to spatial analysis and expanding the principles of basic views to auxiliary view application**
Week 7	Introduction and definition of engineering drawing for students, including the following: Learn about engineering tools and how to use them. * Types of pens used in drawing geometric shapes. * Billboard layout and addresses field numbers.

	* How to deal with the engineering board and the engineering board and how to install it on the board. Types of lines in engineering drawing: visible lines, hidden lines, center lines, dimension lines, cutting lines.
Week 8	Various engineering operations: * Introducing the drawing scale and its types: civil, mechanical, zoom-in and zoom-out scale. Teach students how to apply and draw the following engineering operations: * Drawing a straight line parallel to a known straight line from a point outside it. * Drawing a perpendicular bisector of a known straight line Draw tangents and learn about tangent points and how to locate them
Week 9	Various engineering operations * Draw a known arc so that it touches two known lines between which there are angles: right, acute and obtuse. * Finding the center of a known arc tangent to: a known straight line and a known circle arc, inner circle arcs, and outer circle arcs. * Finding the center of a known arc that touches the arc of a known circle and passes through a point outside it. Draw the inverted shape
Week 10	Quiz
Week 11	Perpendicular projection theory of objects * Types of projection in drawing and its practical importance * projections with vertical rays * Types of projections resulting from vertical projection and approved in the projection of various engineering objects The front, vertical, right side and left side view * How to arrange and draw the projections required for any object on the drawing board
Week 12	Drawing three-dimensional figures * Types of three-dimensional figures and their practical benefits * Isometric

Week 13	Linking the given projections with the process of imagining and drawing the analogous body Drawing axes of measurement and how to put dimensions on them
Week 14	Drawing the deleted third position of the body * How to deduce the omitted location from two known locations of the body Draw the omitted location of objects with inclined surfaces
Week 15	Geometric Sections * Rules for cutting objects * Marking the cut areas and leaving blanks and uncut parts Abnormal areas during cutting that were not marked: the oblique and vertical supports and appendages in the body
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**Material Covered**
Week 1	Using the engineering board and install the sheet on the board and use engineering drawings tools.
Week 2	Drawing: visible lines, hidden lines, center lines, dimension lines, cutting lines.
Week 3	Drawing a straight line parallel to a known straight line from a point outside it. Drawing a perpendicular bisector of a known straight line
Week 4	Drawing tangents
Week 5	Quiz
Week 6	Section drawing
Week 7	Arrange and draw the projections required for any object on the drawing board
Week 8	Mid Term Exam
Week 9	Drawing three-dimensional figures
Week 10	Drawing axes of measurement and put dimensions on them
Week 11	Linking the given projections with the process of imagining and drawing the analogous body
Week 12	Drawing the deleted third position of the body
Week 13	Draw the omitted location of objects with inclined surfaces
Week 14	Marking the cut areas and leaving blanks and uncut parts
Week 15	Abnormal areas during cutting that were not marked: the oblique and vertical supports and appendages in the body
Week 16	Final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	-	No
Recommended Texts	Engineering Drawing and Graphic Technology, By French & Vierk, Twelve edition.	No

Websites	

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks (%)**	**Definition**
Success Group (50 - 100)	**A -** Excellent	امتياز	90 – 100	Outstanding Performance
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	F – Fail	راسب	(0-44)	Considerable amount of work required

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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Art & Architecture**			**Module Delivery**	
Module Type	**C**			☒ **Theory**	
Module Code	**ARC 113**			☒ **Lecture**	
ECTS Credits	4			☐ **Lab**	
SWL (hr/sem)	100			☐ **Tutorial** ☐**Practical** ☒ **Seminar**	
Module Level	UGI		**Semester of Delivery**	1	
Administering Department	ARC		**College**	COE	
Module Leader	**Khawola faith mahmoud**		**e-mail**	**Khawola.mahmoud@uomosul.edu.iq**	
Module Leader's Acad. Title	Assist. Prof		**Module Leader's Qualification**	Ph.D.	
Module Tutor	anwar meshal shareef		**e-mail**	anwar.meshal@uomosul.edu.iq	
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date			**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى

Prerequisite module	Architecture Design and Graphic (1)	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	.1 Introduction to Art and Architecture: The aim of this module is to provide students with a broad understanding of the relationship between art and architecture, and the relations between architecture and other sciences, introducing key concepts and terminology in the field. .2 Elements of Design: The aim of this module is to introduce students to the fundamental elements of design and how they apply to both art and architecture. Students will develop an understanding of how these elements contribute to the aesthetics and functionality of architectural design. .3 Principles of design : : The aim of this module is to introduce students to the Principles of design and Identify and distinguish how the principles of design apply in architecture . Students will develop an understanding of how these Principles contribute to the aesthetics and functionality of architectural design. .4 Drawing and Visualization: This module aims to develop students' drawing skills specifically for architectural representation. The goal is to enable students to effectively communicate their design ideas through drawings and visualizations. .5 Space and Scale: This module aims to provide students with an understanding of space and scale in architectural design. Students will learn how to create a sense of space and manipulate scale in their designs to achieve desired effects. .6 Architectural composition, types of geometric forms' connections, articulation of forms and corners and their application in art and architecture .7 Architectural trends and movements in art and architecture,(art nouveau, cubism). .8 Historical Architectural Styles: This module aims to familiarize students with the major architectural styles throughout history, from ancient to contemporary, enabling them to recognize and analyze different architectural styles and their characteristics. .9 Materials and Construction: The aim of this module is to introduce students to different construction materials and their applications in architecture. Students will gain knowledge about the properties and characteristics of materials, enabling them to make informed material choices in their designs. .10 into how technology is shaping the future of architecture and the Interior Design: This module aims to introduce students to the principles of interior design within architectural spaces. Students will learn how to create functional and aesthetically pleasing interiors, considering lighting, furniture, and material

	choices. 11. Landscape Design and Site Planning: The aim of this module is to provide students with an understanding of landscape design principles and their role in architectural projects. Students will learn how to integrate buildings with the surrounding landscape to create harmonious and sustainable designs. 12. Architectural Representation: This module aims to develop students' skills in architectural representation, including models, renderings, and digital visualization techniques. The goal is to equip students with effective communication tools to present their design ideas. 13. Emerging Technologies and Future Trends: This module aims to explore the impact of emerging technologies on architecture and to discuss future trends in the field. Students will gain insights challenges and opportunities it presents.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Introduction to Art and Architecture: • Understand the relationship between art and architecture. • Use key concepts and terminology related to art and architecture. 2. Historical Architectural Styles: • Differentiate between major architectural styles throughout history. • Analyze the characteristics and influences of various architectural styles. 3. Elements of Design: • Apply design principles to create aesthetically pleasing and functional architectural designs. 4. Drawing and Visualization: • Communicate design ideas effectively through drawings and visualizations. 5. Space and Scale: • Manipulate spatial qualities and scale in architectural design. 6. Materials and Construction: • Evaluate construction materials used in architecture. • Make informed material choices for architectural applications. 8. Sustainable Design and Green Architecture: • Incorporate sustainable design principles and practices in architectural design. • Apply environmentally friendly materials and energy-efficient strategies.

	11. Interior Design: • Apply principles of interior design within architectural spaces. 12. Landscape Design and Site Planning: • Integrate buildings with the surrounding environment through landscape design. 13. Architectural Representation: • Present architectural designs effectively using appropriate representation methods. 14. Emerging Technologies and Future Trends: • Understand the impact of emerging technologies on architecture. • Evaluate and discuss future trends in architecture.
Indicative Contents المحتويات الإرشادية	the relationship between art and architecture, major historical architectural styles, elements of design in architecture, drawing and visualization skills, space and scale in architectural design, materials and construction, urban design and planning, sustainable design and green architecture, architectural history, building structures, interior design principles, landscape design and site planning, architectural representation techniques, and emerging technologies and future trends in architecture. These condensed indicative contents provide an overview of the essential topics and concepts that will be covered in the curriculum on art and architecture

Learning and Teaching Strategies استراتيجيات التعلم والتعليم

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
2	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	33	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل
2.8	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	67	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل
100			**Total SWL (h/sem)** الحمل الدراسي الكلي للطالب خلال الفصل

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	4, 13	LO #3, 4, 5, and 6
	Assignments	4	10% (10)	4, 13	LO #3, 4, 5, and 6
	Projects / Lab.	1	10% (10)		
	Exam		10%(10)		
Summative assessment	**Midterm Exam**	1 hr	10% (10)	8	1,2,3,4,6,14
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	• Introduction to Art and Architecture • Overview of the course and its objectives • Understanding the basic principles of art and architecture • Exploring the relationship between art and architecture • Exploring the relationship between architecture and other sciences
Week 2	Elements of Design • Introduction to the elements of design (line, shape, form, color, texture, etc.) • Understanding how these elements apply to both art and architecture • Examples of how artists and architects utilize these elements in their work
Week 3	Principles of design

	• Introduction to the Principles of design (identicall , similarity, contrast, Gradation, dominance, Balance, unity, etc.). • Understanding how these Principles apply to architecture • Identify and distinguish how the principles of design apply in architecture
Week 4	Drawing Fundamentals for Architects • Importance of drawing skills in architecture • Basic drawing techniques and exercises for architectural representation • Introduction to architectural drafting tools and conventions
Week 5	Understanding Space and Scale , proportion • Exploring the concepts of space and scale in art and architecture • Techniques for creating a sense of space in architectural design • Examining how artists play with scale in their works
Week 6	Architectural composition • types of geometric forms' connections • articulation of forms and corners and their application in art and architecture
Week 7	Architectural trends and movements in art and architecture,(art nouveau, cubism).
Week 8	**Mid Term Exam**
Week 9	Color Theory and Application • Basics of color theory and its significance in art and architecture • Exploring color palettes and their emotional impact on architectural spaces • Case studies of buildings that effectively use color in their design
Week 10	Architectural Styles: From Classical to Contemporary • Introduction to various architectural styles throughout history • Overview of classical architecture (Greek and Roman) • Exploration of modern and contemporary architectural styles
Week 11	Introduction to Interior Design

	• Exploring the principles of interior design in architectural spaces • Understanding the role of lighting, furniture, and materials in interior design • Case studies of well-designed interiors
Week 12	Landscape Design and Site Planning • Introduction to landscape design principles • Understanding the relationship between buildings and their surroundings • Case studies of landscape architecture projects
Week 13	Architectural Representation: Models and Visualization • Introduction to architectural models and their role in design • Exploring different visualization techniques (renderings, digital modeling, etc.) • Understanding the importance of effective communication in architectural representation
Week 14	Sustainable Design and Green Architecture • Introduction to sustainable design practices in architecture • Exploring environmentally friendly materials and energy-efficient strategies • Case studies of green buildings and their sustainable features
Week 15	Future Trends in Architecture • Exploring emerging technologies and their impact on architecture • Trends in sustainable design, smart cities, and adaptive reuse • Discussion on the future challenges and opportunities in the field of architecture
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	• Architecture, Form, Space and Order / Francis Ching/1996 • The Art of Color and Design / Maitland Graves/1951 • Launching Imagination / Mary Stewart/2006 • مباديء في الفن والعمارة /شيرين احسان شيرزاد/1985	Yes
Recommended Texts	• "A Global History of Architecture" by Francis D. K. Ching, Mark M. Jarzombek, and Vikramaditya Prakash • "The Story of Art" by E.H. Gombrich • "Architecture: Form, Space, and Order" by Francis D. K. Ching • "Architecture: A World History" by Daniel Borden, Jerzy Elzanowski, and Joni Taylor • The Metropolitan Museum of Art's website (www.metmuseum.org) for online exhibits and resources on art and architectural history. • (www.getty.edu/education) for educational resources on art and architecture. • The National Gallery of Art's website (www.nga.gov)	No

	for virtual tours and educational materials on art history. • Architectural Review (www.architectural-review.com) • Architectural Digest (www.architecturaldigest.com) • Journal of Architectural Education (www.tandfonline.com/toc/uarc20/current)	
Websites	• The Artstor Digital Library (www.artstor.org) for high-quality images of artworks, architectural drawings, and historical photographs. • Google Arts & Culture (artsandculture.google.com) for virtual tours, high-resolution images, and educational resources on art and architecture. • Coursera (www.coursera.org) and edX (www.edx.org) offer online courses on art history, architectural design, and related topics. • The Architectural Association School of Architecture (www.aaschool.ac.uk) offers online courses and lectures on architecture and design. •	

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية			
Module Title	**Mathematics (1)**	**Module Delivery**	
Module Type	**B**	**☒ Theory**	
Module Code	**ARC 114**	**☐ Lecture**	
ECTS Credits	**4.0**	**☐ Lab**	
SWL (hr/sem)	**100**	**☒ Tutorial** **☐ Practical** **☐ Seminar**	
Module Level	UGI	**Semester of Delivery**	1
Administering Department	ARC	**College**	COE
Module Leader	Tuqa Waleed Ahmed	**e-mail**	new.matrix242@uomosul.edu.iq
Module Leader's Acad. Title	Lecturer	**Module Leader's Qualification**	M.SC.
Module Tutor	Mohammed Al Jawahery	**e-mail**	mohammed.aljawahery@uomosul.edu.iq
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date		**Version Number**	1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. Provide the fundamental concepts for elementary mathematics. 2. Use mathematical functions like trigonometric functions and application of derivatives to solve some Engineering problems.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. At the end of this course, students will have gained knowledge of the Basic 2D Curves drawing using shifting properties. 2. Understanding the concepts of limits and continuity. 3. Being able to apply the differentiation to solve Engineering problems. 4. Learning how to use the power, product, quotient and chain rule to differentiate algebraic trigonometric functions. 5. Recognizing different types of matrices and their properties. 6. Applying matrix operations to solve system of linear equations.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Prerequisites for calculus, coordinates and graphs in the plane. Slope and Equations for lines, functions and their graphs. Shifts, circles and parabolas. A review of trigonometric functions. [15 hrs] Limits and continuity, introduction to limit, The sandwich theorem and $\frac{\sin\theta}{\theta}$, limits involving infinity, continuous functions. [15 hrs] Derivatives, slopes, tangent lines and derivatives. Differentiations rules, derivatives of trigonometric functions. The

	chain rule, implicit differentiation and fractional powers. [15 hrs] Applications of derivatives, related rates of change. maxima, minima, curve sketching with y' and y''. graphing rational functions, asymptotes, optimization. Types of Matrices, operations sum, multiplication by scalar, multiplication between two matrices, Determinants, The adjoin of Matrix, inverse of Matrix, Solving systems of linear equation using Matrices. [15 hrs]

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.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	22	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.46
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100		

Module Evaluation تقييم المادة الدراسية					
	As	**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative	**Quizzes**	4	30% (30)	4,7,10and15	LO #1, 2,3 and 4

assessment	**Assignments**	5	10% (10)	3,9,11,13,and 14	LO # 1-6
	Projects / Lab.				
	Report				
Summative assessment	**Midterm Exam**	1 hr	10% (10)	9	LO # 1-4
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Types of matrices, operations, sum, multiplication by scalar and multiplication between two matrices.
Week 2	Determinants, the adjoint and the inverse of matrix.
Week 3	Solving systems of linear equations using matrices.
Week 4	Prerequisites for calculus, coordinates and Graphs in the plane,
Week 5	Slope and equations for lines, functions and their graphs.
Week 6	Shifts, circles, parabolas and a review of trigonometric functions.
Week 7	Introduction to limits.
Week 8	The sandwich theorem and $\frac{\sin\theta}{\theta}$.
Week 9	Limits involving infinity and continuous functions.
Week 10	Derivatives, slopes and tangent lines.
Week 11	Differentiation rules and derivatives of trigonometric functions.
Week 12	The chain rule, implicit differentiation and fractional powers.
Week 13	Applications of derivatives and related rates of change.
Week 14	Maxima, minima and curve sketching with y' and y''.
Week 15	Graphing rational functions, asymptotes and optimization.

Week 16	Preparatory week before the final exam.

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	Thomas__Calculus_11th_Edition by Thomas.	No
Recommended Texts	Calculus and Analytic Geometry 1 by Purcell,1972.	No
Websites		

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks (%)**	**Definition**
Success Group	**A** - Excellent	امتياز	90 - 100	Outstanding Performance

(50 - 100)	**B -** Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group	**FX –** Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
(0 – 49)	**F –** Fail	راسب	(0-44)	Considerable amount of work required

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

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية			
Module Title	Arabic Language	**Module Delivery**	
Module Type	B	☒ **Theory** ☐ **Lecture** ☐ **Lab** ☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	UOM101		
ECTS Credits	2		
SWL (hr/sem)	50		
Module Level	UGI	**Semester of Delivery**	1
Administering Department	ARC	**College**	COE
Module Leader		**e-mail**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor		**e-mail**	
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date		**Version Number**	1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	None
Co-requisites module	None	**Semester**	None

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

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	32
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.13	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	18
		Total SWL (h/sem)	50

الحمل الدراسي الكلي للطالب خلال الفصل	

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

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	

Week 8	
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	
Week 14	
Week 15	
Week 16	

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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		
Recommended Texts		
Websites		

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

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Module Information معلومات المادة الدراسية				
Module Title	Democracy and Human Rights		**Module Delivery**	
Module Type	B		☒ **Theory**	
Module Code	UOM104		☐ **Lecture**	
ECTS Credits	2		☐ **Lab**	
SWL (hr/sem)	50		☐ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Level	UGI	**Semester of Delivery**	1	
Administering Department	ARC	**College**	COE	
Module Leader	Rashad Adhed Alsaigh	**e-mail**	rashad.alsaigh@uomosul.edu.iq	
Module Leader's Acad. Title	Assistant lecturer	**Module Leader's Qualification**	MSc	
Module Tutor		**e-mail**		
Peer Reviewer Name	Zainab abd alellah abd alkareem	**e-mail**	lawyerzainabaa@uomosul.edu.iq	
Scientific Committee Approval Date		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	None
Co-requisites module	None	**Semester**	None

Module Aims, Learning Outcomes and Indicative Contents

أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	The aim of studying the democracy and human rights topics is to: 1. **Understand** the concept of human rights and explore their sources, including international, regional, national, and religious sources. 2. **Define** administrative corruption, explore its types, and understand its detrimental effects on society. Study methods to combat administrative corruption and promote transparency, accountability, and good governance. 3. **Trace** the historical development and evolution of human rights, examining key milestones and movements that have shaped the modern understanding of human rights. 4. **Differentiate** between different categories of human rights, including civil and political rights, economic and social rights, and environmental, cultural, and developmental rights. 5. **Explore** legal, institutional, and societal guarantees to prevent human rights violations, including guarantees of human rights in Islam, national-level protections, and international safeguards. 6. **Comprehend** the concept of democracy, including its principles, values, and various forms of democratic governance such as direct, semi-direct, indirect, and digital democracy. Overall, studying these topics aims to develop a comprehensive understanding of human rights, democracy, and combating corruption, empowering individuals to actively promote and protect human rights and democratic values in society.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	After these module aims, students should be able to: 1. Demonstrate a comprehensive understanding of the concept of human rights and their sources, including international, regional, national, and religious sources. 2. Identify and explain the fundamental characteristics of human rights, such as universality, indivisibility, interdependence, and inalienability. 3. Analyze the historical emergence and evolution of human rights, including key milestones and movements that have shaped their development. 4. Differentiate between different categories of human rights, including civil and political rights, economic and social rights, and environmental, cultural, and developmental rights. 5. Evaluate and apply legal, institutional, and societal guarantees to prevent human rights violations, considering guarantees in Islam, at the national level, and within the international framework. 6. Understand and discuss the concept of democracy, including its principles, values, and different forms of democratic governance. 7. Evaluate the Islamic stance on democracy and engage in critical analysis of the strengths and weaknesses of the democratic system.

	8. Recognize and assess the impact of administrative corruption on society and propose methods to combat and prevent corruption in administrative systems. 9. Demonstrate critical thinking skills by analyzing and evaluating different perspectives on human rights, democracy, and corruption. 10. Apply acquired knowledge and skills to promote and protect human rights, democracy, and good governance in personal, professional, and civic contexts. Overall, students should have a solid understanding of democracy and human rights, democracy, and corruption issues, and be able to apply this knowledge to contribute to the advancement of human rights and democratic values in society.
Indicative Contents المحتويات الإرشادية	The indicative content includes: 1. Definition and sources of democracy and human rights (international, regional, national, religious). [3h] 2. Characteristics of democracy and human rights: universality, indivisibility, interdependence, inalienability. [3h] 3. Emergence and evolution of human rights: historical development, key milestones, influential movements. [3h] 4. Types of human rights: civil and political, economic and social, environmental, cultural, and developmental. [3h] 5. Guarantees to prevent human rights violations: legal, institutional, societal safeguards, Islamic guarantees, national and international levels. [3h] 6. Concept of democracy: principles, values, forms of governance (direct, semi-direct, indirect). [3h] 7. Islamic stance on democracy: compatibility, strengths, weaknesses. [3h] 8. Critique of the democratic system: analysis of strengths and weaknesses. [3h] 9. Administrative corruption: definition, types, societal impact. [3h] 10. Methods to combat administrative corruption. [3h]

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم	
Strategies	When it comes to learning and teaching strategies for a human rights module, there are several approaches can be taken to enhance understanding and engagement. Here are some effective strategies: 1. Interactive Discussions: Encourage students to actively participate in discussions, debates, and group activities. This promotes critical thinking, allows for different perspectives to be shared, and fosters a deeper understanding of human rights issues. 2. Case Studies: Present real-life case studies that highlight human rights violations or achievements. Analyzing these cases helps students apply theoretical concepts to practical situations and develops their problem-solving skills. 3. Research Projects: Assign research projects on specific human rights topics or issues. This encourages independent learning, critical analysis, and the development of research skills. 4. Collaborative Learning: Foster collaboration among students through group projects or assignments. This encourages teamwork, peer learning, and the exchange of diverse perspectives. 5. Assessment Variety: Use a variety of assessment methods, including essays, presentations, debates, and quizzes, to assess students' understanding of human rights concepts and their ability to apply them to real-world situations.

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

Module Evaluation تقييم المادة الدراسية

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

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Definition of human rights and sources of rights (international sources / regional sources / national sources / religious sources).
Week 2	Characteristics of human rights.
Week 3	The emergence and evolution of human rights.
Week 4	Types of human rights / civil and political rights. Economic and social rights. Environmental, cultural, and developmental rights.
Week 5	Guarantees to prevent human rights violations / guarantees of human rights in Islam.
Week 6	Guarantees for the protection of human rights at the national level.
Week 7	Guarantees of human rights at the international level.
Week 8	The concept of democracy.
Week 9	Characteristics of a democratic system.
Week 10	Forms of democratic governance (direct democracy / semi-direct democracy / indirect democracy).

Week 11	Digital democracy / definition and advantages and disadvantages of digital democracy / manifestations of digital democracy.
Week 12	The Islamic stance on democracy.
Week 13	Critique of the democratic system.
Week 14	Administrative corruption / definition and types.
Week 15	Methods to combat administrative corruption.
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	ضمانات حقوق الانسان وحمايتها وفقا للقانون الدولي والتشريع الوطني / نبيل عبد الرحمن ناصر الدين	No
Recommended Texts	الديمقراطية وحقوق الانسان / د. امير عبد العزيز	No
Websites		

Grading Scheme

مخطط الدرجات

Group	**Grade**	التقدير	**Marks (%)**	**Definition**
Success Group (50 - 100)	**A** - Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C - Good	جيد	70 - 79	Sound work with notable errors
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Fail Group (0 – 49)	**FX** – Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Architectural Design& Graphic (2)**			**Module Delivery**	
Module Type	**Core**			☒ **Theory**	
Module Code	**ARC 121**			☒ **Lecture**	
ECTS Credits	**12**			☐ **Lab**	
SWL (hr/sem)	300			☒ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Leader	**Nasma Maan M. Thabit**	**e-mail**	**Nasma.thabet@uomosul.edu.iq**		
Module Leader's Acad. Title	Assist. Prof	**Module Leader's Qualification**	M.Sc		
Module Tutor	Ahmed Al-Fakhry	**e-mail**	ahmed.alfakhry@uomosul.edu.iq		
Peer Reviewer Name	**Reem Al-Othman** **Isra malallah aziz**	**e-mail**	Reemalothman@uomosul.edu.iq esraamalallah@uomosul.edu.iq		
Scientific Committee Approval Date		**Version Number**	1.0		
Prerequisite module				**Semester**	
Co-requisites module	None			**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	.1 This course aims to teach students the basic principles of architectural design and presentation through introduces the student to methods of graphic representation essential to design professionals in the built environment. Design representation is taught both as a craft and as a method of thinking. .2 Types of representation include freehand drawing (drawing from observation and from the imagination); analytic diagramming (the two-dimensional representation of an idea or process); .3 illustration graphics (symbolic representation), and technical drafting (conventions of plan, section, elevation and axonometric). Students will be exposed to analog (pencil-and-paper) and digital tools. .4 The method of instruction will emphasize application of representation skills in response to project assignments.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	.1 The purpose of this course also is to provide students with the necessary scientific and logical justification for the studied architectural as well as the exercises on which they depend. .2 General skills and other skills related to portability (Personal employment and development). .3 Teamwork within the group. Personal development through ethical values in dealing with, and respect for the other opinion. .4 Personal development through building the general and professional cultural background of the profession. Interaction with teaching staff as a guide educational and administrative educational process.
Indicative Contents المحتويات الإرشادية	• Determine Creative thinking to apply design principles of composition and to deal with the level of mass and architectural space. Introduce opinions and deduce the nature of the application of design principles and the use of design elements in the studied architectural practice that achieve a collective agreement. • Self-learning skill through self-reliance in the conclusion of solutions to design problems and knowledge. Based on the students' criticism and follow-up by the teaching staff to ensure that the talents and abilities of the students are exploited and utilized to achieve the objectives of the educational program.

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.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	8	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	123
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	11.8	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	177
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	300

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
As Formative assessment Summative assessment	**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**	**As**
	Report	2	5%	22,26	**Formative assessment**
	(Day Sketch	1	10% (10)	9	6,8,9,10,11,12,13,14
	Fınal Presentatıon	10	50%	4,8,10,14,16,24,26,28,29,31	
	Discussions&Analysis teams work	2	5%(10)	22,26	5,7,8,9,10,11,12,13,,14
	Midterm Exam(Day Sketch 1)	2 hr	20% (20)	31	**Summative assessment**
Summative assessment	**Final Exam (Day Sketch2)**	4	10% (10)	32	1,2,3,4,6,14
Total assessment	100% (100 Marks)				**Total assessment**
As			**Time/Number**	**Weight (Marks)**	**Week Due**

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Human Scale: Standardization and study of the reality of the activities position, a study of the chosen space and its standard dimensions. It represents the joint between the abstract state and other values in architecture. Understand the concept and its applications and distinguish between the scale in the residential building and public building .
Week 2	**Submission**
Week 3	Study the space or place to perform the effectiveness according to the human scale, recognition of standard dimensions Standard for the space of activities and furniture required for each of the basic human activities of sleep, food, living and kitchen, the use of expressive expressions of those furniture and the absorption of their sizes in relation to the human.
Week 4	**Homework**
Week 5	Application through a realistic study of interior space, design development with a focus on studying space, functional and expressive requirements of it, the introduction of color and texture, a study of furniture and others.
Week 6	**Homework**
Week 7	Definition of the style of presentation facades and sections and show the architectural project integrated based on the elements and principles of design at the level of the configurations of three dimensions, and the volume and mass configuration of the basic human functions and studio apartment for one person.
Week 8	**Priemer Submission**
Week 9	The specific project of housing unit (studio) for one person and with multi-function.
Week 10	**Discussion**
Week 11	**Discussion**
Week 12	**Discution , Pre-final submission**
Week 13	**Final submission**
Week 14	Recognition of the method of abstraction, integration, and overlay in the design of the stable volumetric formations through a short project depends on one of the light buildings with a visual character, for example, designs for external elements such as fountains, monuments, bus stations, stalls ... etc
Week 15	**Submission**
Week 16	Human Scale: Standardization and study of the reality of the activities position, a study of the chosen space and its standard dimensions. It represents the joint between the abstract state and other values in architecture. Understand the concept and its applications and distinguish between the scale in the residential building and public building .

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	1. Form, Space, Francis Ching, 2. Introduction to Architecture Design, Francis ching 3. Pattern Language.	No
Recommended Texts		No
Websites		

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks (%)**	**Definition**
Success Group (50 - 100)	**A –** Excellent	امتياز	90 – 100	Outstanding Performance
	B - Very Good	جيد جدا	80 – 89	Above average with some errors
	C – Good	جيد	70 – 79	Sound work with notable errors

	D – Satisfactory	متوسط	60 – 69	Fair but with major shortcomings
	E – Sufficient	مقبول	50 – 59	Work meets minimum criteria
Fail Group	**FX –** Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
(0 – 49)	**F –** Fail	راسب	(0-44)	Considerable amount of work required

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

Module Information

معلومات المادة الدراسية

Module Title	**Free Hand Drawing (1)**		**Module Delivery**	
Module Type	S		☐**Theory**	
Module Code	**ARC 122**		☒ **Lecture**	
ECTS Credits	5		☐ **Lab**	
SWL (hr/sem)	125		☐**Tutorial**	
			☒**Practical**	
			☐ **Seminar**	
Module Level	UGI	**Semester of Delivery**	2	
Administering Department	ARC	**College**	COE	
Module Leader	Ahmed Yaroub Ghanem Tohala	**e-mail**	ahmadtohala@uomosul.edu.iq	
Module Leader's Acad. Title	Lecturer	**Module Leader's Qualification**	PhD.	
Module Tutor		**e-mail**		
Peer Reviewer Name	Name	**e-mail**	E-mail	
Scientific Committee Approval Date		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	The free hand drawing curriculum for the architecture student aims at several important goals for the formation of the architect during his academic years, which go beyond learning the means and techniques of free hand drawing to develop visual perception and a mature architectural engineering vision of the world, which is very important for the architect, including: • The balance of vision and the development of artistic taste for objects and formations • Exercising the sense of sight on the vision and linking it to previous information about the theory of perspective to form thought, perception and visualization of that form. • Exercising the hand on expression by creating a harmonious relationship between the vision, the brain and the hand to express the visual perception of the world. • Learn the method of measurement of proportions and proportions using hand, pen and sight • Recognize the differences between the values of light, shade and shadows in the theory of perspective and learn to express them. • Learn the methods and techniques of drawing with different materials such as pencils and colors • Developing the ability to see the elements of artistic formation, such as lines, shapes, sizes, textures and directions, and analyze them in the model. •Developing self-reliance in the process of vision and expression through a series of drawing exercises that range in difficulty from simple shapes to more complex ones. •Obtaining a musical visual vision that will be important and useful for future architecture students.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Aesthetic artistic taste through a musical vision of different shapes and configurations. 2. Learn the theory of perspective, which is the basis for visual perception of the world. 3. Create a harmonious relationship between vision, brain and hand for expression and the ability to express architectural ideas through free hand drawing. 4 .Using the measurement method for proportions and proportions by hand, pen and sight 5. Realizing the differences in light values in the theory of perspective and being able to express them. 6. Acquire the skills of using different drawing methods and techniques The artistic vision of the elements of the artistic composition, such as lines, shapes, sizes, textures, 7.

	.directions, and their analysis in the model
Indicative Contents المحتويات الإرشادية	1. Visual perception of different shapes from the perspective of the concept of perspective and its concepts. 2. Proportions in dimensions and shapes and measuring them by hand, pen and vision. 3 . Estimating light values, colors, tones, and the differences between them 4 . Derivations of various shapes from the basic cube shape. 5 . The relationship between vision, hand, visual perception, acquisition of vision skill and the ability to express. 6. Gaining the musical vision of an architecture student through practice and bringing concepts into practice.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1 . Giving the student the basic concepts and previous information about the reality that he draws through a model, and then criticizing the drawing so that the student acquires the skill of correct vision and the ability to express 2 . Diversifying the shapes and configurations of the model and the gradation in the degree of complexity from simple to complex

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	62	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.4
Total SWL (h/sem)	125		

الحمل الدراسي الكلي للطالب خلال الفصل	

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	4, 13	LO #1, 2, and 3
	Assignments	1	30% 30)	6	LO #3
	Projects / Lab.	4 hr	30%(30)	12	LO #3 and 4
	Report				
Summative assessment	**Midterm Exam**	4 hr	15% (15)	15	LO #1-4
	Final Exam	3 hr	15%(15)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**

Week 1	Introductory test for know the student aptitude
Week 2	Training for draw lines in different directions
Week 3	Simple model consist of cubes – stage 1
Week 4	Advance model consist of cubes – stage 1
Week 5	General discussion with the student about the drawing and paint
Week 6	Simple model consist of circle shapes & cylinders – Stage 1
Week 7	Simple model consist of circle shapes & cylinders – Stage 2
Week 8	Simple model consist of circle shapes & cylinders – Stage 3
Week 9	Simple model consist of oblique cubes – stage 1
Week 10	Simple model consist of oblique cubes – stage 2
Week 11	Simple model consist of potteries
Week 12	simple model consist of irregular forms1
Week 13	Advance model consist of irregular forms2
Week 14	General discussion with the student about the drawing and paint
Week 15	Final submission
Week 16	**Final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	Drawing – a creative process , Francis d. k. Ching , john Wiley & sons , inc. , 1990 Drawing outdoor , henry c. pitz , Watson- guptill publications , 1965 , new York How to paint and draw , bodo w. jaxtheimer , Thames and Hudson , 1962 , London Watercolor technique , rex Brandt , sixth edition , Reinhold publishing corporation , 1963	No
Recommended Texts		No
Websites		

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

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

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Construction and Building Materials**			**Module Delivery**	
Module Type	**C**			☒ **Theory**	
Module Code	**ARC 123**			☒ **Lecture**	
ECTS Credits	4			☐ **Lab**	
SWL (hr/sem)	**100**			☐**Tutorial**	
				☐ **Practical**	
				☐ **Seminar**	
Module Level		UGV	**Semester of Delivery**		2
Administering Department		Architectural Engineering	**College**	College of Engineering	
Module Leader	Adil Khalil Qasim		**e-mail**	adil.khalil@uomosul.edu.iq	
Module Leader's Acad. Title		Assistant teacher	**Module Leader's Qualification**		MSc.
Module Tutor			**e-mail**		
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date		01/06/2023	**Version Number**		1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	Building Construction	**Semester**	Three

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. This course aims at understanding building materials, properties, and uses; exterior and interior finishing materials, preparation of construction drawings, details. Identify the components of buildings and It's types by a clear structure, construction, and material.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	On successful completion of this course students will be able to: 1.Utilize basic principles of Building Construction. 2.Compose reports of properties of the buildings materials and elements. 3. To Learn properties of the buildings materials. 4. To Learn properties of the buildings elements. 5. Understanding of process construction through materials and elements.
Indicative Contents المحتويات الإرشادية	Construction and Building Materials is a scientific course with theoretical, concerned with providing and analyzing information specialized in the field of Building Construction. The semester establishes for fundamental base for the building processes, and provides the ability to use different techniques and tools for this purpose.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Instructional strategies are hands-on learning, direct instruction, and document-based questions. Introduction to the principles of Building construction. Examples of building implementations.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	52	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.46
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	15% (10)	4,13	LO #1,2, and 3
	Assignments	1	15% (10)	6	LO #3
	Projects / Lab.				
	Report	1	10% (10)	5 and 15	
Summative assessment	**Midterm Exam**	2 hr	20% (20)	15	LO # 1-4
	Final Exam	3 hr	40% (40)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered

Week 1	An Introduction about building materials The Stages of the construction of the building, and the components of the building (foundations- Walls- roofs- floors)
Week 2	Construction materials (Brick), building by Brick, constructional Symbols, (Homework)
Week 3	Stone, Types of stones, building by stone, Gypsum. (H.W.)
Week 4	Types of cement and Its properties. Concrete, Types of Concrete and Its Properties, Concrete Components. (Quiz1)
Week 5	A visit to laboratories and sites under construction, (Report)
Week 6	Light and hollow Concrete and Thermstone, industry, components, properties, uses. (H.W.)
Week 7	Steel, Aluminum, Plastic materials
Week 8	Term Exam 1st
Week 9	Foundations, and walls (H.W.)
Week 10	Roofs and Floors (H.W.)
Week 11	Vertical circulation elements (Stairs, Ramps, Escalators, Lifts) (H.W.)
Week 12	Vertical circulation elements (Stairs, Ramps, Escalators, Lifts) (H.W.)
Week 13	Openings (Doors and windows) (Quiz 2)
Week 14	Finishing and Insulation Materials
Week 15	A visit to sites under construction, (Report)
Week 16	Term Exam 2nd

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered

Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	
Week 8	
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	
Week 14	
Week 15	

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

Required Texts	• Building Constructions- By Zuhair M. Saco • Building Constructions, Walls and It's Details – By Anees Juaad • Civil Engineering for Architects (Poland)	Yes
Recommended Texts		
Websites		

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

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نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية			
Module Title	**Mathematics (2)**	**Module Delivery**	
Module Type	**B**	**☒ Theory**	
Module Code	**ARC 124**	**☐ Lecture**	
ECTS Credits	**4.0**	**☐ Lab**	
SWL (hr/sem)	**100**	**☒ Tutorial** **☐ Practical** **☐ Seminar**	
Module Level	UGI	**Semester of Delivery**	2
Administering Department	ARC	**College**	COE
Module Leader	Tuqa Waleed Ahmed	**e-mail**	new.matrix242@uomosul.edu.iq
Module Leader's Acad. Title	Lecturer	**Module Leader's Qualification**	M.Sc.
Module Tutor	Mohammed Al Jawahery	**e-mail**	mohammed.aljawahery@uomosul.edu.iq
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date		**Version Number**	1.0

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	Mathematics (1).	**Semester**	1
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. Provide the fundamental concepts of elementary mathematics for integration. 2 .Use the mathematical integration to find the areas, volumes and the length of the curve
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	At the end of this course, students will have: 1. Understanding and applying the fundamental concepts of integration. 2. Finding the indefinite integral of a function using substitution techniques. 3. Being able to solve problems involving applications of integration, such as area between curves, volume of revolutions and length of curves. 4. Understanding the concept of inverse functions and how they relate the original functions. 5. Recognizing the relationship between inverse trigonometric functions and their application in solving the problems. 6. Applying the techniques of integration to solve integral problems.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Integrating and finding the area with respect to x and y axes, definite integrals and indefinite integrals [10 hrs]. Applications of definite integrals, areas between curves, volumes of solids of revolution, disks and washers, cylindrical shells, length of curves in the plane and areas of surfaces of revolution. [20 hrs] The calculus of transcendental functions, inverse functions, $\ln x, e^x$ and logarithmic differentiation, general exponential and logarithmic function and the inverse of trigonometric functions. [20 hrs] Techniques of integration, basic integration formulas, integration by parts, trigonometric integrals, trigonometric substitution, rational functions and partial fractions. [25 hrs]

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم	
Strategies	Type something like: 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.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	78
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.46	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	22
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	3	30% (30)	5, 10	**LO #1, 2 and 3**
	Assignments	5	10% (10)	2, 12	LO # 1-6
	Projects / Lab.				
	Report				
Summative assessment	**Midterm Exam**	1 hr	10% (10)	8	LO # 1-3
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Definite integrals and indefinite integrals.
Week 2	Integrating and finding the area with respect to x and y axes.
Week 3	Application of definite integrals and areas between curves.
Week 4	Volumes of solids of revolution: discs and washers methods.
Week 5	Cylindrical shells method.
Week 6	Length of curves in the plane.
Week 7	Areas of surfaces of Revolution.
Week 8	The calculus of transcendental functions and inverse functions.
Week 9	$\ln x, e^x$ and logarithmic differentiation.
Week 10	General exponential and logarithmic functions.
Week 11	The inverse trigonometric functions.
Week 12	Techniques of integration and basic integration formulas.
Week 13	Integration by parts.
Week 14	Trigonometric integrals and trigonometric substitution.
Week 15	Rational functions and partial fractions.
Week 16	Preparatory week before the final exam.

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر

Week	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	Thomas' Calculus by Finney and Thomas.	NO
Recommended Texts	Calculus and Analytic Geometry 1 by Purcell,1972.	NO
Websites		

Grading Scheme

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

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

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية			
Module Title	computer literacy	**Module Delivery**	
Module Type	B	**☒ Theory**	
Module Code	UOM103	**☐ Lecture**	
ECTS Credits	3	**☐ Lab**	
SWL (hr/sem)	75	**☐ Tutorial** **☐ Practical** **☐ Seminar**	
Module Level	UGI	**Semester of Delivery**	2
Administering Department	ARC	**College**	COE
Module Leader		**e-mail**	
Module Leader's Acad. Title		**Module Leader's Qualification**	
Module Tutor		**e-mail**	
Peer Reviewer Name		**e-mail**	
Scientific Committee Approval Date		**Version Number**	1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	None
Co-requisites module	None	**Semester**	None

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

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL) الحمل الدراسي للطالب			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	33
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.13	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	42
		Total SWL (h/sem)	75

الحمل الدراسي الكلي للطالب خلال الفصل	

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

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	

Week 7	
Week 8	
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	
Week 14	
Week 15	
Week 16	

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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		
Recommended Texts		
Websites		

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

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

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**English language**			**Module Delivery**	
Module Type	B			**Theory** ☐	
Module Code	**UOM102**			**Lecture** ☐	
ECTS Credits	**2**			**Lab**	
SWL (hr/sem)	**50**			**Tutorial** **Practical** **Seminar**	
Module Level	**UGI**		**Semester of Delivery**	**2**	
Administering Department	**Architectural Engineering**	**College**	**College of Engineering**		
Module Leader	**Rawia Marwan Dabdoob**	**e-mail**	**rawia.dandoob@uomosul.edu.iq**		
Module Leader's Acad. Title	**Assist. Lecturer**	**Module Leader's Qualification**	MSc.		
Module Tutor	Dr. Oday Qusay	**e-mail**			
Peer Reviewer Name		**e-mail**			
Scientific Committee Approval Date		**Version Number**	1.0		

Relation with other Modules العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	The main Learning Outcomes of English language Beginner module for the first stage is: 1. **Developing student´s skills in English language includes the four skills:** - **Listening objectives:** Understand the main points of clear speech. - **Reading Objectives:** Understand basic language to read any topic on architecture. - **Writing Objectives:** write simply about familiar and architectural topics. - **Speaking Objectives:** extended communication skills in education contexts. Reflection on own learning and development and ability to work with, and relate to others. 2. **upgrading the quality of architectural educational aiming to obtain academic accreditation**.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	The Module Learning Outcomes that serve the aim include: 1. **learning English language may allow students to communicate easily with fellow global students and other counterparts.** 2. **learning English language may ease the access to different architectural information and resources in English.** 3. **learning English language may improve and widen employment opportunities, and make them more confident.** Those outcomes can be fulfilled through cognition domain from Blooms Taxonomy as following: 1. **Remembering Vocabulary**. • Recognizing words and their meanings • Describing things or situation 2. **'Understanding 'Everyday English** • Interpreting sentences

	• Explaining a word meaning. 3. **Applying 'Spoken grammar'** • Comparing tools grammar • Applying tools and words meanings in forming sentences. • Carry out tools and grammars in writing.
Indicative Contents المحتويات الإرشادية	During the course, students will be able to speak interaction and production objectives, deal with most situations with basic English language. This course adopts Headway Student's Book, hence, is a communicative English language course designed by Oxford University. The course has been supplemented by a variety of communicative and business-related projects to ensure the outcomes of the program. The course aims to further develop students' language skills and strategies in reading, writing, listening, and speaking to a level where they can apply their language skills to longer, more complex material and tasks that help build confidence and prepare students to proceed to intermediate level. The course has seven units where each is carefully designed to develop students' four main skills. The course also pays good attention to grammar, vocabulary, and pronunciation.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Learning and teaching strategies refer to instructors' methods and approaches to facilitate student learning and achievement of module learning outcomes. These strategies aim to engage students, promote understanding, and enhance their knowledge and skills in advanced English course. Here are the adopted learning and teaching strategies: 1. **Lectures and presentations**: the notes and the instructors are delivered through presentations introducing fundamental knowledge of English grammar and skills. 2. **Interactive discussions**: promotes active learning and thinking by

	engaging students in discussions. Instructors can facilitate class discussions on specific topics, encouraging students to share their insights, ask questions, and explore different perspectives. 3. **Formative Assessments and Feedback**: Regular formative assessments, such as quizzes and homework that help instructors gauge students' understanding and progress. Providing timely feedback allows students to identify areas for improvement and reinforces their learning.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	32	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	1.24
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	18	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.76
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

Module Evaluation تقييم المادة الدراسية					
	As	**Time/ Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	3,8	1,2
	Homework assignments	9	27% (27)	2,3,4,5,6,7,8, 9,11,12,13	1,2
	Discussions& Attendance	1	3% (3)	1,2,3,4,5,6,7, 8,9,11,12,13, 14,15	1,2

Summative assessment	**Midterm Exam**	1 hr	10% (10)	10	
	Final Exam	3 hr	50% (50)		
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Part of speech: Noun, pronoun, adjective, adverb
Week 2	Part of speech: verb tenses
Week 3	Unit 1: Hello Am/is My/your This is How are you?
Week 4	Unite 2: your world He/she His/her Questions
Week 5	Unit 3: All about you Negatives-he/she is not Questions and short answers Negatives- I am/ they/ we are not
Week 6	Unit 4: Family and friends! Possessive adjectives Possessive s

	Common verbs
Week 7	Unit 5: Things I like! Present simple positive Present simple nwgative Questions
Week 8	Reading and listening
Week 9	Reading and listening
Week 10	Midterm Exam
Week 11	Unit 6: Every day Present simple Adverbs of frequency Sometimes/never Questions and negatives
Week 12	Unit 7: Favourite things Questions words Pronouns Possessive This and that
Week 13	Writing report
Week 14	Writing report
Week 15	Writing report
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	Liz & John Soars and Jo McCaul (2019) Headway-Beginner Student's Book Fifth Edition. OXFORD University Press. ISBN : 978-0-19-476966-2	No
Recommended Texts		No
Websites		

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks (%)**	**Definition**
Success Group (50 - 100)	**A –** Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C – Good	جيد	70 - 79	Sound work with notable errors
	D – Satisfactory	متوسط	60 - 69	Fair but with major shortcomings

	E – Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX –** Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

التصميم المعماري المرحلة الثانية الفصل الاول

Module Information معلومات المادة الدراسية			
Module Title	**Architecture design 1**	**Module Delivery**	
Module Type	**C**	☐ **Theory**	
Module Code	**ARC 211**	☒ **Lecture**	
ECTS Credits	12	☒ **Lab**	
SWL (hr/sem)	300	☐ **Tutorial** ☒ **Practical** ☐ **Seminar**	
Module Level	UGII	**Semester of Delivery**	3
Administering Department	ARC	**College**	COE
Module Leader	mozahim Mohammed Mustafa	**e-mail**	Mozahim.hadidi@uomosul.edu.iq
Module Leader's Acad. Title	LECTURER	**Module Leader's Qualification**	Ph.D.
Module Tutor	Name (if available)	**e-mail**	E-mail
Peer Reviewer Name	Name	**e-mail**	E-mail
Scientific Committee Approval Date		**Version Number**	1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	Initiating the students into the basic principles of the design process (collecting information, analysis, synthesis), enabling them to start a design project, to resolve architectural functions and to manipulate architectural form and space within a given context using architectural vocabulary and respecting local architectural identity
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. At the end of the course, the student will be able to acquire the necessary knowledge to design buildings with limited spaces (Villa). 2. The student can make reports related to the analysis of similar examples, standards, and site analysis, in addition to other information about the project. 3. The ability to solve design problems and choose the best alternative in design
Indicative Contents المحتويات الإرشادية	Introduction, Primary Elements, Visual proportion of form, Primary shapes, Platonic solid, Regular and irregular forms, Transformation of form, Additive forms, Formal collisions of geometry, Articulation of form, Defining space with horizontal & vertical elements, Closure, Qualities of Architectural Space, Openings in space / Lighting, Spatial Relationships, Spatial Organizations, Circulation, Proportion and Scale, Practice/ Preliminary Presentation Ordering Principles, Practice/ Development.

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.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	10	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	153
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	9.8	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	147
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	300

Module Evaluation
تقييم المادة الدراسية

		Time/ Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Report**	3	10% (10)	2,3,4	1,2,3,4,5,AND6
	Weekly assessment	13	10% (10)	1,13	
	Concept supmission	1	5%(5)	5	6,8,9,10,11,12,13,14
	Midterm supmission	1	10%(10)	7	
	Pre. Fınal Presentatıon	1	15% (15)	12	
	Fınal Presentatıon	1	20% (20)	16	
Summative assessment	**Midterm Exam(Day Sketch 1)**	3 hr	15% (15)	6,10	1,7
	Final Exam (Day Sketch2)	4	15% (15)	16	
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	General Introduction
Week 2	Definition and characteristics of the design process
Week 3	The design problematic and how to define it using architectural graphics and drawings
Week 4	Analysis as an interpreting tool clarifying the problem in relation to the composition
Week 5	Analysis using matrices
Week 6	architectural spaces adjacency criteria
Week 7	Day sketch
Week 8	Synthesis – representing matrices using geometrical shapes (the bubble diagram)
Week 9	Synthesis – representing matrices using geometrical shapes (the bubble diagram)
Week 10	Synthesis – Zoning
Week 11	Architectural form and its types
Week 12	Interlocking architectural forms
Week 13	Treatment of architectural form
Week 14	Solid and void
Week 15	**Horizontal elements defining space**
Week 16	Vertical elements defining spaces

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	Architecture, form space & order by Francis D. K. Ching Methods of systematic analysis of design in architecture, By D. Mohamed A. Shihab	Yes
Recommended Texts		No
Websites		

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

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نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**History of Ancient Architecture**			**Module Delivery**	
Module Type	**C**			☒ **Theory**	
Module Code	**ARC 212**			☒ **Lecture**	
ECTS Credits	**4**			☐ **Lab**	
SWL (hr/sem)	**100**			☐**Tutorial** ☐ **Practical** ☒ **Seminar**	
Module Level	UGII	**Semester of Delivery**	3		
Administering Department	ARC	**College**	COE		
Module Leader	Ashraf Ibrahim Mahmood	**e-mail**	E- Ashraf.ibrahim@uomosul.edu.iq mail		
Module Leader's Acad. Title	Lecture	**Module Leader's Qualification**	M.Sc.		
Module Tutor	Ashraf Ibrahim Mahmood	**e-mail**	E- Ashraf.ibrahim@uomosul.edu.iq mail		
Peer Reviewer Name	Anfal Hamodat	**e-mail**	Anfal.azzam@uomosul.edu.iq		
Scientific Committee Approval Date		**Version Number**	1.0		

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	**History of European Architecture, History of Islamic Architecture**	**Semester**	2^{nd}sem 2^{nd} stage , 1^{st}sem 3^{rd} stage
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. Students' ability to draw inspiration from the design characteristics of old buildings and employ them in their future designs 2. Increasing the visual knowledge store about the history of architecture, its stages of development, its characteristics and advantages 3. Preparing architectural graduates according to scientific rules that enable them to practice the profession of architecture in architectural and urban design, in city planning, internal and external spaces, and preservation of heritage and antiquities according to scientific rules and methods
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Gain knowledge about architectural history, including different styles and characteristics of buildings throughout history, through lectures, reading materials, and visual aids such as pictures and videos. 2. Understand and appreciate the importance of architectural style and its impact on society. 3. Apply knowledge and skills to real-world situations and problems in the fields of architecture, town planning, urban planning, interior and exterior spaces, and the preservation of cultural heritage and antiquities. 4. Practice the profession of architects according to scientific rules and methods. 5. Draw inspiration from design features of older buildings for future designs. 6. Use knowledge, skills, and creativity to develop new ideas, products or solutions by incorporating design features from old buildings into future designs.
Indicative Contents المحتويات الإرشادية	• Introduction of ancient Iraqi architecture 2hours , 1 week . • Sumerian architecture (introduction ,temples and palaces architecture) 4hours , 2 week . • Babylonian Old Architecture (introduction ,temples and palaces architecture) 2 hours , 1 week . • Assyrian architecture (introduction, the Assyrian capitals, the gates of cities ,temples and palaces). 6 hours , 3 week . • Babylonian modern architecture (planning the city of Babylon, the gates of the city, a street procession, temples and palaces Architecture) 2hours , 1 week. • Ancient Egyptian architecture - the general characteristics, The funereal Architecture, (pyramids, tombs carved in the mountains and temples). 6 hours , 3 week. • Greek Architecture – The general characteristics- orders- temples .6 hours , 3 week. • St udents Reports Discussion. 2hours , 1 week.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The course includes lecture discussions and teaching and learning strategies for students to learn about ancient architecture. The course begins with an introduction to ancient Iraqi architecture followed by a detailed survey of Sumerian Babylonian Assyrian ancient Egyptian and Greek architecture. Topics are discussed weekly and lessons are 2-6 hours per week. This lecture provides general characteristics of each architectural style and specific details of temple palace gates and other structures. In addition to lectures students are required to participate in discussions on topics covered in class. These discussions give students an opportunity to ask questions and share insights about the architecture being studied. Finally students are expected to write a report on a specific topic related to ancient architecture. These reports allow students to delve deeper into specific aspects of a topic and demonstrate their understanding of the topic. In general the teaching and learning strategies of this course are designed to provide students with a comprehensive understanding of ancient architecture through lectures. Discussion and independent study.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	33
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.4	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	67
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100

Module Evaluation تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	20% (20)	4, 13	1,2,3,4,5,6
	Assignments	3	10% (10)	4, 13	1,2,3,4,5,6
	Projects / Lab.				
	Report	1	10% (10)	14	All
Summative assessment	Midterm Exam	2 hr	10% (10)	7	1,2,3,4,5,6
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Introduction of ancient Iraqi architecture
Week 2	Sumerian architecture
Week 3	Sumerian architecture
Week 4	Babylonian Old Architecture
Week 5	Assyrian architecture
Week 6	Assyrian architecture
Week 7	Assyrian architecture
Week 8	Babylonian modern architecture
Week 9	Ancient Egyptian architecture
Week 10	Ancient Egyptian architecture
Week 11	Ancient Egyptian architecture
Week 12	Greek Architecture
Week 13	Greek Architecture

Week 14	Greek Architecture
Week 15	Students Reports Discussion
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	• , Bancroft-Hunt, Norman Living in ancient Mesopotamia 2009 • Graphic History of Architecture : JOHN MANSBRIDGE , 1967 • Smith, William .The art And Architecture of Ancient Egypt Stevenson,1981 • Mesopotamia Ancient art and Architecture. Zainab Bahrani , 2017	No
Recommended Texts		No

Websites	

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية			
Module Title	Building Construction	**Module Delivery**	
Module Type	**B**	**☒ Theory** **☐Lecture** **☐ Lab** **☐ Tutorial** **☒ Practical** **☐ Seminar**	
Module Code	**ARC213**		
ECTS Credits	4		
SWL (hr/sem)	100		
Module Level	UGII	**Semester of Delivery**	3
Administering Department	ARC	**College**	COE
Module Leader	Raed salim ahmed	**e-mail**	Raeedalnumman@uomosul.edu.iq
Module Leader's Acad. Title	Assistant Professor	**Module Leader's Qualification**	M.Sc.
Module Tutor	Dr. sinan taleea	**e-mail**	Sinan@uomosul.edu.iq
Peer Reviewer Name	Mohammed mahfood Adil khaleel	**e-mail**	Mohamed@uomosul.edu.iq adel@uomosul.edu.iq
Scientific Committee Approval Date		**Version Number**	1.0

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	Building Construction1	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	.1 Identify the relationship between the construction and architectural form. .2 identify the buildings that will be formatted by construction. .3 Developing the structural sense of students, in addition, to novating their ability to use different construction methods to create the built environment and different architectural shapes. Educating construction techniques, traditional (bearing wall), and modern (skeleton system) methods of construction. .4 Educate other related construction systems through theoretical and practical studying (lectures, exercises, and field visits), So, students should be able to draw and read the working drawings. And its architectural details.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	On successful completion of this course students will be able to: .1 The students will be able to understand initially the basic principles of construction elements constituting architectural spaces and other associate systems common to construction. i , .2 The student should be able to apply, analyze and read the working and architectural drawings. ii, iv .3 The students will be able to create the technical details of their design. iii.
Indicative Contents المحتويات الإرشادية	.1 Bearing Walls: .a Definition: Bearing walls are structural walls that support the weight of the building above them and transfer it to the foundation. .b Types: Load-bearing walls directly carry the building's load, while non-load-bearing walls are primarily used for dividing spaces. .c Materials: Common materials for bearing walls include concrete, brick, and stone. .d Construction: Bearing walls are typically constructed using masonry techniques or reinforced concrete.

	.2 Skeleton Systems: .a Definition: Skeleton systems, also known as frame structures, use a framework of beams, columns, and other structural elements to support the building. .b Types: Steel frame, reinforced concrete frame, and frame is popular types of skeleton systems. .c Materials: Skeleton systems use materials such as steel, concrete for their structural components. .d Construction: Skeleton systems involve the assembly of structural elements, such as steel beams or reinforced concrete columns, to create the building's framework. .3 Advantages: .a Bearing Walls: Provide excellent load-bearing capacity and structural stability. They are cost-effective and offer design flexibility for small to medium-sized buildings. .b Skeleton Systems: Allow for greater architectural freedom, open floor plans, and larger spans. They are suitable for high-rise buildings and structures with complex designs. .4 Considerations: .a Bearing Walls: Placement and spacing of bearing walls should be carefully considered to ensure structural integrity and proper load distribution. .b Skeleton Systems: Structural stability and load distribution are crucial factors in the design and construction of skeleton systems. Integration with other building components should also be taken into account.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Present case studies of real buildings that utilize bearing wall and skeleton systems, discussing their design considerations, structural performance, and architectural aesthetics. Organize site visits to construction sites or existing buildings that employ bearing wall and skeleton systems, allowing students to observe the systems in action and interact with professionals involved in the construction process. Conduct guided tours or interviews with architects, engineers, or construction managers who can provide insights into the decision-making processes and challenges encountered during the construction of such buildings. These strategies aim to engage students actively in the learning process, promote understanding through visual and experiential means, and connect theoretical concepts to real-world examples. By employing a variety of teaching methods, students can develop a comprehensive understanding of bearing wall and skeleton systems in architectural building construction.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	63
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.4	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	37
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	4, 9,13	LO # 1, 2
	Assignments			2, 4	1,2
	Projects	1	15 %	Continuous	LO # 1, 2 and 3

	Report	6	15%	2,3	LO # 1, 2
Summative assessment	**Midterm Exam**	1	10% (10)		LO # 1, 2 and 3
	Final Exam		50%		
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	General introduction of buildings construction, Arrangement of the built process
Week 2	Construction in Bearing wall sys. Advantage& disadvantage
Week 3	Sequences work construction in Bearing wall sys.
Week 4	Foundations ------- insulation horizontal layer instates
Week 5	Bearing wall built ---------- Parapet built
Week 6	Mid semester exam
Week 7	Opens building (Windows) , (Doors)
Week 8	Insulation material roof finishes
Week 9	Skeleton build system advantage and disadvantage, Elements of skeleton building
Week 10	Kinds of columns /kinds of girder
Week 11	Foundations in skeleton building
Week 12	Roofs and Floors concrete slap
Week 13	Precast buildings system, introduction
Week 14	Precast buildings system, main elements, Precast roofs floors concrete
Week 15	Vertical communication elements (elevators, escalators)
Week 16	Theoretical test

Delivery Plan (Weekly design studio) المنهاج الاسبوعي لأستوديو التصميم	
Week	**Material Covered**
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	
Week 6	
Week 7	
Week 8	
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	
Week14	
Week 15	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	.1 (تركيب المباني نظام الجدران الحاملة وتفاصيلها المعمارية)، انيس جواد، الجامعة التكنولوجية، 198 2. Ching F." Building Construction" illustrated Wiley 2008 4th ed. 3. Building Construction, Barry vol. 3 1997	No

	4 . working drawing handbook 5 . structure and fabric,1987 6. تركيب المباني (البناء الهيكلي وتفاصيله المعمارية، 1987	
Recommended Texts	1. رأفت، علي الأبداع الانشائي ، الجيزة 1998 2. Building Construction vol. 5 1997 3. Foster Jack Stroud "Structure and Fabric" part 2 Bats ford academic, London 1985	No
Websites	http://www.greatbuildings.com/, https://www.vitruvio.ch/, https://www. bluffton.edu/~sullivanm/	

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية			
Module Title	Graphic and Architectural Presentation	**Module Delivery**	
Module Type	**S**	**☐ Theory**	
Module Code	**ARC 214**	**☒ Lecture**	
ECTS Credits	**4**	**☐ Lab**	
SWL (hr/sem)	**100**	**☒ Tutorial** **☒ Practical** **☐ Seminar**	
Module Level	UGII	**Semester of Delivery**	3
Administering Department	ARC	**College**	COE
Module Leader	Dr. Dhuha Abdulgani Al-kazzaz	**e-mail**	dhuha.kazzaz@uomosul.edu.iq
Module Leader's Acad. Title	Assistant Professor	**Module Leader's Qualification**	Ph.D.
Module Tutor	Anwar Mishaal Mafaz Tareq Aseel Ibraheem Noor Yassar	**e-mail**	E-mail
Peer Reviewer Name	Name	**e-mail**	E-mail
Scientific Committee Approval Date		**Version Number**	1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى

Prerequisite module	Descriptive geometry	**Semester**	2
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	.1 The subject aims at developing the knowledge and skills needed for presenting and documenting designs using hand drawings. .2 This course will focus on drawing as a tool of communication through exercises that explore design representation using techniques of perspective and shadow.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	.1 Understanding the graphical representation language to be able to use them in architectural design course. .2 Understanding of the fundamentals of visual perception and the principles that inform three-dimensional design. .3 Ability to imagine 2D drawings from 3D drawings and vice versa. .4 Ability to analyze 2D and 3D drawings. .5 Understanding the graphical representation methods and techniques used for drawing architectural perspectives. .6 Ability to apply the principles of perspective to inform three-dimensional drawing. .7 Understanding of the fundamentals and principles of shade & shadow in building. .8 Understanding the graphical representation of methods and techniques used for drawing architectural shade & shadow. .9 Ability to apply principles of shade & shadow in building design projects.
Indicative Contents المحتويات الإرشادية	The course initially introduces the techniques of drawing perspectives such as general method of two point perspective, measuring point method, one point interior perspective. (32 hrs) Also learning the techniques of drawing shade & shadows on plans, elevations, and isometric shapes. (24 hrs)

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم	
Strategies	Delivering this course is achieved through lectures and studio-based tutorials to apply knowledge and skills in weekly classwork exercises. Also, students are asked to do homework exercises.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	63
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.4	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	37
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100

Module Evaluation

تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	1	10% (10)	4	LO #3 to 6
	Assignments	12	30% (30)	2-15	All
	Projects / Lab.				
	Report				
Summative assessment	**Midterm Exam**	4 hr	20% (20)	8	All
	Final Exam	4 hr	40% (40)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	The definition of perspective drawing of cubical forms using rays' method.
Week 2	Drawing perspective of stairs using rays' method.
Week 3	Drawing perspective of sloping surfaces an using rays' method.
Week 4	Quiz 1
Week 5	The definition of perspective drawing using measuring points method.
Week 6	Drawing perspective for circle and cylinder.
Week 7	The definition of perspective drawing using a circle of vision.
Week 8	The definition of one-point perspective drawing.
Week 9	Midterm Exam
Week 10	The definition of the principles of drawing shade and shadow for cubical forms- isometric and projections
Week 11	Drawing shade and shadow for stairs - isometric and projections
Week 12	Drawing shade and shadow for inclined surfaces - isometric and projections
Week 13	Drawing shade and shadow for balconies and openings
Week 14	Drawing shade and shadow for circles and cylinders
Week 15	Drawing shade and shadow for small building
Week 16	Final Exam

Learning and Teaching Resources

مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	كتاب منهجي: الظل المنظور -- لمؤلفه عماد أزهر البكري Architectural Graphics by Ching,1996	Yes
Recommended Texts		No
Websites		

Grading Scheme

مخطط الدرجات

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

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

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية				
Module Title	**Computer Architectural Drawing 2D**		**Module Delivery**	
Module Type	**C**		☒ **Theory**	
Module Code	**ARC 215**		☒ **Lecture**	
ECTS Credits	**4**		☒ **Lab**	
SWL (hr/sem)	**100**		☐**Tutorial** ☒ **Practical** ☐ **Seminar**	
Module Level	**UGII**	**Semester of Delivery**	**3**	
Administering Department	**ARC**	**College**	**COE**	
Module Leader	**Dr. Emad Hani Ismaeel**	**e-mail**	**emad.hani.ismaeel@uomosul.edu.iq**	
Module Leader's Acad. Title	**Assistant Professor**	**Module Leader's Qualification**	**Ph.D.**	
Module Tutor		**e-mail**		
Peer Reviewer Name		**e-mail**		
Scientific Committee Approval Date		**Version Number**	**1.0**	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	**None**	**Semester**	
Co-requisites module	**None**	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	.1 **To provide specialized information in the field of graphic computer software related to engineering and architectural drawings, especially the AutoCAD software. 2. enabling the user to use the commands gradually, according to the degree of importance of the order, its level of complexity, and the user's need for it according to the level of his capabilities and his ability of dealing with the details, orders and elements of the software.**
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	**On successful completion of this course students will be able to:** .1 **utilize basic principles of computer aided architectural drawing.** .2 **compose a well-designed digital drawing of buildings.** .3 **demonstrate familiarity with basic drawing terminology, tools, media and techniques of computer aided architectural drawing..** .4 **draw using a full range of values with the intended media.** .5 **select, frame, and compose from reality to the digital format.** .6 **use effective techniques to draw objects**
Indicative Contents المحتويات الإرشادية	**Computer Aided Drawing is a scientific course with theoretical and practical parts, concerned with providing specialized information in the field of graphic computer software related to engineering and architectural drawings, especially the AutoCAD software.**

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	**The approach of the course is based on explaining the details of the drawing process and the use of the program in sequential and interrelated stages, enabling the user to use the commands gradually, according to the degree of importance of the order, its level of complexity, and the user's need for it according to the level of his capabilities and his ability of dealing with the details, orders and elements of the software.**

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	**3**
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	37	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	**3.4**
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**100**		

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**				
	Assignments	**5**	**30% (30)**	**4 – 13**	**LO #1,2,3, 4, and 5**
	Projects / Lab.	1	**10% (10)**	13	
	Report				
Summative assessment	**Midterm Exam**	**1 hr**	**10% (10)**	**7**	**LO # 1-5**
	Final Exam	**3 hr**	**50% (50)**	**16**	**All**
Total assessment			**100% (100 Marks)**		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	**AutoCAD software - user interface and initial drawing settings, AutoCAD program interface elements, Coordinate systems in the program, Angle units in the program, Drafting Settings: Grid, Snap, Ortho, Set Drawing Limits, Working with graphic files: Create a new file, Open previous file, Save the new file, Save another copy of the file - Save As, Import an Import file, Export an Export file** **Drawing Utilities graphic file services, File Audit, File Recover, Remove unused items Purge, View the properties for the Drawing Properties graphic file, Exit the current file - Close, Exit the program**
Week 2	**Advanced drawing aids and selection methods, Object Snap, General commands for Editing items, Undo, Redo, Cut elements, Copy items, Copy objects with Base Point, Paste items, Paste the elements according to their original coordinate, Clear objects, Find Text Objects - Find, Visual handling of graphic elements and handling of multiple file windows, Scene Redraw, Scene Regeneration , Zoom in and out, Scene Offset - Pan, Expand the Clean Screen drawing field, Modify the contents of the Toolbars, Sort view of multiple files in Windows dropdown list, Cascade arrangement, Tile Horizontal, Tile Vertical**
Week 3	**Draw basic two-dimensional elements, Line, Ray, Construction Line, Polyline, Multiline line , Polygon, Rectangle shape , Arc , Spline, Ellipse ،Circle , Donut**
Week 4	**Modify tools -first group: Erase, Copy, Move, Mirror, Rotate, Scale, Offset, Rectangular and Polar Array**
Week 5	**Modify tools - second group: Properties, Match Properties, Stretch, Lengthen, Trim, Extend, Break, Join, Chamfer, Fillet, Explode, Align, Polyline Edit, Mline Edit**
Week 6	**Application**
Week 7	**1st term Exam**
Week 8	**2D Drawing Commands – second group: Point, Modify Point Style, Divide, Measure, Hatch, Gradient, Region, Boundary, Text, Mtext**
Week 9	**Create Block Drawings: Insert pre-made graphic blocks, Insert a graphic source DWG Reference, Insert bitmap image as an external Raster Image Reference, External resource management - External reference, Dealing with ready-made blocks in Tool Palettes**

Week 10	**Layers and drawing element settings: Color, Linetype, Line Weight, Text Style**
Week 11	**Dimensions and measurements: Quick dimensions, Linear dimensions, Aligned dimensions, Measure the arc length, Ordinate coordinates, Polar and angular, measurement group, Radius measurement, Jogged distant radius measurement, Diameter dimensions, Angular measure, Baseline dimensions, Continue dimensions, Multileader , Center mark, Jogged Linear , Oblique Measuring Lines, Align Text, Dimension Style**
Week 12	**Main tools: Workspaces, Palettes, Design Center, Spelling correction, Quick Select, Draw Order format, Inquiry, Block Editor, Save the drawing area as a digital image, General program options - Options, Program Assistant from the Help dropdown menu, System Variables**
Week 13	**Printing and output: Introduction to switching from the Model mode to the Layout mode, Print command from the File dropdown menu**
Week 14	**Application**
Week 15	**Application**
Week 16	**Final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**Material Covered**
Week 1	**Exercise 1**
Week 2	**Exercise 2**
Week 3	**Exercise 3**
Week 4	**Exercise 4**
Week 5	**Exercise 5**
Week 6	**Exercise 6**
Week 7	**None**
Week 8	**Exercise 7**
Week 9	**Exercise 8**
Week 10	**Exercise 9**
Week 11	**Exercise 10**
Week 12	**Exercise 11**

Week 13	**Exercise 12**
Week 14	**Exercise 13**
Week 15	**Exercise 14**

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	• **Al-Allaf, Emad Hani, Architectural and Computer Aided Engineering Drawing, 2D Drawing Principles in AutoCAD®, 2018.**	**Yes**
Recommended Texts		
Websites		

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

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

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Crimes of the defunct Ba'ath Party**			**Module Delivery**	
Module Type	**B**			☒ **Theory**	
Module Code	**UOM201**			☐ **Lecture**	
ECTS Credits	**2.0**			☐ **Lab**	
SWL (hr/sem)	**50**			☒ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Level	UGI		**Semester of Delivery**	3	
Administering Department	ARC		**College**	COE	
Module Leader			**e-mail**		
Module Leader's Acad. Title	Lecturer		**Module Leader's Qualification**		
Module Tutor			**e-mail**		
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date			**Version Number**		

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى			
1	**Semester**		**Prerequisite module**
	Semester	None	**Co-requisites module**

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

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
	Strategies

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
5	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	32	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل
1.46	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	18	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل
50			**Total SWL (h/sem)**

الحمل الدراسي الكلي للطالب خلال الفصل	

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**				
	Assignments				
	Projects / Lab.				
	Report				
Summative assessment	**Midterm Exam**				
	Final Exam				
Total assessment					

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	.
Week 2	.
Week 3	.
Week 4	
Week 5	.
Week 6	.
Week 7	
Week 8	.
Week 9	
Week 10	.

Week 11	
Week 12	
Week 13	
Week 14	.
Week 15	.
Week 16	

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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		NO

Recommended Texts		NO
Websites		

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

التصميم المعماري المرحلة الثانية الفصل الثاني

Module Information معلومات المادة الدراسية				
Module Title	**Architecture Design 2**		**Module Delivery**	
Module Type	**C**		☐ **Theory**	
Module Code	**ARC 221**		☒ **Lecture**	
ECTS Credits	**12**		☒ **Lab**	
SWL (hr/sem)	300		☐ **Tutorial** ☒ **Practical** ☐ **Seminar**	
Module Level	UGII	**Semester of Delivery**	4	
Administering Department	ARC	**College**	COE	
Module Leader	mozahim Mohammed Mustafa	**e-mail**	Mozahim.hadidi@uomosul.edu.iq	
Module Leader's Acad. Title	LECTURER	**Module Leader's Qualification**	Ph.D.	
Module Tutor		**e-mail**		
Peer Reviewer Name	Name	**e-mail**		
Scientific Committee Approval Date		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	Initiating the students into the basic principles of the design process (collecting information, analysis, synthesis), enabling them to start a design project, to resolve architectural functions and to manipulate architectural form and space within a given context using architectural vocabulary and respecting local architectural identity
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	.4 At the end of the course, the student will be able to acquire the necessary knowledge to design 1buildings with limited spaces ((small project multi spaces)). .5 The student can make reports related to the analysis of similar examples, standards, and site analysis, in addition to other information about the project. .6 The ability to solve design problems and choose the best alternative in design
Indicative Contents المحتويات الإرشادية	Introduction, Primary Elements, Visual proportion of form, Primary shapes, Platonic solid, Regular and irregular forms, Transformation of form, Additive forms, Formal collisions of geometry, Articulation of form, Defining space with horizontal & vertical elements, Closure, Qualities of Architectural Space, Openings in space / Lighting, Spatial Relationships, Spatial Organizations, Circulation, Proportion and Scale, Practice/ Preliminary Presentation Ordering Principles, Practice/ Development.

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.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	10	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	153
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	9.8	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	147
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	300

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Report**	3	10% (10)	2,3,4	1,2,3,4,5,AND6
	Weekly assessment	13	10% (10)	1,13	
	Concept supmission	1	5%(5)	5	6,8,9,10,11,12,13,14
	Midterm supmission	1	10%(10)	7	
	Pre. Fınal Presentatıon	1	15% (15)	12	
	Fınal Presentatıon	1	20% (20)	16	
Summative assessment	**Midterm Exam(Day Sketch 1)**	3 hr	15% (15)	6,10	1,7

	Final Exam **(Day Sketch2)**	4	15% (15)	16	
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Enclosure
Week 2	Day sketch
Week 3	Openings
Week 4	Spatial relationships
Week 5	Types of spatial organization
Week 6	Movement – accessibility
Week 7	Day sketch
Week 8	Movement patterns ,Entrances
Week 9	Scale
Week 10	Proportion
Week 11	Ordering principles/ Axes,
Week 12	Hierarchy, datum
Week 13	Symmetry and dominance
Week 14	Rhythm, repetition
Week 15	**Rendering**
Week 16	Final submission

Delivery Plan (Weekly Lab. Syllabus)

المنهاج الاسبوعي للمختبر	
Week	**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	Architecture, form space & order by Francis D. K. Ching Methods of systematic analysis of design in architecture, By D. Mohamed A. Shihab	Yes
Recommended Texts		No
Websites		

Grading Scheme مخطط الدرجات

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Free Hand Drawing (2)**			**Module Delivery**	
Module Type	S			☐**Theory** ☒ **Lecture** ☐ **Lab** ☐**Tutorial** ☒**Practical** ☐ **Seminar**	
Module Code	**ARC 222**				
ECTS Credits	4				
SWL (hr/sem)	100				
Module Level	UGII		**Semester of Delivery**	4	
Administering Department	ARC		**College**	COE	
Module Leader	Ahmed Yaroub Ghanem Tohala		**e-mail**	ahmadtohala@uomosul.edu.iq	
Module Leader's Acad. Title	Lecturer		**Module Leader's Qualification**	PhD.	
Module Tutor			**e-mail**		
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date			**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	The free hand drawing curriculum for the architecture student aims at several important goals for the formation of the architect during his academic years, which go beyond learning the means and techniques of free hand drawing to develop visual perception and a mature architectural engineering vision of the world, which is very important for the architect, including: • The balance of vision and the development of artistic taste for objects and formations • Exercising the sense of sight on the vision and linking it to previous information about the theory of perspective to form thought, perception and visualization of that form. • Exercising the hand on expression by creating a harmonious relationship between the vision, the brain and the hand to express the visual perception of the world. • Learn the method of measurement of proportions and proportions using hand, pen and sight • Recognize the differences between the values of light, shade and shadows in the theory of perspective and learn to express them. • Learn the methods and techniques of drawing with different materials such as pencils and colors • Developing the ability to see the elements of artistic formation, such as lines, shapes, sizes, textures and directions, and analyze them in the model. •Developing self-reliance in the process of vision and expression through a series of drawing exercises that range in difficulty from simple shapes to more complex ones. Obtaining a musical visual vision that will be important and useful for future architecture students. •
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Aesthetic artistic taste through a musical vision of different shapes and configurations. 2. Learn the theory of perspective, which is the basis for visual perception of the world. 3. Create a harmonious relationship between vision, brain and hand for expression and the ability to express architectural ideas through free hand drawing. 4 .Using the measurement method for proportions and proportions by hand, pen and sight 5. Realizing the differences in light values in the theory of perspective and being able to express them. 6. Acquire the skills of using different drawing methods and techniques

	The artistic vision of the elements of the artistic composition, such as lines, shapes, sizes, textures, directions, and their analysis in the model 7.
Indicative Contents المحتويات الإرشادية	1. Visual perception of different shapes from the perspective of the concept of perspective and its concepts. 2. Proportions in dimensions and shapes and measuring them by hand, pen and vision. 3 . Estimating light values, colors, tones, and the differences between them 4 . Derivations of various shapes from the basic cube shape. 5 . The relationship between vision, hand, visual perception, acquisition of vision skill and the ability to express. Gaining the musical vision of an architecture student through practice and bringing concepts into practice

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1 . Giving the student the basic concepts and previous information about the reality that he draws through a model, and then criticizing the drawing so that the student acquires the skill of correct vision and the ability to express 2 . Diversifying the shapes and configurations of the model and the gradation in the degree of complexity from simple to complex

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	37	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100		

Module Evaluation تقييم المادة الدراسية					
As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	4, 13	LO #1, 2, and 3
	Assignments	1	10% (10)	6	LO #3
	Projects / Lab.	4 hr	20% (20)	12	LO #3 and 4
	Report				
Summative assessment	Midterm Exam	4 hr	30% (30)	15	LO #1-4
	Final Exam	3 hr	30% (30)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	Material Covered
Week 1	Introductory test for know the student aptitude
Week 2	Training for draw lines in different directions
Week 3	Simple model consist of cubes
Week 4	Advance model consist of cubes
Week 5	Simple model consist of circle shapes & cylinders
Week 6	Simple model consist of oblique cubes
Week 7	Simple model consist of glass bottles
Week 8	Simple model consist of potteries

Week 9	simple model consist of irregular forms
Week 10	Simple model consist of textile (clothes)
Week 11	Simple real building in outdoor
Week 12	more complex from the building in the past lecture1
Week 13	more complex from the building in the past lecture2
Week 14	General discussion with the student about the drawing and paint
Week 15	Final submission
Week 16	**Final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	drawing – a creative process , Francis d. k. ching , john Wiley & sons , inc.1990 drawing outdoor , Henry c. pitz , Watson- guptill publications , 1965 , new York how to paint and draw , bodo w. jaxtheimer , Thames and Hudson , 1962 , linden	No

	watercolor technique , rex Brandt , sixth edition , Reinhold publishing corporation , 1963.	
Recommended Texts		No
Websites		

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

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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**History of European Architecture**			**Module Delivery**	
Module Type	**C**			**Theory** ☐	
Module Code	**ARC223**			**Lecture** ☐	
ECTS Credits	**3**			**Lab**	
SWL (hr/sem)	**75**			**Tutorial** ☐	
				Practical	
				Seminar	
Module Level	UGII	**Semester of Delivery**	4		
Administering Department	ARC	**College**	COE		
Module Leader	**Dr. Hassan Mahmood Kasim**	**e-mail**	Hassan.kasim@uonosul.edu.iq		
Module Leader's Acad. Title	Lecturer	**Module Leader's Qualification**	Ph.D.		
Module Tutor		**e-mail**			
Peer Reviewer Name		**e-mail**			
Scientific Committee Approval Date		**Version Number**	1.0		

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	- Inform students about the development of European Architecture from pre-Roman age until Renaissance and Baroque – 17th century - Enhance the concept of architectural interactions between European civilizations and others, especially Arabic-Islamic civilization - Analyzing historical examples of buildings according to architectural methodologies, to enhance students' understanding of architectural design Free-hand sketch analysis of historical building to enhance students skills of free-hand sketches of design concepts
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	**A- Knowledge and Understanding** **1-** Understanding the development of European architecture in terms of cultural interaction with other civilizations, specially Arab- Islamic Architecture . **2**- Understanding the development of the history of architecture in terms of methods and techniques used in architectural design. **B- Practical skills related to this academic program** **3**- Ability to understand historical buildings through analyzing thinking. **4**- Ability to use the conventions of architectural free-hand drawings to represent and analyze historical buildings. **C- Thinking Skills** **5**- Ability to analyze historical buildings. **6**- Architectural analysis by free-hand sketch according to architectural design methods .
Indicative Contents	1. Historical, cultural and social influences on architecture

المحتويات الإرشادية	.2 Natural and Environmental influences on architecture within every civilization .3 Integration of structural methods with architectural form .4 Architectural details and elements as identity of architectural styles .5 Comprehensive Architectural analysis of buildings .6 Manual drawings and diagrams as tools for architectural analysis .7 Free hand drawings as tools for representations of architecture

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	.1 Encouraging students' active participation through pre-lecture readings and class discussions. .2 Promoting an interactive learning environment by implementing reverse learning, where students explore and research important examples of architectural history ● Lectures ● Asking questions and Discussions ● Drawing representation of historical buildings (Class work) ● Architectural analysis by free-hand sketch (Class work)

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
2	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	33	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل
2.9	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	42	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل
75			**Total SWL (h/sem)** الحمل الدراسي الكلي للطالب خلال الفصل

Module Evaluation تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	5	15% (10)	3, 6, 9, 12,15	
	Class work	15	15%(15)	All	
	Report		10%(10)		
	Discussions& Analysis team's work				
Summative assessment	Midterm Exam	1.5 hr	10% (10)	8	
	Final Exam	3 hr	50% (50)	16	
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Introduction to the history of European Architecture
Week 2	Greek Architecture: Architectural characters & Orders
Week 3	Greek Architecture: Temples
Week 4	Roman Architecture: Architectural characters
Week 5	Roman Architecture: Temples & Pantheon
Week 6	Roman Architecture: Other Building types
Week 7	Interaction between Roman and Eastern Architecture
Week 8	Early Christian Architecture
Week 9	Byzantine Architecture
Week 10	Romanesque Architecture:
Week 11	Mid Term Exam
Week 12	Gothic Architecture:
Week 13	Early Renaissance Architecture

Week 14	High Renaissance Architecture
Week 15	Baroque Architecture
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	-	No
Recommended Texts	**Fletcher, Banister, *A History of Architecture on the Comparative Method*, R.I.B.A. London** -1 **Mansbridge, John, *Graphic History of Architecture***, B.T. Bastsofrd Ltd., London, 1967. -1	Yes most of them
Websites		

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks (%)**	**Definition**
Success Group (50 - 100)	**A –** Excellent	امتياز	90 – 100	Outstanding Performance
	B - Very Good	جيد جدا	80 – 89	Above average with some errors
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نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية			
Module Title	**Physics**	**Module Delivery**	
Module Type	**B**	☒ **Theory**	
Module Code	ARC 224	☒ **Lecture**	
ECTS Credits	4.00	☐ **Lab**	
SWL (hr/sem)	100	☒**Tutorial** ☐**Practical** ☐ **Seminar**	
Module Level	UGI	**Semester of Delivery**	4
Administering Department	ARC	**College**	COE
Module Leader	Maysaa Moffeq Alobaidi	**e-mail**	Maysaa.moffeq@uomosul.edu.iq
Module Leader's Acad. Title	Lecturer	**Module Leader's Qualification**	M.A
Module Tutor	Luma Mohammed Yahya	**e-mail**	Luma.m.yahya@uomosul.edu.iq
Peer Reviewer Name	Name	**e-mail**	E-mail
Scientific Committee Approval Date		**Version Number**	1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	.1 introduce students to the fundamental in physics primarily for students intending to major in a field of engineering. .2 Understanding the Introduction to Physics; Kinematics; Forces and motion; Newton's Laws of Motion; Work; Energy; power; Linear Momentum; Impulse; Simple Harmonic Motion; Universal Gravitation; Fluid Mechanics and Basic of Architectural Physics; Solar Radiation; Heat Transfer (Conduction, Convection, and Radiation);and Thermal Behaviour of Materials. .3 In this course, the students learn how to analysis Various physical concepts such as motion, forces, heat, and others, And apply it through mathematical problems.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	.1 At the end of this course, students will have gained knowledge of the of basic concepts in Physics., Students who study principles of physics will be able to State SI units, and write the units and their abbreviations correctly; Determine whether a physical quantity is a vector or a scalar; Distinguish between kinematic and kinetic energy; .2 They able to define, calculate, and distinguish between distance and displacement, average and instantaneous speed and velocity, and average and instantaneous acceleration; State, explain, and apply Newton's three laws of motion; Differentiate between static and kinetic friction, and solve friction problems; State and apply Hooke's law for ideal springs; .3 They Define work, and calculate the work done by a constant force in one and two dimensions; State the work–energy theorem, and use it to solve problems. .4 Apply the principle of conservation of mechanical energy to solve simple problems in mechanics; andCalculate both kinetic and potential energy; Calculate the power; .5 They will be able to Define linear momentum, and calculate and compare momenta of various objects; Express Newton's laws in terms of rates of change of linear momentum; andDefine and calculate impulse; .6 State, explain, and apply the simple harmonic motion; and Solve problems using Newton's law of universal gravitation and calculate the gravitation for different locations (i.e. Earth, Moon, Sun and etc.); and Calculate the pressure and density of fluid at different depth; .7 Explain the Hydrostatic Pressure; Explain Pascal's principle and the operation of a hydraulic lift; Define and describe the buoyant forces and Archimedes's principle, furthermore, weighing an object immersed in a fluid; Derive the equation of continuity for fluids; Use Bernoulli's equation to calculate flow speed and pressure of a moving fluid for simple situations and Determine the most important source of permanent and inexhaustible energy supply (Solar Radiation). .8 Ability to Define and describe the flow of heat through a material by direct molecular contact (conduction) ,Derive the equation of heat transfer by conduction ,Define and describe the transfer of heat by the movement or flow of molecules -liquid or gas (convection),Derive the equation of heat transfer by

	convection. Define and describe the transfer of heat by electromagnetic waves through a gas or vacuum (Radiation) and the equation of heat transfer by radiation.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Introduction to physics; Standards of length, mass and time; Scalar and Vector quantities; Kinematics; Position, Displacement and Distance; Speed, Velocity and Acceleration; [2 hrs]. Forces and motion; Mass and gravity force; Newton's three laws of motion Spring forces and Hooke's law; Friction forces; Uniform circular motion; Work; Kinetic and Potential Energy; The work-kinetic energy theorem; Conservation of total mechanical energy; and Power [4 hrs]. Linear momentum; Momentum and kinetic energy; Rate of change of linear momentum and Newton's laws; Law of conservation of linear momentum; Impulse; and Simple Harmonic Motion.Universal gravitation; Newton's law of universal gravitation; Free-fall acceleration and the gravitational force; and Solve problems using Newton's law of universal gravitation and calculate the gravitation for different locations.Fluid mechanics; Pressure and density of fluid at different depth; Hydrostatic pressure; Pascal's principle and the operation of a hydraulic lift;.Buoyant forces and Archimedes's principle; the equation of continuity for fluids; and the Bernoulli's equation [10 hrs]. Introduction to Thermodynamics,Heat , heat transfer in materials,heat transfer by (Conduction ,Convection,Radiation)Thermal comfort .(14 hrs)

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.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	63

Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	37	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100		

Module Evaluation

تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	20% (20)	4, 13	LO #2, 3, 4, 5 and 6
	Assignments	3	15% (15)	3, 7,14	LO #3, 4, 5, and 8
	Projects / Lab.				
	Report	1	5% (5)	15	
Summative assessment	**Midterm Exam**	2 hr	10% (10)	7	LO # 1-7
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	Introduction to physics; Standards of length, mass and time; Scalar and Vector quantities; Kinematics; Position, Displacement and Distance; Speed, Velocity and Acceleration;
Week 2	Forces and motion; Mass and gravity force; Newton’s three laws of motion
Week 3	Spring forces and Hooke’s law; Friction forces; Uniform circular motion; Work; Kinetic and Potential Energy; The work-kinetic energy theorem; Conservation of total mechanical energy; and Power

Week 4	Linear momentum; Momentum and kinetic energy; Rate of change of linear momentum and Newton's laws; Law of conservation of linear momentum; Impulse; and Simple Harmonic Motion.
Week 5	Universal gravitation; Newton's law of universal gravitation; Free-fall acceleration and the gravitational force; and Solve problems using Newton's law of universal gravitation and calculate the gravitation for different locations.
Week 6	Fluid mechanics; Pressure and density of fluid at different depth; Hydrostatic pressure
Week 7	; Pascal's principle and the operation of a hydraulic lift;.
Week 8	Buoyant forces and Archimedes's principle; the equation of continuity for fluids; and the Bernoulli's equation
Week 9	Introduction to Thermodynamics.
Week 10	Heat , heat transfer in materials
Week 11	thermal conductivity
Week 12	thermal conductivity by Conduction
Week 13	thermal conductivity by Convection
Week 14	thermal conductivity by Radiation
Week 15	Thermal comfort .
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	1-Physics for scientists and engineers: An interactive approach. Robert Hawkes, Javed Iqbal, Firas Mansour, Marina Milner-Bolotin and Peter Williams. 2nd edition, 2019. 2- Physics for Scientists and Engineers with modern physics. Raymond A. Serway and John W. Jewett. 9th edition, 2014. 3- Fundamentals of Physics. David Halliday, Robert Resnick and Jearl Walker. 10th Edition, 2014. 4- Engineering Mechanics: Dynamics - Volume 2. J.L. Meriam, L.G. Kraige and J. N. Bolton. 8th edition, 2015. 5- Physics of Radiation and Climate; Michael A. Box, Gail P. Box; CRC Press, 2015	No
Recommended Texts		No
Websites		

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية				
Module Title	Computer Architectural Drawing 3D		**Module Delivery**	
Module Type	**C**		☒ **Theory**	
Module Code	**ARC 225**		☒ **Lecture**	
ECTS Credits	**4**		☒ **Lab**	
SWL (hr/sem)	**100**		☐**Tutorial**	
			☒ **Practical**	
			☐ **Seminar**	
Module Level	UGII	**Semester of Delivery**	4	
Administering Department	ARC	**College**	COE	
Module Leader	Dr. Emad Hani Ismaeel	**e-mail**	emad.hani.ismaeel@uomosul.edu.iq	
Module Leader's Acad. Title	Assistant Professor	**Module Leader's Qualification**	Ph.D.	
Module Tutor		**e-mail**		
Peer Reviewer Name		**e-mail**		
Scientific Committee Approval Date		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	Computer Architectural Drawing 2D	**Semester**	3
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	.2 To provide specialized information in the field of graphic computer software related to engineering and architectural drawings, especially the AutoCAD software. 2. enabling the user to use the commands gradually, according to the degree of importance of the order, its level of complexity, and the user's need for it according to the level of his capabilities and his ability of dealing with the details, orders and elements of the software.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	On successful completion of this course students will be able to: .1 utilize basic principles of 3D computer aided architectural drawing. .2 compose a well-designed 3D digital drawing of buildings. .3 demonstrate familiarity with basic 3D drawing terminology, tools, media and techniques of computer aided architectural drawing.. .4 draw using a full range of values with the intended media. .5 select, frame, and compose from reality to the 3D digital format. .6 use effective techniques to draw 3D objects
Indicative Contents المحتويات الإرشادية	Introduction to Computer-Aided Drafting and Design which includes 3D modeling, rendering, and Image processing. Major CAD drafting, and presentation software tools will be used for the production, management, and presentation of project information. Introduction to utilization of modeling and simulation software tools in Architectural Engineering.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The approach of the course is based on explaining the details of the drawing process and the use of the program in sequential and interrelated stages, enabling the user to use the commands gradually, according to the degree of importance of the order, its level of complexity, and the user's need for it according to the level of his capabilities and his ability of dealing with the details, orders and elements of the software.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	3	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	63
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.4	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	37
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**				
	Assignments	5	30% (30)	4 – 12	LO #1,2,3, 4, and 5
	Projects / Lab.	1	10% (10)	13	
	Report				
Summative assessment	**Midterm Exam**	1 hr	10% (10)	7	LO # 1-5
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Thickness, Elevation, Orbit, 3D views, UCS
Week 2	Modeling 1 : Poly Solid, Trace, Box,Wedge,Cone,Sphere,Cylinder,Torus,Pyramid
Week 3	D Face3Modeling 2: Extrude,Press Pull,Revolve,Sweep,Loft,3D Polyline,Helix,Planer,Solid,
Week 4	Modeling 3: Meshes, Revolved mesh, Tabulated mesh, Ruled mesh, Edge mesh, Network
Week 5	3D Operations: Gizmo,3D Move,3D Rotate,3D Scale,3D Align,3D Mirror,3D Array, Interfere, Slice,Thicken,Convert to Solid,Convert to Surface
Week 6	Solid Editing: Union, Subtract, Intersect, Solid Edit, Extrude Face, Move Face, Rotate Face, OffsetFace, TaperFace, DeleteFace, Copy Face, Color Face, Copy Edge, Color Edge, Chamfer Edge, Fillet Edge, Imprint Edges, Separate, Shell, Clean, Check
Week 7	Application
Week 8	1st term Exam
Week 9	Render : Render Settings rendering process, Rendering Procedure, The final destination for the scene processing process, Image saving settings - Output File Name, Image resolution settings and characteristics, Managing preset display process methods, Improve processing and visibility
Week 10	Render Material : Material Browser, Inclusion of cladding and finishing materials in the AutoCAD program, Library of materials for cladding and finishing, Texture Materials window, Designation and inclusion of cladding materials on the surfaces of the figures, Control libraries of cladding materials
Week 11	Modifying materials: Create the texture material, Characteristics of cladding materials, General characteristics, Glossiness level refinement, Highlights, Reflectivity, Transparency, Translucency, Refraction, Cutout, Self Illumination, Bump Map - The roughness of the material
Week 12	Lights : Point Light, Spot Light , Distant Light, Web Light, Natural Light, Render Environment, Sun & Sky, Sky Background, Sun Properties, Geographic Location
Week 13	Views and Interaction: Camera, Walk & Fly , Motion Path Animation, Background, Fog and Depth Cueing, Work Spaces, Palettes and 3D Blocks
Week 14	Application
Week 15	Application
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**Material Covered**
Week 1	Exercise 1
Week 2	Exercise 2
Week 3	Exercise 3
Week 4	Exercise 4
Week 5	Exercise 5
Week 6	Exercise 6
Week 7	None
Week 8	Exercise 7
Week 9	Exercise 8
Week 10	Exercise 9
Week 11	Exercise 10
Week 12	Exercise 11
Week 13	Exercise 12
Week 14	Exercise 13
Week 15	Exercise 14

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	• Al-Allaf, Emad Hani, Rendering in AutoCAD software, 2018. • Al-Allaf, Emad Hani, 3D models in computer aided drawing software- AutoCAD software, 2018.	Yes

Recommended Texts		
Websites		

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

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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية				
Module Title	**Science of Mechanics**		**Module Delivery**	
Module Type	**S**		☒ **Theory**	
Module Code	**ARC 226**		☒ **Lecture**	
ECTS Credits	**3**		☐ **Lab**	
SWL (hr/sem)	75		☒ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Level	UGII	**Semester of Delivery**	4	
Administering Department	ARC	**College**	COE	
Module Leader	Mohammed Shakib Mohammed	**e-mail**	Mohammed.aljawahery@uomosul.edu.iq	
Module Leader's Acad. Title	Lecturer	**Module Leader's Qualification**	Ph.D.	
Module Tutor	Tuqa Waleed Ahmed	**e-mail**	new.matrix242@uomosul.edu.iq	
Peer Reviewer Name	Name	**e-mail**	E-mail	
Scientific Committee Approval Date		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. During this course, students should develop the ability to: 2. Work comfortably with basic engineering mechanics concepts required for analyzing static structures 3. Identify an appropriate structural system to study a given problem and isolate it from its environment. 4. Model the problem using good free-body diagrams and accurate equilibrium equations 5. Identify and model various types of loading and support conditions that act on structural systems. 6. Apply relevant mathematical, physical and engineering mechanical principles to the system to solve and analyze the problem. 7. Understand the meaning of centers of gravity (mass)/centroids and moments of Inertia using integration methods. 8. Communicate the solution to all problems in an organized and coherent manner and elucidate the meaning of the solution in the context of the problem. 9. Stress and Strain: Mechanics of materials provides a deep understanding of stress and strain in materials. Stress refers to the internal force per unit area within a material, while strain measures the deformation or elongation of a material in response to stress. These concepts help engineers and researchers analyze and predict the structural response of materials under different loading conditions. 10. Material Properties: Mechanics of materials helps characterise and understand materials' mechanical properties. These properties include elasticity, plasticity, strength, stiffness, toughness, and fatigue resistance. Knowledge of these properties allows engineers to select appropriate materials for specific applications and design structures that can withstand anticipated loads. 11. Mechanics of materials plays a crucial role in the design, analysis, and understanding of the mechanical behavior of materials and structures. It enables engineers to make informed decisions to ensure various engineering applications' reliability, efficiency, and safety.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Students who complete this unit will be able to: 4. Solving mechanic problems using principles of engineering 5. Discern and determine the magnitude of loads acting on simple structural members 6. Analyse rigid body equilibrium 7. Construct free-body diagrams showing the function of simple structural elements; 8. Analyse the force(s) or moment(s) required to maintain a structure in equilibrium;

	9. Analyse external reactions on structural members under applied loading. 10. Knowledge of different types of applied loading on a given structure. 11. Understanding the distribution and the path of forces within a structure. 12. Find center of gravity for a given body. 13. Find center of moment of inertia for a given body. 14. Understanding Material Behavior: By studying materials' mechanics, one deeply understands how materials respond to external forces and loads. This knowledge allows engineers to predict and analyze the behavior of materials in different situations, helping them make informed decisions regarding material selection, design, and structural integrity. 15. The outcomes of studying mechanics of materials and engineering mechanics empower engineers and researchers with the knowledge and skills necessary to design, analyze, and optimize the performance of materials and structures in a wide range of engineering applications.
Indicative Contents المحتويات الإرشادية	-1 Demonstrate competence in identifying, defining, and solving design problems. -2 Apply appropriate knowledge of techniques and codes of practice to design components and systems. -3 Display the skills necessary to define, conduct and report on a bridge design project. -4 communicate effectively using written, oral and graphical skills -5 use mathematical skills appropriate to an engineer -6 work independently and in a team environment -7 manage workloads and time effectively

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The primary strategy adopted in delivering this module is encouraging student participation in the exercises while refining and expanding their critical thinking skills. This will be achieved through classes, interactive tutorials and by considering simple experiments involving enjoyable sampling activities for the students.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	42	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.9
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

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

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Resultant of Force Systems.
Week 2	Resultant of Concurrent Force Systems.
Week 3	Moment of Force, Couple.
Week 4	Resultant of Non-Concurrent Force Systems.
Week 5	Equilibrium of Force Systems, Equilibrium equations
Week 6	Free Body Diagram, Types of Supports, Types of Loadings.
Week 7	Centroids and Centers of Areas.
Week 8	Centroids of Composite Figures.
Week 9	Moments of inertia.

Week 10	Moments of Inertia of Composite Figures.
Week 11	Simple Stresses, Axial Stress, Shearing Stress, Bearing Stress.
Week 12	Bearing Stress, Simple Strain, Stress-Strain Diagram, Hook‟s Law.
Week 13	Shear and Moment in Beam, Shear Force Diagram, Bending Moment Diagram.
Week 14	Stresses in Beams. Types of Stresses
Week 15	Deflection in Beams
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	1- Engineering Mechanics 14th by Hibbeler, 2016 2- Vector Mechanics For Engineers Statics and Dynamics(12th), 2019 3- Mechanics of Materials by Hibbleler	No
Recommended Texts	1- Engineering Mechanics and Mechanics of materials by Hibbeler	No
Websites		

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks (%)**	**Definition**
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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Architectural design 3**			**Module Delivery**	
Module Type	**C**			**☒ Theory**	
Module Code	**ARC 311**			**☐Lecture**	
ECTS Credits	12			**☐ Lab**	
SWL (hr/sem)	300			**☐ Tutorial** **☒ Practical** **☐ Seminar**	
Module Level	UGII	**Semester of Delivery**	3		
Administering Department	ARC	College	COE		
Module Leader	Raed salim ahmed	**e-mail**	Raeedalnumman@uomosul.edu.iq		
Module Leader's Acad. Title	Assistant Professor	**Module Leader's Qualification**	Ms.c.		
Module Tutor	Dr. hussen salman	**e-mail**	hussen@uomosul.edu.iq		
Peer Reviewer Name	Ashraf ibahim Talaat Ibrahim Mayssa mofeq Aseel Ibrahim Eman	**e-mail**	E-mail		
Scientific Committee Approval Date		**Version Number**	1.0		

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	Architectural design 2	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	Objectives: 1. To make students of architecture familiar with principles and concepts of planning taking into consideration the importance of the planning process and the role of the architect within this process. Students should be able to deal with the urban planning process and its elements including street and parking design and master plans besides introducing many world-wide experiments within this subject. 2. Systematic introduction to issues related to the design of human habitat, its components, and space standards. The objective of the studio will be on understanding residential spaces in both urban and traditional contexts. 3. To train students for undertaking the design of multi-story buildings, frame structures, considering site planning, structures, services, etc. 4. Study architecture prevalent in Iraq (Mosul city) and its local character and characteristic elements of design. 5. Green: Demonstration of world-leading sustainability principles 6. Global: Understanding of and interpreting the past, present, and future of the city, iconic, defining the identity and character of different Neighborhoods in Mosul City, demonstration of excellence in all aspects of planning, design, contemporary, inspired, and inventive, and expressive of its time and place, poetic and thought-provoking. 7. Responsiveness: Welcoming, open and inclusive, integrated and harmonious, visually connected with, and open to, its immediate surroundings, responsive to the site, the wider context, and the social needs of the families and whole community.
Module Learning Outcomes	On successful completion of this course, students will be able to: 1 . Ability to gather, analyze, assess, record, apply, and comparatively evaluate relevant information within

مخرجات التعلم للمادة الدراسية	architectural design processes. ii 2 . Demonstrate an understanding of principles and practices and integrate and apply that knowledge within architectural design processes. iii 3. Ability to develop imaginative and creative thinking. Ii
Indicative Contents المحتويات الإرشادية	1. Design Principles and Concepts: a. Exploring design principles such as scale, proportion, rhythm, and balance b. Developing design concepts for the housing project c. Incorporating sustainable design strategies and principles d. Spatial Planning and Functional Requirements: e. Understanding the spatial organization and functional requirements of residential spaces 2. Designing efficient floor plans for various types of housing units 3. Considering circulation, privacy, and accessibility in the design 4. Building Systems and Construction Techniques: 5. Exploring different materials, finishes, and construction technologies suitable for housing design 6. Environmental Design and Sustainability: Incorporating sustainable design principles and strategies for energy efficiency and

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The architectural design learning strategy focuses on empowering students to develop the skills and knowledge necessary for creative design in architectural projects. This strategy includes architectural dictionaries, case study analysis, interactive workshops, and hands-on training. Communication and collaboration among students are enhanced through design critique sessions and teamwork in group projects. This strategy provides students with opportunities to develop their technical, artistic, and critical thinking skills while achieving a balance between theory and practical application in the field of architectural design.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	10	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	154
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	9.7	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	146
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	300

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Report**	2	10%	2, 3,	LO # 1, 2,3,4
	Weekly assessment	13	10%	1-14	
	Concept submission	1	5%	5	LO #1,2,3,4,5,6
	Mid-term submission	1	5%	8	
	Pre-final submission	1	15%	14	
	Final submission	1	25%	16	
Summative assessment	**Midterm Exam (Day sketch 1)**	3 hr.	10%		LO #1-9
	Final Exam (Day sketch 2)	4 hr.	20%		LO #1-9
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Introduction to multifamily housing
Week 2	Urban standers
Week 3	Density of housing
Week 4	Types of housings
Week 5	Type of housings
Week 6	Analysis of similar examples
Week 7	Site analysis
Week 8	Design concept and primary idea formulation
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	
Week 14	
Week 15	
Week 16	

Delivery Plan (Weekly design studio) المنهاج الاسبوعي لأستوديو التصميم	
Week	**Material Covered**
Week 1	Introduction to multifamily housing
Week 2	Analysis of similar examples

Week 3	Site analysis
Week 4	Design concept and primary idea formulation
Week 5	Discussion
Week 6	Discussion
Week 7	First submission
Week 8	Details of plans
Week 9	Elevations and visual aspect
Week 10	Details
Week 11	Pre- Final submission
Week 12	Discussion
Week 13	Discussion
Week14	Final presentation settings
Week 15	Final submission

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	.1 Joseph De Chiara, Julius Panero, Time-Saver Standards for Housing and Residential Development .2 URBAN-HOUSING-STANDARDS, Iraq (2010) .3 2. Polservice , 1982 Housing Technical Standards & Codes of Practice.	No
Recommended Texts		No
Websites		

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسي

Working Drawings 1

Module Information معلومات المادة الدراسية				
Module Title	**Working Drawings 1**		**Module Delivery**	
Module Type	Core		☐**Theory** ☒ **Lecture** ☐ **Lab** ☐**Tutorial** ☒**Practical** ☐ **Seminar**	
Module Code	ARC 312			
ECTS Credits	4			
SWL (hr/sem)	100			
Module Level	UGIII	**Semester of Delivery**	5	
Administering Department	ARC	**College**	COE	
Module Leader	Talaat I. Alaane	**e-mail**	Talaat.Alaane @uomosul.edu.iq	
Module Leader's Acad. Title	Lecturer	**Module Leader's Qualification**	M.A	
Module Tutor	Maysaa Moffeq Alobaidi	**e-mail**	Maysaa.moffeq@uomosul.edu.iq	
Peer Reviewer Name	Name	**e-mail**	E-mail	
Scientific Committee Approval Date		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	.4 Educate the student how design the working drawing sheet , Educate other related construction systems by theoretical and practical studying (exercises and field visits) , so the student should be able to work , read the working and architectural drawings and learn the technical details of their own. .5 Introducing concrete designs and how to deal with concrete sections of various kinds and shapes, in addition to teaching students how to form and shape concrete structures with relatively large areas and dealing with details related to concrete sections as well as profiling the various architectural spaces designed from concrete sections. .6 The topic of building construction deals with execute methods of building construction from architectural view modern methods in building construction new technology in building construction (concrete structure). new technology and mechanism uses in building construction .
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	On successful completion of this course students will be able to: .1 Teaching the student the principles of designing facilities with concrete structures, as well as identifying the types of concrete structures and how to deal with them as an essential part of the design of the architectural form . .2 Apply clear practical programs that pay attention to the details of technology for the use of concrete structures. Without ignoring the standards of architectural beauty and keeping pace with the development taking place in developed countries by providing an architectural educational program that establishes a base based on modern technologies related to modern developments in the engineering and technical fields, especially with regard to architectural construction and building installation. .3 Paying attention to the quality of the architectural educational process by selecting updated curricula and completing self-evaluation reports in order to obtain academic accreditation. .4 Interest in applied scientific research and the design of applied projects to build partnerships and relationships with distinguished institutions and universities, especially with regard to the subject of advanced structural and architectural construction, as well as the practical application of the subject of construction and contemporary design methods.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. • Definition of building construction material and the relationship between initial ideas and planned Executive and to all the terms of reference., and how to set up the chart of the Executive and the

	standards of the scheme, as well as special symbols chart Executive.(20 hrs) • A detailed explanation of the physical layout of the level of sections and plans and interfaces, as architectural details(30 hrs) • Detailed explanation of the method of construction-ready systems and various Construction. And Architectural details and construction of the building ready at the level of ceilings and walls, the work of the link between the prefabricated pieces (ready).(35 hrs)

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.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	37	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100		

Module Evaluation تقييم المادة الدراسية					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Report**	2	10%	2, 3,	LO # 1, 2,3,4
	Weekly assessment	13	10%	1-14	
	Concept submission	1	5%	5	LO #1,2,3,4,5,6
	Mid-term submission	1	5%	8	
	Pre-final submission	1	15%	14	
	Final submission	1	25%	16	
Summative assessment	**Midterm Exam (Day sketch 1)**	3 hr.	10%		LO #1-9
	Final Exam (Day sketch 2)	4 hr.	20%		LO #1-9
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Definition of building construction material and the relationship between initial ideas and planned Executive and to all the terms of reference.
Week 2	How to set up the chart of the Executive and the standards of the scheme, as well as special symbols chart Executive.
Week 3	**First submission**: A detailed explanation of the physical layout of the level of sections and plans and interfaces, as architectural details.
Week 4	Detailed explanation of the planned construction and structural details.
Week 5	Discussion
Week 6	Discussion
Week 7	Detailed explanation of the plan and details.
Week 8	**Day sketch**

Week 9	**Second submission**: Detailed explanation of the method of construction-ready systems and various Construction.
Week 10	Architectural details and construction of the building ready at the level of ceilings and walls, the work of the link between the prefabricated pieces (ready).
Week 11	Discussion
Week 12	Discussion
Week 13	Discussion
Week 14	Discussion
Week 15	Final submission
Week 16	**Final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	-1 Working Drawings Handbook , Keith Styles , Kindle Edition , 2014 by Architectural Press , USA , 2014 . -2 Working Drawings Handbook , Keith Styles, Andrew Bichard , SBN 9780750663724	No

	Published September 4, 2004 by Routledge , UK , 2004 . 3- Architectural Working Drawings, Fourth Edition , Ralph W. Liebing (Author) Ralph W. Liebing , Wiley , USA , 1999 . 4- Architectural Working Drawings: Residential and Commercial Buildings , William P. Spence , John Wiley & Sons , USA , 2000 .	
Recommended Texts		No
Websites		

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Computer rendering techniques**			**Module Delivery**	
Module Type	**C**			☒ **Theory** ☒ **Lecture** ☒ **Lab** ☒ **Tutorial** ☒ **Practical** ☐ **Seminar**	
Module Code	**ARC313**				
ECTS Credits	**4**				
SWL (hr/sem)	**100**				
Module Level		UGIV	**Semester of Delivery**		1
Administering Department		Architectural Engineering	**College**	College of Engineering	
Module Leader	Reem Ali Talib Alothman		**e-mail**	reemalothman@uomosul.edu.iq	
Module Leader's Acad. Title		Teacher	**Module Leader's Qualification**		Ph.D.
Module Tutor	Miqdam A. Al-Kurukchi		**e-mail**	miqdamameen@uomosul.edu.iq	
Peer Reviewer Name		Name	**e-mail**	E-mail	
Scientific Committee Approval Date			**Version Number**		1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	The course is concerned with applying the latest techniques used in computer aided architectural presentation by learning about drawing and rendering techniques by using 3d Max and Corona render software and also Lumion software to reach a computer aided architectural presentation that is as close to realism as possible. In addition to getting acquainted with the most important techniques to assist in architectural presentation through the use of Adobe Photoshop software. The course develops students' design skills and creative thinking through design and formal alternatives that students learn about during work, as well as the architectural presentation of various projects and in various environmental conditions.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	8. Remember and understand the most commands used in 3ds Max, Corona render and Lumion program. 9. Comparing the different of using these programs. 10. Describe different ways that used for drawing the same object or model. 11. Naming and describing the different kinds for final render. 12. The ability to choose the appropriate mode for final render, and judge its suitability for the building, reaching realistic scene. 13. Carrying out the final renders of project by putting different effects to reach the most suitable scene and design for the project. 14. Create iconic design of any project in any location. 15. Integrating the design of any project with realism as possible. 16. Analysis of many effects, and different environment, and identifying the most suitable environment used to achieve final project render. 17. Design a project, making an explanatory poster, using the most important programs for drawing, rendering and postproduction suitable to the location and function. 18. Expresses the aesthetic, architectural and engineering uses of 3d Max, Corona render, Lumion and Photoshope. 19. The use of architectural drawing and rendering programs to reach innovative engineering designs to reach a virtual reality using modern technologies in construction. 20. Benefit from these programs in engineering and architectural work after graduation.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. 5. Introducing the 3ds Max program, import AutoCAD 2D file, create advanced and 3D architectural models and readymade models [15 hrs]. 6. The modifiers list and the most important modifiers used. Presenting an exterior design project. [9 hrs]. 7. Corona render software, the types and forms of Corona light, Corona material. [12 hrs].

	8. Blocks in 3ds Max program. [3 hrs]. 9. Lumion program, modify the materials. elements, environment, landscape and weather elements. 10. The final render for architectural projects. [6 hrs]. 11. Adobe Photoshop software program and post production for an exterior and interior design project. [6 hrs].

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 training sessions by considering different projects.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	3
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	52	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	5, 11	
	Poster	1	15% (15)	15	
	Projects / Lab.	1	5% (5)	7	
	Report				
Summative assessment	Midterm Exam	2 hr	20% (20)	8	
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
Week 1	Introducing the 3ds Max program and the program's drawing board, adjusting the basic settings, in addition to getting to know the main menus in the program.
Week 2	Learn the basic commands and commands used in 3ds Max.
Week 3	Learn how to draw two dimensional geometric shapes and Edit spline applications. Import AutoCAD 2D file.
Week 4	Learn how to create advanced and 3D architectural models (Extended primitives) and readymade models used in architectural and construction works AEC Extended.
Week 5	Edit poly applications.
Week 6	Get to know the modifiers list and the most important modifiers used. Start to convert AutoCAD 2D file to 3D.

Week 7	Presenting an exterior design project (Villa exterior design) using instructions, orders and rates.
Week 8	**Mid Term Exam**
Week 9	Interior design of an architectural space using directives, orders and modifiers + practical semester exam
Week 10	Learn about Corona render software and how to install it in 3ds Max. Learn how to set Corona cameras and how to adjust its main settings, and how to choose the appropriate shot.
Week 11	Adjust Corona render settings. Recognize the types and forms of Corona light and how to choose, adjust and define the appropriate lighting to control it.
Week 12	Learn how to add Corona material and their types using the Material editor and how adjust them, in addition to getting to know the Corona material library, in addition to the method of manufacturing different materials.
Week 13	The way to insert the different blocks within the 3ds Max program and the way to insert them with their own material, in addition to identifying the most important sites from which the different blocks can be obtained.
Week 14	The final render and the most important render settings to reach a more realistic scene and prepare the horizontal and vertical projections.
Week 15	Post production using Adobe Photoshop software program and adding different backgrounds and environmental effects. Presenting a presentation for an exterior and interior design project.
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
	Material Covered
Week 1	Use the 3ds Max program's drawing board, adjusting the basic settings, and the main menus in the program.
Week 2	Use basic commands and commands used in 3ds Max.
Week 3	Draw two dimensional geometric shapes and Edit spline applications. Import AutoCAD 2D file.
Week 4	Create advanced and 3D architectural models (Extended primitives) and readymade models used in architectural and construction works AEC Extended.

Week 5	Use Edit poly applications.
Week 6	Use the modifiers list and the most important modifiers used. Start to convert AutoCAD 2D file to 3D.
Week 7	Presenting an exterior design project (Villa exterior design) using instructions, orders and rates.
Week 8	**Mid Term Exam**
Week 9	Draw an Interior design of an architectural space.
Week 10	Install Corona render software in 3ds Max. Set Corona cameras and adjust its main settings, and choose the appropriate shot.
Week 11	Adjust Corona render settings, and Corona light, adjust and define the appropriate lighting to control it.
Week 12	Add Corona material and their types using the Material editor and adjust them, in addition to getting the Corona material library, and the method of manufacturing different materials.
Week 13	Insert the different blocks within the 3ds Max program and insert them with their own material, in addition to identifying the most important sites from which the different blocks can be obtained.
Week 14	Render more realistic scene and prepare the horizontal and vertical projections.
Week 15	Add different backgrounds and environmental effects by using Adobe Photoshop software program. Presenting a presentation for an exterior and interior design project.
Week 16	Final Exam

Learning and Teaching Resources

مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	-	No
Recommended Texts	1- A Fascinating journey into the world of 3D Graphics with 3ds Max. By Iftikhar Abbasov 2- Autodesk 3D Max Design- The Designer's Handbook. By Marcello Femi, AIA 3- Corona Render 1.3. By Giao Trinh 4- Mastering Lumion 3D. By Ciro Cardoso	No
Websites		

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

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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Principles of Housing**			**Module Delivery**	
Module Type	**C**			☒ **Theory**	
Module Code	**ARC 314**			☒ **Lecture**	
ECTS Credits	**3**			☐ **Lab**	
SWL (hr/sem)	**75**			☒ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Level	**UGIII**	**Semester of Delivery**	5		
Administering Department	**ARC**	**College**	**COE**		
Module Leader	Hassan alsinjary	**e-mail**	hasan.sanjary@uomosul.edu.iq		
Module Leader's Acad. Title	Assistant Professor	**Module Leader's Qualification**	Ph.D.		
Module Tutor	Assis.prof. Mazin Jaber Omar ISRA malallah aziz	**e-mail**	mazinjaber@uomosul.edu.iq Esraa malallah@uomosul.edu.iq		
Peer Reviewer Name	Name	**e-mail**	E-mail		
Scientific Committee Approval Date		**Version Number**	1.0		

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	.1 Introduce students to the fundamental Knowledge of science of Housing. .2 Introduce students to basics of science of Housing. .3 Making behavioral changes for students after they had understood Basics of Housing & main topics. .4 Enable students to look to Housing as an Economic sector, .5 Enable students to understand Planning Indicators : Housing Densities,(FAR) , (PC),(O.R.)in H. Planning . .6 Enable students to deal with Practical planning of Residential urban fabric.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	.1 Able to analyze and calculate the H. needs & H. demands & H. Shortage .2 Able to count & deal with all kinds of housing densities. .3 Able to understand and deal with housing Standards. .4 Able to deal with architectural design project for a multi-family and multi-story housing complex. .5 Able to to refining and expanding their designing skills in housing projects. .6 At the end of this course, students will have gained knowledge of the fundamental concepts behind the science of Housing .
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Introduction to basics of science of Housing, and looking to Housing as an Economic sector. Also Definitions & Discussion of Housing and human Needs, Housing Demand [5 hrs]. Definitions & Discussion of Housings Standards & types. Definitions & Discussion of Housing Strategies in Iraq. Housing Policies & Programs [10 hrs]. Façade of urban Housing patterns in Iraq.Discussion of The development of urban Housing patterns ;environmental view, resident psychological & social views [15 hrs]. other & Iraq Housing Standards - Definition & Discussion, Types of H. Standards, Norms of H. Standards in countries [15 hrs].

	Housing Density – Definition, Types & Discussion, How to estimate net residential Density, How to estimate gross Discussion, Housing & residential Density Planning Indicators :(FAR) , (PC),(O.R.),Housing Policies - Definition [15 hrs]. Discussion & Programs - Definition

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted is to make behavioral changes for students after they had understood Basics of Housing & main topics, so that they can deal with any problems in housing field and h. sector in future. Furthermore they get good background so that they can deal with architectural design project for a multi-family and multi-story housing complex. Also can deal with any urban design project,

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	33
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.9	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	42
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75

Module Evaluation
تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	3	30% (30)	4, 13	LO #3, 4, 5, and 6
	Assignments	2	10% (10)	4, 13	LO #3, 4, 5, and 6

	Projects / Lab.				
	Report				
Summative assessment	**Midterm Exam**	2 hr	10% (10)	7	LO # 1-6
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Introduction to Science of Housing. Housing as an Economic sector
Week 2	Discussion. & Housing Strategies in Iraq. Housing Policies & Programs - Definition
Week 3	Urban Housing patterns in Iraq. Report discussion ; stage 1
Week 4	Façade of urban Housing patterns in Iraq.
Week 5	The development of urban Housing pattern ;environmental view.
Week 6	Report Discussion ; stage 2 + monthly exam
Week 7	The development of urban Housing pattern ;resident psychological & social views.
Week 8	Housing Need - Definition & Discussion, How to estimate housing need
Week 9	Housing demand - Definition & Discussion, How to estimate housing demand
Week 10	& Housing Shortage - Definition & Discussion, Housing Stock - Definition
Week 11	Midterm Exam
Week 12	other countries & Iraq Housing Standards - Definition & Discussion, Types of H. Standards, Norms of H. Standards in
Week 13	Housing Density – Definition, Types & Discussion, How to estimate net residential Density, How to estimate gross residential Density
Week 14	Control of Housing Densities
Week 15	Discussion & Discussion, Housing Programs - Definition & Planning Indicators :(FAR) , (PC),(O.R.),Housing Policies - Definition

Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	• "Housing in Iraq - Problems - Policies - Programs", 1958 - Doxiadis Associates - Consulting Engineers - Republic of Iraq.	Yes
Recommended Texts	- صالح، د. الهذلول، 1986، (نمو وتطور المحيط العمراني المعاصر في المملكة العربية السعودية) ، من بحوث المؤتمر الثامن للمدن العربية – الرياض. - "مدينة البكر الصناعية – في خور الزبير – التصميم الأساسي" – 1975 – هيئة تخطيط المدينة الصناعية وزارة البلديات – مديرية التخطيط والهندسة العامة – بغداد. - حاتم، حازم الصوفي، 1988، (مفهوم الفضاء الحضري في المدينة العربية)، رسالة ماجستير مقدمة الى كلية الهندسة، جامعة بغداد. - مدينة الثرثار الجديدة، 1987، تقرير المخطط الأساس النهائي"، حزيران، مجموعة اتحاد دوكسيادس. الهيئة المركزية للمدن الجديدة – الجمهورية العراقية - النعمة، مازن جابر :" دراسة تخطيطية عمرانية لحي السكن العربي	Yes

	المعاصر مع مقترح تصميمي لمحلة سكنية نموذجية" رسالة مقدمة الى مركز التخطيط الحضري والاقليمي / جامعة بغداد لنيل درجة الماجستير سنة 1990- بغداد	
		Websites

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية			
Module Title	**Reinforced Concrete Design**	**Module Delivery**	
Module Type	**Support**	☒ **Theory** ☒ **Lecture** ☐ **Lab** ☒ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Code	**ARC 315**		
ECTS Credits	3		
SWL (hr/sem)	75		
Module Level	UGIII	**Semester of Delivery**	5
Administering Department	ARC	**College**	COE
Module Leader	Mohammed Shakib Mohammed	**e-mail**	Mohammed.aljawahery@uomosul.edu.iq
Module Leader's Acad. Title	Lecturer	**Module Leader's Qualification**	Ph.D.
Module Tutor	Fahad Akram Saeed	**e-mail**	Fahad.akram@uomosul.edu.iq
Peer Reviewer Name	Name	**e-mail**	E-mail
Scientific Committee Approval Date		**Version Number**	1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	This course aims to study the mechanical properties and fundamentals of reinforced concrete according to the ACI code and provide the students with the skills and techniques to design the sections and reinforcement for the structural elements such as beams and slabs with details working drawings. The course educates participants on the principles, design concepts, construction techniques, and safety considerations associated with reinforced concrete. Here are some key objectives of a reinforced concrete course: 1. Understanding material properties: Participants learn about the properties of concrete and steel, including their strengths, limitations, and behavior under different loading conditions. This knowledge helps in designing and analyzing reinforced concrete structures. 2. Design principles: The course covers the fundamental principles of reinforced concrete design, including load analysis, structural stability, durability, and serviceability requirements. Participants learn to apply design codes and standards to ensure safe and efficient structures. 3. Structural analysis and modeling: Participants gain knowledge of structural analysis techniques specific to reinforced concrete structures. They learn to calculate internal forces, design moments, and shear forces to ensure structural integrity and optimal design. 4. Construction techniques: The course covers various construction methods and practices related to reinforced concrete. Participants learn about formwork systems, reinforcement placement, concrete mixing, curing, and quality control measures. Practical aspects such as construction sequencing and safety considerations are also addressed. 5. Codes and regulations: Understanding building codes, regulations, and industry standards is crucial in designing and constructing reinforced concrete structures. The course familiarizes participants with relevant codes and guidelines, ensuring compliance and adherence to safety standards. 6. Problem-solving and troubleshooting: Participants develop problem-solving skills to address challenges encountered during the design and construction phases. They learn to identify potential issues, assess risks, and implement appropriate solutions for reinforced concrete structures. Overall, a reinforced concrete course provides individuals with a comprehensive understanding of the principles,

	design methods, and construction practices related to reinforced concrete structures. It equips participants with the necessary knowledge to effectively contribute to designing, constructing, and maintaining such structures in the construction industry.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Module Learning Outcomes (MLOs) are specific statements describing the expected knowledge, skills, and competencies students should acquire by the end of a particular module or course. The MLOs guide the curriculum and assessment strategies, ensuring students achieve the desired learning outcomes. Here are some examples of Module Learning Outcomes for a reinforced concrete course: 16. Understand the properties and behavior of reinforced concrete materials: • Describe the properties of concrete and steel and their role in reinforced concrete structures. • Explain the behavior of reinforced concrete under different loading conditions. • Analyze the interaction between concrete and steel reinforcement. 17. Apply design principles and codes to reinforced concrete structures: • Apply design principles for reinforced concrete beams, columns, slabs, and foundations. • Interpret and utilize relevant design codes and standards in the design process. • Evaluate and select appropriate reinforcement detailing for structural elements. 18. Analyze and design reinforced concrete structures: • Perform structural analysis and calculations for reinforced concrete members. • Determine internal forces, moments, and shear forces in reinforced concrete elements. • Design reinforced concrete elements considering load capacity, deflection, and stability requirements. 19. Understand construction techniques and practices for reinforced concrete: • Explain the construction process for reinforced concrete structures. • Identify and select appropriate formwork systems for different structural elements. • Understand the procedures for placing reinforcement and pouring concrete. 20. Demonstrate effective problem-solving and decision-making skills: • Identify and resolve design and construction issues related to reinforced concrete structures. • Evaluate alternative solutions and make informed decisions based on structural requirements.

	• Apply critical thinking and analysis to troubleshoot problems encountered in reinforced concrete projects. 21. Apply safety considerations and quality control measures: • Identify potential safety hazards and implement appropriate safety measures. • Understand quality control procedures for concrete mixing, curing, and testing. • Ensure compliance with safety regulations and industry standards during construction. These are general examples, and the specific Module Learning Outcomes may vary depending on the institution, the level of the course, and the depth of knowledge and skills expected from the students
Indicative Contents المحتويات الإرشادية	Indicative contents provide an overview of the topics or subject areas typically covered within a module or course. These contents give students an idea of what they can expect to learn and study during the course. Here are some indicative contents for a reinforced concrete course: 8- Introduction to Reinforced Concrete: • Definition and characteristics of reinforced concrete. • Advantages and limitations of reinforced concrete structures. • Historical development and applications of reinforced concrete. 9- Properties of Concrete and Steel: • Properties and behavior of concrete materials. • Properties and behavior of steel reinforcement. • Compatibility between concrete and steel reinforcement. 10- Design Principles and Codes: • Design philosophy and principles for reinforced concrete structures. • Load analysis and determination of design loads. • Introduction to relevant design codes and standards. 11- Flexural Design of Reinforced Concrete Beams: • Introduction to flexural behavior and design of beams. • Calculation of design moments and reinforcement requirements. • Consideration of factors such as deflection and shear. 12- Shear in Reinforced Concrete:

	• Shear behavior and design of reinforced concrete elements. • Calculation of shear forces and design of shear reinforcement. -13 Compression and Tension Members: • Design of reinforced concrete columns and compression members. • Determination of axial loads and design considerations. • Tension members: design of reinforced concrete ties and stirrups. -14 Reinforced Concrete Slabs: • Behavior and design principles for reinforced concrete slabs. • One-way and two-way slab design methods.. -15 Foundations: • Design principles for reinforced concrete footings and foundations. -16 Construction Techniques for Reinforced Concrete: • Formwork systems for reinforced concrete structures. • Reinforcement placement and concrete pouring procedures. • Curing, quality control, and inspection of concrete structures. -17 The actual contents may also be influenced by the duration of the course and the depth of knowledge and skills intended to be covered.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Learning and teaching strategies refer to instructors' methods and approaches to facilitate student learning and achievement of module learning outcomes. These strategies aim to engage students, promote understanding, and enhance their knowledge and skills in the context of a reinforced concrete course. Here are some common learning and teaching strategies that can be employed: .4 Lectures and Presentations: Instructors can deliver lectures and presentations introducing key concepts, theories, and principles related to reinforced concrete. These sessions can provide a foundational understanding of the subject matter and help students grasp fundamental knowledge.

	.5 Case Studies and Real-Life Examples: Incorporating case studies and real-life examples allows students to see the practical application of reinforced concrete principles. Analyzing and discussing real-world projects can deepen their understanding of design, construction, and problem-solving processes. .6 Interactive Discussions: Engaging students in discussions promotes active learning and critical thinking. Instructors can facilitate class discussions on specific topics, encouraging students to share their insights, ask questions, and explore different perspectives on reinforced concrete. .7 Group Activities and Projects: Collaborative group activities or projects enable students to work together to solve problems, design structures, or analyze case scenarios. This approach fosters teamwork, communication skills, and the application of learned concepts in a practical context. .8 Field Trips and Site Visits: Organizing field trips or site visits to construction sites, reinforced concrete structures, or material testing laboratories provides students with a practical understanding of construction practices, reinforcement detailing, and quality control procedures. .9 Problem-Based Learning: Presenting students with real-world problems related to reinforced concrete encourages them to apply their knowledge, think critically, and develop problem-solving skills. Instructors can guide students through problem-solving, encouraging them to analyze, evaluate options, and propose solutions. .10 Formative Assessments and Feedback: Regular formative assessments, such as quizzes, assignments, or in-class exercises, help instructors gauge students' understanding and progress. Providing timely feedback allows students to identify areas for improvement and reinforces their learning. .11 Independent Study and Research: Encouraging students to engage in independent study and research promotes self-directed learning. Assigning relevant readings, research projects, or literature reviews on specific topics in reinforced concrete enables students to deepen their knowledge and explore areas of interest.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	42	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100		

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

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	Material Covered
Week 1	Introduction to Reinforced Concrete, Properties of Reinforcing Concrete.
Week 2	Resultant of Concurrent Force Systems.
Week 3	Ultimate Strength Theory, Design of Beam in Maximum Condition.
Week 4	Design of Beam in Maximum Condition., Design of Shear Reinforcement, Minimum Shear Reinforcement.
Week 5	Design of Singly Reinforced Beam.
Week 6	Design of Slabs, Design of One Way Slab. Design of Continuous Beam and One Way Slab.
Week 7	Loading Patterens for Continuous Beam and One Way Slab, ACI-Coefficients for Moment and Shear.
Week 8	Design of Short, Tied Columns, Design of Axially Loaded Columns.
Week 9	Design of Longitudinal and Tied Reinforcement.
Week 10	Design of Eccentrically Loaded,Short Columns.

Week 11	Design of Footings.
Week 12	Design of Wall Footing.
Week 13	Design of Bending and Secondary Reinforcement.
Week 14	Design of Spread Footing.
Week 15	Equations and Metod of Design, Interaction Diagrams.
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	-4 Darwin, David, Charles William Dolan, and Arthur H. Nilson.Design of concrete structures. New York, NY, USA:: McGraw-Hill Education, 2020. -5 Hassoun, M. Nadim, and AkthemAl-Manaseer.Structural concrete: theory and design. John wiley& sons, 2020. -6 Aghayere, A. O. , Limbrunner, George F. (2014) "DESIGN OF REINFORCED CONCRETE"8th ed. Library	No

	of Congress, USA.	
Recommended Texts	ACI-Standared 318-19	No
Websites		

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

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

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**(1) Architectural Physics**			**Module Delivery**	
Module Type	**S**			☒ **Theory**	
Module Code	**ARC 316**			☒ **Lecture**	
ECTS Credits	**4**			☐ **Lab**	
SWL (hr/sem)	**100**			☐ **Tutorial** ☒ **Practical** ☒ **Seminar**	
Module Level	UGII	**Semester of Delivery**	4		
Administering Department	ARC	**College**	COE		
Module Leader	Bisam Ehessan ALHAFIZ	**e-mail**	**Bisam.alhafiz@uomosul.edu.iq**		
Module Leader's Acad. Title	Lecturer	**Module Leader's Qualification**	Ph.D.		
Module Tutor	Maysaa Moffeq yones Alobaidi	**e-mail**	Maysaa.moffeq@uomosul.edu.iq		
Peer Reviewer Name	Name	**e-mail**	E-mail		
Scientific Committee Approval Date		**Version Number**	1.0		

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	The module aims for the curriculum on Architectural Physics (1) are as follows: 1. To provide students with a comprehensive understanding of the relationship between architecture and climate. 2. To introduce students to the principles and strategies of climate-responsive design in architecture. 3. To explore the fundamental concepts of climate analysis and its influence on architectural design decisions. 4. To develop students' knowledge and skills in utilizing passive design strategies for energy efficiency and thermal comfort. 5. To familiarize students with sustainable technologies and practices related to renewable energy, water efficiency, and green infrastructure. 6. To examine the impact of climate change on the built environment and equip students with resilient design strategies. 7. To foster critical thinking and problem-solving abilities in addressing climate challenges through architectural design. 8. To encourage students to analyze and evaluate case studies of climate-conscious architectural projects. 9. To inspire students to explore future trends and innovations in sustainable architecture and climate-responsive design. 10. To promote interdisciplinary collaboration and an understanding of the role of architecture in creating climate-friendly cities. These module aims aim to provide students with a strong foundation in the principles, techniques, and considerations related to architecture and climate, enabling them to design buildings that are responsive to their climatic conditions and contribute to environmental sustainability.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	The module learning outcomes for the curriculum on Architectural Physics (1) are designed to provide students with a comprehensive understanding of the relationship between architecture and climate and equip them with the necessary knowledge and skills to design sustainable and climate-responsive buildings. The learning outcomes include: 1. Understanding the fundamental relationship between architecture and climate and recognizing the significance of climate-responsive design in creating sustainable built environments. 2. Analyzing and interpreting climate data to inform design decisions, including assessing different climate zones, understanding microclimates, and analyzing climate data for appropriate design responses. 3. Applying passive design strategies to enhance energy efficiency and occupant comfort, such as considering

	orientation, solar access, shading techniques, and daylighting strategies in architectural design. 4. Evaluating and selecting sustainable materials and technologies for building envelope design and insulation, including understanding the importance of a well-insulated building envelope and considering design considerations for minimizing heat transfer. 5. Integrating renewable energy systems, such as solar panels and photovoltaics, into architectural designs and understanding the concept of net-zero energy buildings. 6. Designing water-efficient systems and incorporating rainwater harvesting techniques, including understanding the importance of water efficiency in sustainable architecture and developing strategies for rainwater collection and reuse. 7. Understanding the benefits and design considerations of green roofs, vertical gardens, and other green infrastructure elements, including their ecological and thermal advantages and exploring design considerations and implementation techniques. 8. Conducting life cycle assessments (LCAs) and applying cradle-to-cradle design principles, including evaluating sustainable materials, assessing life cycle assessments, and exploring the concept of cradle-to-cradle design. 9. Developing resilient design strategies to address the impacts of climate change and extreme weather events, including understanding the challenges posed by climate change, exploring resilient design strategies, and considering adaptation and mitigation measures. 10. Applying bioclimatic design principles inspired by vernacular and traditional architecture, including learning from lessons in traditional and vernacular architecture, exploring climate-responsive design in different regions and cultures, and incorporating passive cooling and heating techniques. 11. Utilizing daylighting techniques and designing energy-efficient lighting systems, including understanding the importance of natural light, exploring techniques for optimizing daylight, and developing artificial lighting design strategies. 12. Understanding the urban heat island effect and implementing mitigation strategies in urban design, including exploring sustainable urban planning principles and designing resilient and climate-friendly cities. 13. Analyzing and evaluating case studies of exemplary climate-conscious architectural projects, including critically reflecting on design strategies and outcomes and drawing lessons for their own architectural practice. 14. Identifying emerging trends, technologies, and innovations in sustainable architecture and climate-responsive design, including staying updated on advancements in the field, exploring emerging technologies, and identifying opportunities for further research. 15. Demonstrating effective communication and teamwork skills through project presentations and discussions, including presenting design projects, engaging in discussions on architecture and climate-related topics, and collaborating with peers. These module learning outcomes provide a clear roadmap for students to acquire the necessary knowledge and

	skills in designing sustainable and climate-responsive buildings
Indicative Contents المحتويات الإرشادية	The curriculum on Architectural Physics covers a range of indicative contents to provide students with a comprehensive understanding of the subject. It begins with an introduction to the relationship between architecture and climate, emphasizing the importance of climate-responsive design and exploring key milestones in climate-conscious architecture. The fundamentals of climate are then explored, including different climate zones, climate data analysis, and the impact of microclimates on architectural design. Passive design strategies are introduced, focusing on principles for energy efficiency, orientation, solar access, shading, and daylighting techniques. Thermal comfort and building performance are addressed, covering human thermal comfort requirements, energy-efficient HVAC systems and controls, and building envelope design for thermal insulation. The curriculum also includes topics such as natural ventilation and cooling, building envelope and insulation, solar energy and photovoltaics, water efficiency and rainwater harvesting, and green roof and vertical gardens. These topics delve into the benefits and techniques of optimizing airflow, minimizing heat transfer, harnessing solar energy, and implementing sustainable water practices and green infrastructure. Sustainable materials and life cycle assessment are explored to familiarize students with the selection of eco-friendly materials and the evaluation of their environmental impact. Resilient design and climate change adaptation are discussed, focusing on strategies to address the impacts of climate change and promote resilience in architectural design. Additional topics include bioclimatic design and vernacular architecture, daylighting and lighting design, urban design and climate, and case studies showcasing exemplary climate-conscious architectural projects. The curriculum concludes with an exploration of future trends and opportunities for research and development in architecture and climate. Overall, these indicative contents provide a comprehensive framework for students to develop knowledge and skills in designing sustainable and climate-responsive buildings, taking into account various climate factors and incorporating innovative approaches to address the challenges of a changing climate.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The curriculum on Architectural Physics incorporates various learning and teaching strategies to enhance the students' understanding and engagement. These strategies include: 1. Lectures: Traditional lectures are used to deliver foundational knowledge and theoretical concepts related to architecture and climate. Expert instructors provide in-depth explanations and present case studies to illustrate real-world examples. 2. Interactive Discussions: Facilitated discussions encourage students to actively participate and share their thoughts, perspectives, and questions related to the topics being covered. This fosters critical thinking and deepens the understanding of the subject matter.

	3. Group Activities: Collaborative group activities promote teamwork and allow students to work together on projects, problem-solving tasks, and design exercises. This encourages peer learning and the exchange of ideas. 4. Case Studies: In-depth analysis of case studies provides students with practical examples of climate-responsive architecture. They can study successful projects, evaluate design strategies, and understand the real-world challenges and solutions. 5. Site Visits: Organizing site visits to sustainable buildings and architectural landmarks offers students the opportunity to experience climate-responsive design principles in practice. They can observe the integration of passive design strategies, renewable energy systems, and sustainable materials in actual buildings. 6. Guest Lectures: Inviting guest speakers who are experts in the field of architecture and climate provides valuable insights and diverse perspectives. Guest lectures can offer practical experiences, industry trends, and emerging technologies, enriching the learning experience. 7. Hands-on Workshops: Practical workshops allow students to apply theoretical knowledge to hands-on activities. They can engage in activities such as building energy modeling, daylighting simulations, and sustainable material experiments to enhance their understanding of key concepts. 8. Research Projects: Assigning research projects to students enables them to delve deeper into specific topics of interest within architecture and climate. They can explore cutting-edge research, analyze data, and present their findings to the class. These strategies aim to create an interactive and immersive learning environment, fostering a deeper understanding of the relationship between architecture and climate and preparing students to design sustainable and climate-responsive buildings.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	37	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100		

Module Evaluation تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	15% (15)	3,10	1,2
	Homework/ classworks	2	10%(10)	3,5,7	6,8,9,10,11,12,13,14,15
	Report	1	10% (10)	2,10	5,7,8,9,10,11,12,13,14,15
	Discussions& Analysis team's work	1	5% (5)	14,15	8,9,10,11,14,15
Summative assessment	Midterm Exam	1 hr	10% (10)	8	1,2,3,4,6,14,15
	Final Exam	3 hr	50% (50)	16	1,2, 3, 4,6,14,15
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	Lecture 1: Introduction to Architecture and Climate • Overview of the relationship between architecture and climate • Importance of climate-responsive design • Historical context and key milestones in climate-conscious architecture
Week 2	Lecture 2: Climate Fundamentals • Understanding different climate zones and their characteristics • Climate data analysis and interpretation • Microclimates and their impact on architectural design
Week 3	Lecture 3: Passive Design Strategies • Principles of passive design for energy efficiency • Orientation and solar access

	• Shading and daylighting techniques
Week 4	Lecture 4: Thermal Comfort and Building Performance • Human thermal comfort requirements • Energy-efficient HVAC systems and controls • Building envelope design for thermal insulation
Week 5	Lecture 5: Natural Ventilation and Cooling • Benefits of natural ventilation in buildings • Strategies for optimizing airflow and cross-ventilation • Passive cooling techniques, such as stack effect and evaporative cooling
Week 6	Lecture 6: Building Envelope and Insulation • Importance of a well-insulated building envelope • Insulation materials and their properties • Design considerations for minimizing heat transfer
Week 7	Lecture 7: Solar Energy and Photovoltaics • Harnessing solar energy in architectural design • Integration of solar panels and photovoltaic systems • Net-zero energy buildings and energy-positive design
Week 8	Lecture 8: Water Efficiency and Rainwater Harvesting • Importance of water efficiency in sustainable architecture • Design strategies for rainwater collection and reuse • Water-saving fixtures and systems
Week 9	Lecture 9: Green Roof and Vertical Gardens • Benefits of green roofs and vertical gardens • Design considerations and implementation techniques • Ecological and thermal advantages of green infrastructure
Week 10	Lecture 10: Sustainable Materials and Life Cycle Assessment • Selection of sustainable materials and their properties

	• Life cycle assessment (LCA) and embodied energy • Cradle-to-cradle design principles
Week 11	Lecture 11: Resilient Design and Climate Change Adaptation • Understanding the impacts of climate change on the built environment • Resilient design strategies for extreme weather events • Adaptation and mitigation measures for future climate scenarios
Week 12	Lecture 12: Bioclimatic Design and Vernacular Architecture • Lessons from traditional and vernacular architecture • Climate-responsive design in different regions and cultures • Passive cooling and heating techniques from around the world
Week 13	Lecture 13: Daylighting and Lighting Design • Importance of daylight in architectural spaces • Techniques for optimizing natural light and reducing energy consumption • Artificial lighting design for energy efficiency and visual comfort
Week 14	Lecture 14: Urban Design and Climate • Urban heat island effect and mitigation strategies • Sustainable urban planning principles • Designing resilient and climate-friendly cities
Week 15	Lecture 15: Case Studies and Future Trends • Case studies of exemplary climate-conscious architectural projects • Emerging technologies and innovations in sustainable architecture • Opportunities for further research and development in architecture and climate
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	Textbooks and Reference Materials: -"Sustainable Architecture: Principles, Paradigms, and Case Studies" by Svetlana Shitova -"Climate-Responsive Design: A Study of Buildings in Moderate and Hot Humid Climates" by Richard Hyde "Passive Solar Architecture: Heating, Cooling, Ventilation, Daylighting, and More Using Natural Flows" by David Bainbridge	No
Recommended Texts	-"Climate-Responsive Design: A Study of Buildings in Moderate and Hot Humid Climates" by Richard Hyde "Passive Solar Architecture: Heating, Cooling, Ventilation, Daylighting, and More Using Natural Flows" by David Bainbridge	No
Websites	Websites dedicated to sustainable architecture and climate-responsive design, such as the U.S. Green Building Council (USGBC) and the World Green Building Council (WGBC) Online platforms offering educational content on architecture and climate, such as Coursera, edX, and MIT OpenCourseWare	

Grading Scheme

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية				
Module Title	**Architectural design 4**		**Module Delivery**	
Module Type	**Core**		**☒ Theory**	
Module Code	**ARC321**		**☐Lecture**	
ECTS Credits	**12**		**☐ Lab**	
SWL (hr/sem)	300		**☐ Tutorial**	
			☒ Practical	
			☐ Seminar	
Module Level	UGII	**Semester of Delivery**	4	
Administering Department	ARC	College	COE	
Module Leader	Raed salim ahmed	**e-mail**	Raeedalnumman@uomosul.edu.iq	
Module Leader's Acad. Title	Assistant Professor	**Module Leader's Qualification**	Ms.c.	
Module Tutor	Dr. hussen salman	**e-mail**	hussen@uomosul.edu.iq	
Peer Reviewer Name	Ashraf ibahim Talaat Ibrahim Mayssa mofeq Aseel Ibrahim Eman	**e-mail**	E-mail	

Scientific Committee Approval Date	/06/2023	**Version Number**	1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	Architectural design 3	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	To introduce concepts of function, and structure in the design process through projects and to learn how to apply design methodology for complicated projects
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	On successful completion of this course, students will be able to: .1 Ability to gather, analyze, assess, record, apply, and comparatively evaluate relevant information within architectural design processes. ii .2 Demonstrate an understanding of principles and practices and integrate and apply that knowledge within architectural design processes. iii .3 Ability to develop imaginative and creative thinking. ii .4 An understanding of professional, legal, and social issues and responsibilities. v .5 An ability to analyze the local and global impact of architecture on individuals, the environment, and society. Ii
Indicative Contents المحتويات الإرشادية	.1 Introduction to the Project: .2 Overview of the project scope, objectives, and stakeholders involved .3 Understanding the importance of integrating educational, cultural, and commercial facilities in a mixed-use development .4 Site Analysis and Planning:

	.5 Conducting a site analysis considering location, accessibility, and surrounding context .6 Urban planning principles and site planning strategies for integrating the school, culture center, and shopping center .7 Functional Requirements and Space Planning: .8 Understanding the specific requirements of a school, such as classrooms, laboratories, administrative areas, and outdoor spaces .9 Designing functional spaces for the culture center, including exhibition areas, performance spaces, studios, and multipurpose rooms .10 Planning retail spaces, circulation areas, and amenities for the shopping center Architectural Design Principles: .11 Exploring design principles such as scale, proportion, rhythm, and harmony .12 Incorporating architectural features and elements that reflect the purpose and identity of each facility .13 Sustainable Design and Energy Efficiency: .14 Integrating sustainable design principles and strategies, such as passive design techniques, renewable energy sources, and efficient building systems These indicative contents provide a comprehensive overview of the topics that can be covered when designing a general project that includes a school, culture center, and shopping center. The specific contents may vary based on the project's requirements and the intended learning outcomes.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The architectural design learning strategy focuses on empowering students to develop the skills and knowledge necessary for creative design in architectural projects. This strategy includes architectural dictionaries, case study analysis, interactive workshops, and hands-on training. Students are guided to use digital design tools and architectural software to create three-dimensional models and visualize projects. Communication and collaboration among students are enhanced through design critique sessions and teamwork in group projects. This strategy provides students with opportunities to develop their technical, artistic, and critical thinking skills while achieving a balance between theory and practical application in the field of architectural design.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	154	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	10
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	146	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	9.7
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	300		

Module Evaluation
تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Report**	2	10%	2, 3,	LO # 1, 2,3,4
	Weekly assessment	13	10%	1-14	
	Concept submission	1	5%	5	LO #3,4,5
	Mid-term submission	1	5%	8	
	Pre-final submission	1	15%	14	
	Final submission	1	25%	16	
Summative assessment	**Midterm Exam (Day sketch 1)**	3 hr.	10%		LO #1-5
	Final Exam (Day sketch 2)	4 hr.	20%		LO #1-5
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Introduction (project 1)
Week 2	Introduction (project 2)
Week 3	Introduction (project 3)
Week 4	Analysis of similar examples
Week 5	Analysis of similar examples
Week 6	Main components of project
Week 7	Main components of project
Week 8	Design concept and primary idea formulation
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	
Week 14	
Week 15	
Week 16	

Delivery Plan (Weekly design studio) المنهاج الاسبوعي لأستوديو التصميم	
Week	**Material Covered**
Week 1	Site analysis
Week 2	Design concept and primary idea formulation
Week 3	Feedback

Week 4	Feedback
Week 5	First submission
Week 6	Details of plans
Week 7	Feedback
Week 8	Feedback
Week 9	Day sketch
Week 10	Elevations and visual aspect
Week 11	Feedback
Week 12	Feedback
Week 13	Pre- Final submission
Week14	Feedback
Week 15	Final submission

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	1. Joseph De Chiara, Julius Panero, Time-Saver Standards for Housing and Residential Development .4	No
Recommended Texts	2. Polservice , 1982 Housing Technical Standards & Codes of Practice	No
Websites		

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية				
Module Title	**Survey and Architectural Documentation**		**Module Delivery**	
Module Type	**S**		☒ **Theory**	
Module Code	**ARC 322**		☒ **Lecture**	
ECTS Credits	4		☐ **Lab**	
SWL (hr/sem)	100		☐**Tutorial**	
			☒ **Practical**	
			☐ **Seminar**	
Module Level	UGIII	**Semester of Delivery**	6	
Administering Department	ARC	**College**	COE	
Module Leader	Dr. Emad Hani Ismaeel	**e-mail**	emad.hani.ismaeel@uomosul.edu.iq	
Module Leader's Acad. Title	Assistant Professor	**Module Leader's Qualification**	Ph.D.	
Module Tutor		**e-mail**		
Peer Reviewer Name		**e-mail**		
Scientific Committee Approval Date		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. Using professionally drafted architectural construction documents to ensure accurate detailing and dimensioning. 2. to give the students a substantial theoretical basis for documentation of architectural value and discussion of strategies for actions in existing built environments. 3. to record and analyze architectural details in order to answer specific research questions. 4. To determine how the sites, buildings or structures were originally constructed and what alterations might have taken place over time. 5. To ensure that there is good communication, and hence coordination, between the people working on the project.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	On successful completion of this course students will be able to: 2. utilize basic principles of architectural documentation. 3. compose a well-designed drawing of historic buildings. 4. demonstrate familiarity with basic drawing terminology, tools, media and techniques of architectural documentation. 5. draw & represent using a full range of values with the intended media. 6. perceive and utilize a full range of values for describing heritage form, depth and structure. 7. use effective techniques to document objects and fragment them with environmental integration
Indicative Contents المحتويات الإرشادية	Architectural documentation is a scientific course with theoretical and practical parts, concerned with providing and analyzing information specialized in the field of urban conservation, especially the techniques and technologies of architectural documentation of historical buildings and the built environment. The semester establishes for fundamental base for the conservation and documentation processes, and provides the ability to use different techniques and tools for this purpose.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم

Strategies	The Architectural documentation process serves as a roadmap for a building project. Architectural construction documentation includes a set of documents that need to be followed at each stage of construction and referred to in case of doubts. The teaching is based on literature studies, field studies, and report writing.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	33
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.4	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	67
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100

Module Evaluation
تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes				
	Assignments	5	30% (30)	4 – 12	LO #1,2,3, 4, and 5
	Projects / Lab.				
	Report	1	10% (10)	13	LO # 1-5
Summative assessment	Midterm Exam	1 hr	10% (10)	7	LO # 1-5
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Conservation history, process and objectives, International charters and organizations, The Heritage of Iraq and its old cities, Iraqi experiments in conservation and documentation.
Week 2	Conservation and the technologies for documentation and information management, Representation and three-dimensional models in documenting urban heritage, Digital models.
Week 3	Contact Techniques for 3D Information Acquisition
Week 4	Photogrammetry
Week 5	Laser Scanning
Week 6	Structured Lighting
Week 7	Non-Destructive Techniques, Infrared Thermography-IR
Week 8	Global Positioning System – GPS, GLONASS and GALILEO systems
Week 9	1st term Exam
Week 10	360 degrees' panorama software, benefits, how to create
Week 11	Virtual reality- aims, requirements, interaction types.
Week 12	& Museum D virtual city3VR benefits and limitation, VR systems,
Week 13	Geographic information system (GIS)
Week 14	UAV, Robots, Documentation of Underwater Heritage
Week 15	3D Printers
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**Material Covered**
Week 1	Conservation history, process and objectives, International charters and organizations, The Heritage of Iraq and its old cities, Iraqi experiments in conservation and documentation.

Week 2	Conservation and the technologies for documentation and information management, Representation and three-dimensional models in documenting urban heritage, Digital models.
Week 3	Contact Techniques for 3D Information Acquisition
Week 4	Photogrammetry
Week 5	Laser Scanning
Week 6	Structured Lighting
Week 7	Non-Destructive Techniques, Infrared Thermography-IR
Week 8	Global Positioning System – GPS, GLONASS and GALILEO systems
Week 9	1st term Exam
Week 10	360 degrees' panorama software, benefits, how to create
Week 11	.Virtual reality- aims, requirements, interaction types
Week 12	& Museum D virtual city3VR benefits and limitation, VR systems,
Week 13	Geographic information system (GIS)
Week 14	UAV, Robots, Documentation of Underwater Heritage
Week 15	3D Printers
	Final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	• Al-Allaf, Emad Hani, Representation Technologies of the Built Heritage, 2018. • Al-Allaf, Emad Hani, Information modeling and management technology for historical sites and urban heritage buildings, 2018.	Yes
Recommended Texts		
Websites		

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

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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Physics Laboratory**			**Module Delivery**	
Module Type	**C**			**☒ Theory**	
Module Code	**ARC323**			**☒ Lecture**	
ECTS Credits	4			**Lab ☒**	
SWL (hr/sem)	**100**			**☐Tutorial**	
				☒ Practical	
				☒ Seminar	
Module Level	UGV	**Semester of Delivery**	6		
Administering Department	ARC	**College**	COE		
Module Leader	Bisam Ehessan ALHAFIZ	**e-mail**	**Bisam.alhafiz@uomosul.edu.iq**		
Module Leader's Acad. Title	Lecturer	**Module Leader's Qualification**	Ph.D.		
Module Tutor	Reem Ali Talib Alothman	**e-mail**	reemalothman@uomosul.edu.iq		
	Maysaa Moffeq yones Alobaidi		Maysaa.moffeq@uomosul.edu.iq		
Peer Reviewer Name	Name	**e-mail**	E-mail		
Scientific Committee Approval Date		**Version Number**	1.0		

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	Architectural Physics (1) Architectural Physics (2)	**Semester**	4 8
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	Module Aims for the curriculum on using computers to study the behavior of air and fluid dynamics in the field of architecture: 11. Provide students with a comprehensive understanding of the application of Computational Fluid Dynamics (CFD) in architectural design and analysis. 12. Familiarize students with the principles and fundamentals of fluid mechanics and their relevance to architectural systems. 13. Develop students' proficiency in using CFD software to model and simulate airflow, thermal conditions, and other fluid dynamics phenomena in architectural environments. 14. Enable students to evaluate and optimize architectural designs based on their understanding of air and fluid dynamics. 15. Enhance students' ability to analyze and interpret simulation results to inform design decisions and improve building performance. 16. Cultivate students' critical thinking and problem-solving skills by engaging them in practical exercises and projects that apply CFD techniques to real-world architectural scenarios. 17. Foster collaboration and communication skills through group discussions, project presentations, and case study analysis. 18. Encourage students to critically assess the limitations and uncertainties associated with CFD simulations and recognize the importance of validation and verification. 19. Stimulate students' awareness of emerging trends and advancements in the field of CFD and its potential impact on architectural design and sustainability. 20. Promote an interdisciplinary approach by connecting fluid dynamics principles with other relevant aspects of architecture, such as thermal comfort, energy efficiency, and environmental performance. Overall, the module aims to equip students with the necessary knowledge, skills, and mindset to effectively utilize

	CFD software for studying and optimizing the behavior of air and fluid dynamics in architectural contexts.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	By the end of this module, students should be able to: 1. Understand the principles and theories of fluid dynamics and their application in architectural design and analysis. 2. Utilize Computational Fluid Dynamics (CFD) software to model and simulate air and fluid flow in architectural environments. 3. Apply boundary conditions and define appropriate parameters for accurate simulation of airflow, thermal conditions, and other fluid dynamics phenomena. 4. Analyze and interpret simulation results to evaluate the performance of architectural designs in terms of airflow, thermal comfort, and energy efficiency. 5. Assess and optimize architectural designs based on insights gained from CFD simulations and analysis. 6. Demonstrate proficiency in using CFD software to explore and evaluate different design options and scenarios. 7. Communicate effectively about CFD simulations, presenting findings and recommendations to stakeholders in a clear and concise manner. 8. Recognize the limitations and sources of uncertainty in CFD simulations and apply appropriate methods for validation and verification. 9. Collaborate effectively in interdisciplinary teams, integrating fluid dynamics principles into architectural design processes. 10. Stay informed about emerging trends and advancements in the field of CFD and their implications for architectural design and sustainability. 11. Apply ethical considerations in the use of CFD software, considering the responsible and sustainable use of resources. 12. Demonstrate critical thinking and problem-solving skills in applying CFD techniques to real-world architectural challenges. These learning outcomes aim to equip students with the knowledge, skills, and competencies required to effectively utilize CFD software for studying and optimizing the behavior of air and fluid dynamics in architectural contexts.
Indicative Contents المحتويات الإرشادية	The curriculum on using computers to study the behavior of air and fluid dynamics in the field of architecture covers a range of topics to equip students with the necessary knowledge and skills. The indicative contents include an introduction to Computational Fluid Dynamics (CFD) in architecture, fundamentals of fluid mechanics, and an overview of commonly used CFD software. Students will learn techniques for building geometry modeling, defining boundary conditions, and generating accurate meshes for simulations. The curriculum also emphasizes practical applications, such as simulating airflow in building interiors and analyzing ventilation effectiveness, evaluating thermal comfort parameters, and exploring design modifications for improved thermal conditions. Students will gain insights into wind flow analysis around buildings, assessing wind effects on facades and outdoor spaces. Additionally, they will explore fire and smoke simulations, rainwater penetration analysis, and large-scale simulation techniques for efficient modeling. The curriculum includes validation and verification of CFD simulations, enabling students to compare results with experimental data and understand the limitations and sources of uncertainty. Optimization of building performance is covered, allowing students to set up optimization studies and use algorithms to find optimal design solutions. Real-world case studies showcase the application of CFD in architecture, and ethical considerations and sustainability aspects in CFD simulations are discussed. Overall, this curriculum provides a comprehensive and practical approach to using computers for studying air and

	fluid dynamics in architecture, enabling students to analyze and optimize architectural designs for improved performance and sustainability.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The curriculum of Physics Laboratory employs a combination of learning and teaching strategies. These include interactive lectures to introduce theoretical concepts and principles, hands-on practical sessions where students can apply CFD software to solve real-world problems, and group discussions to analyze case studies and share insights. Students will also engage in individual and group projects, allowing them to explore specific topics in-depth and apply their knowledge to practical scenarios. Guest lectures by industry professionals will provide valuable insights into the application of CFD in architecture. Additionally, site visits and fieldwork may be organized to observe and analyze real-world architectural environments. The teaching strategies emphasize active learning, encouraging students to participate, ask questions, and collaborate with their peers. The use of visual aids, demonstrations, and multimedia resources enhances understanding and engagement. Regular assessments, including assignments and exams, will be used to evaluate students' understanding and progress throughout the curriculum. Overall, these strategies promote a comprehensive and immersive learning experience for students in the field of architectural air and fluid dynamics.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	52	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100		

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	3,10	1,3,10
	Computer simulated experiments	4	40%(40)	3,6,9,12	2,3,4,5,6,7,8,11,12
	Discussions & Analysis team's work	4	20% (20)	3,6,9,12	2,3,4,5,6,7,8,11,12
Summative assessment	**Midterm Exam**	1 hr	10% (10)	8	1,3,4,5,9
	Final Exam	3 hr	20% (20)	16	1,2,3,4,5,6,8,9,10 ,11
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Practical Lesson 1: Introduction to Computational Fluid Dynamics (CFD) Software • Familiarize students with CFD software interface and basic functionalities • Learn how to create a simple geometry and define boundary conditions

	• Run a basic simulation and analyze the results
Week 2	Practical Lesson 2: Modeling Airflow in Building Interiors • Create a 3D model of an indoor space using CFD software • Set up ventilation system and define inlet/outlet conditions • Simulate airflow patterns and analyze ventilation effectiveness
Week 3	Practical Lesson 3: Thermal Comfort Analysis • Simulate the temperature distribution in an indoor space • Evaluate thermal comfort parameters, such as PMV and PPD • Explore design modifications to improve thermal comfort
Week 4	Practical Lesson 4: Wind Flow Analysis around Buildings • Model a building and its surroundings in CFD software • Simulate wind flow patterns and analyze pressure distribution • Assess wind effects on building facades and outdoor comfort
Week 5	Practical Lesson 5: Natural Ventilation Design Optimization • Optimize the design of a natural ventilation system using CFD • Explore different inlet and outlet configurations • Analyze the impact on airflow rates and indoor air quality
Week 6	Practical Lesson 6: Indoor Air Quality Assessment • Model a space with pollutant sources using CFD software • Simulate the dispersion of pollutants and assess air quality • Evaluate the effectiveness of ventilation strategies in pollutant removal
Week 7	Practical Lesson 7: Fire and Smoke Simulation • Simulate a fire scenario and smoke movement in a building • Assess the effectiveness of fire safety measures • Analyze evacuation routes and smoke control strategies
Week 8	Practical Lesson 8: Urban Microclimate Analysis • Model an urban area and simulate its microclimate

	• Study the impact of buildings and vegetation on temperature and wind patterns • Evaluate the potential for urban heat island mitigation strategies
Week 9	Practical Lesson 9: Rain Penetration Analysis • Simulate rainwater penetration in a building facade • Analyze potential areas of water ingress and moisture damage • Explore design modifications for improved waterproofing
Week 10	Practical Lesson 10: Optimization of Building Performance • Set up an optimization study using CFD software • Define design parameters and performance metrics • Use optimization algorithms to find the optimal design solution
Week 11	Practical Lesson 11: Sensitivity Analysis • Perform a sensitivity analysis on a building design • Vary input parameters and assess their impact on performance • Identify the most influential design factors for further optimization
Week 12	Practical Lesson 12: Parametric Design Exploration • Explore parametric design techniques using CFD software • Generate a range of design variations and evaluate their performance • Analyze the trade-offs between different design options
Week 13	Practical Lesson 13: Large-Scale Simulation Techniques • Learn techniques for efficient simulation of large-scale models • Utilize parallel computing and distributed processing methods • Run simulations on high-performance computing platforms
Week 14	Practical Lesson 14: Validation and Verification of CFD Simulations • Compare CFD simulation results with experimental data • Analyze the accuracy and reliability of the simulations • Understand the limitations and sources of uncertainty in CFD modeling
Week 15	Practical Lesson 15: Case Studies and Project Presentations

	• Present and discuss case studies showcasing CFD applications in architecture • Encourage students to present their own CFD projects and findings • Foster a discussion on future trends and advancements in the field
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	-"Computational Fluid Dynamics for Engineers" by Tuncer Cebeci and Jian P. Shao -"Introduction to Computational Fluid Dynamics" by Anil W. Date -"Building Performance Simulation for Design and Operation" by Jan L. M. Hensen and Roberto Lamberts -"CFD for Architects: A Practical Guide" by Asim Hussain	No
Recommended Texts	-"Computational Fluid Dynamics for Engineers" by Tuncer Cebeci and Jian P. Shao -"Building Performance Simulation for Design and Operation" by Jan L. M. Hensen and Roberto Lamberts	No
Websites	"Introduction to Computational Fluid Dynamics" - Online course offered by Cornell University on edX "CFD for Building Design" - Online course offered by SimScale "Introduction to CFD Analysis" - Tutorial series by Autodesk CFD Learning Channel on YouTube	

	"CFD for Architects: A Step-by-Step Guide" - Tutorial series by EngiSoft on YouTube

Grading Scheme

مخطط الدرجات

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية				
Module Title	(1) **Engineering Services**		**Module Delivery**	
Module Type	S		**Theory** ☐	
Module Code	**ARC 324**		**Lecture** ☐	
ECTS Credits	**3**		**Lab**	
SWL (hr/sem)	**75**		**Tutorial** **Practical** ☐ **Seminar**	
Module Level	**UGIII**	**Semester of Delivery**	**6**	
Administering Department	**ARC**	**College**	**COE**	
Module Leader	**Rawia Marwan Dabdoob**	**e-mail**	**rawia.dandoob@uomosul.edu.iq**	
Module Leader's Acad. Title	**Assist. Lecturer**	**Module Leader's Qualification**	MSc.	
Module Tutor	Assist. prof. Ahmad Abdulwahaab	**e-mail**		
Peer Reviewer Name		**e-mail**		
Scientific Committee Approval Date		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	This course delivers an essential knowledge to students in a certain specialize in engineering field. Plumbing is any system that conveys fluids for a wide range of applications. It involves installing and maintaining pipes that carry out water and sewerage. Hence, there are many attributable goals that are aimed to fulfill as mentioned below: 1. Understanding plumbing system properties: Studying plumbing provides the student with the efficient knowledge to be partially enough qualified in building engineering services. Understanding plumbing system properties starting from city scale ending to one unit such as a house, including water supply system and water sewage system. studying plumbing introduces students to plumbing facilities especially domestic plumbing. 2. The course covers the fundamental principles of design plumbing system, including water supply demands in a building, determining pipe size of water supply system, the sizes and length of sewage pipes, and the sizes and length of stormwater pipes. 3. Construction techniques: The course covers various construction methods and practices related to plumbing including the two types of water supply systems, sewage pipes, drain systems, and the types of plumbing pipes. Hence, this course provides the students with examples and homework that give a glance at practical skills and technical equipment.

	.4 Regulations: the course provides students with relevant guidelines to upgrades understanding the regulations and industry standards in designing and constructing plumbing systems .5 Problem-solving and troubleshooting: developing problem-solving skills to design and construct plumbing systems by identifying potential issues and implement appropriate solutions for designing plumbing systems.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Learning Outcomes for a plumbing course: .22 Understanding plumbing system properties: • Describe the properties of Plumbing equipment and plumbing fixture, water supply system, Types of plumbing pipes, Sewage or domestic wastewater, and Stormwater and the drain system. • Comparing the types of water supply system. • Comparing the types of types of sewage systems in buildings. .23 The fundamental principles of design plumbing system: • Apply design principles for water supply system, sewage systems and wastewater, stormwater, and the drain system. • Implementing design principles for rainwater harvesting system in a building. • Cary out relevant design standards in the design process. .24 Construction techniques: • Understand the procedures for placing pipes in floors and walls. .25 Regulations: • Explain the construction process for water supply system and sewage system. • Structuring the appropriate detailing for water supply system and sewage system and their proper equipment and fixtures. .26 Problem-solving and troubleshooting: • Integrating structural analysis and calculations for water demands in a building, pipe sizes, and sizes and length of sewage pipes. • Evaluate alternative solutions and make informed decisions based on plumbing system requirements.

	• Apply critical thinking and analysis to troubleshoot problems encountered in projects.
Indicative Contents المحتويات الإرشادية	The course is parted into five sections. Each section addresses a certain part of plumbing. 1. The first section lunges the scope of plumbing and plumbing equipment. A plumbing fixture is an exchangeable device which can be connected to a plumbing system to deliver and drain water. 2. The second section subjects water supply system. Water supply is the provision of water by public utilities commercial organizations, community endeavors or by individuals, usually via a system of pumps and pipes. A water supply system: Water storage facilities such as reservoirs, water tanks, or water towers. Smaller water systems may store the water in cisterns or pressure vessels. Tall buildings may also need to store water locally in pressure vessels for the water to reach the upper floors. A pipe network for distribution of water to the consumers, which may be private houses, and other usage points. 3. The third section addresses the types of plumbing pipes. Plumbing uses different types of pipes. Each type of pipes has essential usage according to its specific characteristics. Besides, Plumbing use types of valves, tanks, and other apparatuses to convey fluids. 4. The fourth section explains sewage or domestic wastewater. Connections to the sewers, underground pipes, are generally found downstream of the water consumers, but the sewer system is considered to be a separate system, rather than part of the water supply system. Sanitary sewer is an underground carriage system specifically for transporting sewage from house through pipes to treatment facilities or disposal. Sanitary sewers are part of an overall system called a sewage system or sewerage. Separate sanitary sewer systems are designed to transport sewage alone. In municipalities served by sanitary sewers, separate storm drains may convey surface runoff directly to surface waters. 5. The fifth section addresses stormwater and the drain system, types of roof drainage systems, and rainwater harvesting system in a building. Besides, garbage disposal system, types of garbage, and systems of garbage disposal in a building.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Learning and teaching strategies refer to instructors' methods and approaches to facilitate student learning and achievement of module learning outcomes. These strategies aim to engage students, promote understanding, and enhance their knowledge and skills in the context of plumbing course. Here are some common learning and teaching strategies that can be employed: 12. Lectures and presentations: the notes and the instructors are delivered through presentations introducing key concepts, theories, and principles related to plumbing. A foundational understanding of the subjects is provided to help students grasp fundamental knowledge.

	13. Incorporating case studies and real-life local examples: they allow students to see the practical application of plumbing principles. Analyzing and discussing local projects can deepen their understanding of design, construction, and problem-solving processes. 14. Interactive discussions: promotes active learning and critical thinking by engaging students in discussions. Instructors can facilitate class discussions on specific topics, encouraging students to share their insights, ask questions, and explore different perspectives on plumbing. 15. Promoting teamwork spirit: by holding classwork drawings which upgrade students' discussions and teamwork. 16. Problem-Based Learning: develop problem-solving skills. Instructors guide students to analyze, evaluate, and propose solutions in designing plumbing system. 17. Formative Assessments and Feedback: Regular formative assessments, such as quizzes and classwork drawings, that help instructors gauge students' understanding and progress. Providing timely feedback allows students to identify areas for improvement and reinforces their learning.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	33	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل
	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	42	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل
75			**Total SWL (h/sem)** الحمل الدراسي الكلي للطالب خلال الفصل

Module Evaluation تقييم المادة الدراسية				
Relevant Learning Outcome	**Week Due**	**Weight (Marks)**	**Time/ Number**	**As**

Formative assessment	**Quizzes**	2	10% (10)	3,6,8,11	1,2,3,4,5
	C.W. Drawings	9	27% (27)	11,14,15	2
	Discussions& Analysis team's work& Attendance	1	3% (3)	11,14,15	1,2,3,4,5
Summative assessment	**Midterm Exam**	2 hr	10% (10)	12	
	Final Exam	3 hr	50% (50)		
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Introduction: the scope of plumbing
Week 2	Plumbing equipment and plumbing fixture
Week 3	Water supply system: 1. General water distribution network 2. Conditions of designing general water distribution network Types of general water distribution network
Week 4	Water supply system: 1. Steps of accomplish the water supply system. 2. Types of water distribution network 3. Types of water tanks Conditions of tanks
Week 5	Water supply system: 1. Calculations of water demands in a building.

	.2 Determining pipe size Calculating the average of water usage in a building.
Week 6	Water supply system: .1 Design the water distribution network in buildings. .2 Using traditional pipes and methods Using PEX system
Week 7	Types of plumbing pipes: .1 types of supply water pipes .2 Accessories of supply water system .3 Types of valves and their implementations. .4 Types of equipment that used in fixing plumping system.
Week 8	Sewage or domestic wastewater: .1 Components of sewage system .2 Types of sewage systems in a building: One Pipe System .3 Types of sewage systems in a building: Two Pipe System
Week 9	Sewage or domestic wastewater: .1 Steps of accomplish the sewage systems in a building. .2 Testing the sewage systems in a building. .3 Calculating the sizes and length of sewage pipes.
Week 10	Sewage or domestic wastewater: .1 Calculating the sizes and length of sewage pipes.
Week 11	C.W.: Drawing water supply system and sewage for house plane.
Week 12	Midterm Exam
Week 13	Stormwater and the drain system: .1 Types of roof drainage systems .2 Rainwater harvesting system in a building. The garbage disposal system:

	.1 Types of garbage. Systems of garbage disposal in a building.
Week 14	C.W.: Drawing roof drainage systems of students' design projects
Week 15	C.W.: Drawing Systems of garbage disposal in students' design projects
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	**-5** Plumbing Complete: Expert Advice from Start to Finish, Book by Rex Cauldwell. **-6** Ultimate Guide: Plumbing, Updated 5th Edition, Book	No
Recommended Texts	**-7** Plumbing 1-2-3 Hardcover, 2005, The Home Depot **-8** Ultimate Guide: Plumbing, 4th Updated Edition, 2017, Editors of Creative Homeowner	No

Websites	

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية			
Module Title	**Working Drawings (2)**	**Module Delivery**	
Module Type	**Core**	☒ **Theory**	
Module Code	**ARC 325**	☐ **Lecture**	
ECTS Credits	4	☐ **Lab**	
SWL (hr/sem)	100	☐**Tutorial** ☒ **Practical** ☐ **Seminar**	
Module Level	UGIII	**Semester of Delivery**	6
Administering Department	ARC	**College**	COE
Module Leader	Miqdam A. Al-Kurukchi	**e-mail**	miqdamameen@uomosul.edu.iq
Module Leader's Acad. Title	Assistant Professor	**Module Leader's Qualification**	Msc.
Module Tutor	Abdullah Abdulrahman Alsarraf	**e-mail**	abd.sarraf@uomosul.edu.iq
Peer Reviewer Name	Name	**e-mail**	E-mail
Scientific Committee Approval Date		**Version Number**	1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	The course aims to provide students with the skills of conceptualizing, designing and documenting engineering projects using Autodesk Revit software, as one of BIM packages.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	On successful completion of this course students will be able to: 1. Qualifying students to acquire skills in employing the program to design architectural projects….(**ii)** 2. Qualifying students to acquire skills in employing the program to document working drawing sets of the architectural projects….(**ii)** 3. Providing students with the skill of enriching the program library by designing additional elements and adding them to the program library….(**ii)**
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Creating basic building components: Walls, Fenestration, Floors, roofs, stairs…etc (15 hours). Using Editing tools (10 hours). Working with Datum and creating standard views. (10 hours). Modelling, Using massing tools. (20 hours). Creating project details. Adding annotations and dimensions. (10 hours). Creating drawing sheets and plotting. (10 hours).

Learning and Teaching Strategies استراتيجيات التعلم والتعليم

Strategies	The main strategy that will be followed in this module is to guide students to build architectural design projects in the Revit program. Developing the talent of solving problems in completing projects and preparing their working drawing sets. This is done through theoretical lectures and practical application under supervision in the computer laboratory.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	63	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	37	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100		

Module Evaluation
تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (20)	4, 8	LO #1,2
	Assignments	4	20% (20)	1, 2,7,14	LO #2
	Projects / Lab.				
	Report				
Summative assessment	**Midterm Exam**	2 hr	20% (10)	7	LO # 2
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Introduction to BIM concept. It's definition and potentials…
Week 2	Explaining the details of Revit User Interface.
Week 3	Methods of constructing projects in revit. Building components 1 (walls)…
Week 4	Building components 2: (Doors, Windows).
Week 5	Building components 2: (Floors, Roofs, ceilings)…
Week 6	Datum components & views (Elevations, sections, grid, levels, reference planes).
Week 7	Building component 3: (stairs & ramps).
Week 8	Building component 3: (curtain walls).
Week 9	Constructing complex-shaped buildings using massing tools.1
Week 10	Constructing complex-shaped buildings using massing tools.2
Week 11	Course Examination1(practical)…
Week 12	Annotations (text, tags, dimensions, keynotes).
Week 13	Adding site features (topography & contour lines, building pads, entourage).
Week 14	Creating Details, drawing sheets & plotting.
Week 15	Working with families.
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	None	No
Recommended Texts	• Mastering Autodesk Revit 2018, Copyright © 2017 by John Wiley & Sons, Inc., Indianapolis, Indiana, Lance Kirby & others. • Revit 2019 Architecture, 2019, Munir M. Hamad, Publisher: David Pallai Mercury Learning and Information, 22841 Quicksilver Drive.	No
Websites		

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

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MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Principles of Planning**			**Module Delivery**	
Module Type	**Support**			**Theory** ☐ **Lecture** ☐ **Lab** **Tutorial** **Practical** ☐ **Seminar** ☐	
Module Code	**ARC326**				
ECTS Credits	**4**				
SWL (hr/sem)	**100**				
Module Level	UGIII	**Semester of Delivery**	6		
Administering Department	ARC	**College**	COE		
Module Leader	**Hussein Salman Abdullah**	**e-mail**	**hussein.salman@uomosul.edu.iq**		
Module Leader's Acad. Title	Lecturer	**Module Leader's Qualification**	Ph.D.		
Module Tutor	Omer Mazin Jaber	**e-mail**	mazinjaber@uomosul.edu.iq		
Peer Reviewer Name	**Lecturer Maha Akram**	**e-mail**	Maha.akram@uomosul.edu.iq		
Scientific Committee Approval Date		**Version Number**	1.0		

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

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

Module Aims أهداف المادة الدراسية	The course initially introduces the principles of planning concerning on urban planning as the level that most connected to architecture with focusing on site elements and evolution of human settlements..	.17
	Understand the relationship between planning and the architecture, with a focus on ways to develop of Urban Planning through the Modern Theories of planning. This relationship is elucidated within a comprehensive framework that encompasses planning work.	.18
	Familiarize students with The Emergence of Human Settlements in Ancient Civilizations, including their characteristics, the transfer of planning systems, and their impact on the form of the city system. Additionally, students become acquainted with the details related to each system, especially grid systems used in contemporary cities.	.19
	Explore a range of global planning projects executed by renowned architects, providing examples of modern planning utilization in those projects.	.20
	Enhance the role of students and activate their participation by presenting reports on planning systems, architects, and cities that employed those systems. These reports are discussed in discussion sessions to delve into modern planning and exchange ideas between students and the professor. Moreover, students' confidence in themselves is boosted, and their skills and knowledge in the planning field are increased through the presentation of the latest advanced concepts and applications used in the current era.	.21
	Bridging the Gap between academic theories and practical applications and explore the details of planning systems in modern cities and understand the methods used in their construction. Students are given the opportunity to train and work on practical exercises and present two-dimensional models of the main planning systems implemented in global planning projects. This opportunity is achieved under the supervision and training of the course professor, helping students enhance their practical and theoretical skills in this field.	.22

Module Learning Outcomes مخرجات التعلم للمادة الدراسية	14. Understanding the principles and concepts of planning process and its levels. 15. Understanding the relationship between planning and architecture and ways to develop it. 16. Familiarizing students with theories of planning and their impact on city development. 17. Studying sustainable cities projects. 18. Encouraging exploration of Elements of Urban Areas and comprehensive project development. 19. Bridging the academic-practical gap, exploring Modern Theories and Ideas of Urban Planning, through hands-on training and drawing models of global planning projects. 20. Enhancing student roles through report presentations and discussions. 21. Linking academic theories with practical applications and providing hands-on exercises. 22. Encouraging active learning and collaborative work among students. 23. Effective communication with diverse audiences. 24. Functioning effectively as a team member, providing leadership, collaboration, and goal achievement. 25. Encouraging active learning and collaboration through group presentations showcasing students' skills and collective work. 26. Acquiring and applying new knowledge using appropriate learning strategies. 27. Program skill goals: ● Ability to plan of sustainable city. ● Increasing the student's ability to solve planning problems in their work. ● Understanding The Master Plans with Review of Iraqi Experiment. ● Emphasizing the consideration of Urban Land Use Patterns and ensuring their compliance with standards.
Indicative Contents المحتويات الإرشادية	7. the concept of Contemporary and Sustainable Cities. 8. The most important types of planning systems and their applications in contemporary global projects. 9. Urban Land Use Patterns and its significant classifications. 10. Modern Theories of Urban Planning and their applications in global projects. 11. Elements of Urban Areas, including streets and car park, with detailed international examples. 12. The Master Plans and urban planning.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	3. Encouraging students' active participation through pre-lecture readings and class discussions. 4. Promoting an interactive learning environment by implementing reverse learning, where students explore and research important planning, Contemporary and Sustainable Cities, and Modern Theories of Urban Planning, leading to meaningful discussions and a deeper understanding of the subject matter.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	33
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	5.06	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	67
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	3,10	1,2
	Structural model	1	15%(15)	3,5,7	6,8,9,10,11,12,13,14
	Report	1	5% (5)	2,10	5,7,8,9,10,11,12,13,,14
	Discussions& Analysis team's work	1	5% (5)	14,15	8,9,10,11,14
Summative assessment	**Midterm Exam**	1 hr	10% (10)	8	1,2,3,4,6,14
	Final Exam	3 hr	50% (50)	16	1,2, 3, 4,6,14
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	**Introduction to the course – : Define basic concepts of planning**
Week 2	**The Emergence of Human Settlements in Ancient Civilizations.**
Week 3	**Medieval Towns , The Islamic City. model exercise explained 1**
Week 4	**Modern Theories and Ideas of Urban Planning.**
Week 5	**Contemporary and Sustainable Cities. &model exercise explained 2**
Week 6	**Elements of Urban Areas/ Streets.**
Week 7	**Technical Aspects of Streets' Planning.**
Week 8	**Mid Term Exam**
Week 9	**Technical Aspects of Car Parking's Planning.**
Week 10	**Discuss the reports 2**
Week 11	**Urban Land Use Patterns , The Residential Use.**
Week 12	**Open Spaces and Water Fronts.**
Week 13	**The Master Plans with Review of Iraqi Experiment.**
Week 14	**Reports analysis exercise – Seminar3**
Week 15	**Reports analysis exercise – Seminar4**
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	-	No
Recommended Texts	● Gallin, Arthur B., The Urban Pattern, Van Nostrand Reinhold Co. ● Chapin, F. Stuart, Urban Land Use Planning, University of Illinois Press. ● Aldewachi, Momtaz, Introduction to Urban Planning , Cihan University. ● Mortada, Hisham, ,Traditional Islamic Principles of Built Environment, Routledge Curzon .	Yes most of them
Websites	Given that the lesson focuses on Modern Theories and Ideas of Urban Planning, it necessitates ongoing and evolving research. To fulfill this requirement, we frequently refer to reputable international sources, including renowned planners. Additionally, we explore planning of city, Contemporary and Sustainable Cities, and the master plan of cities.	

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks (%)**	**Definition**

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية				
Module Title	**Architectural Design (5)**		**Module Delivery**	
Module Type	**Core**		☒ **Theory**	
Module Code	**ARC 411**		☒ **Lecture**	
ECTS Credits	**12**		☐ **Lab**	
SWL (hr/sem)	**300**		☒ **Tutorial** ☒ **Practical** ☐ **Seminar**	
Module Level	UGIV	**Semester of Delivery**	7	
Administering Department	ARC	**College**	COE	
Module Leader	Dr. Dhuha Abdulgani Al-kazzaz	**e-mail**	dhuha.kazzaz@uomosul.edu.iq	
Module Leader's Acad. Title	Assistant Professor	**Module Leader's Qualification**	Ph.D.	
Module Tutor	Ghada Mohammed Younis Miqdam Ameen Majeed Baydaa Hanna Saffo Farhan Awad Jasim Amer Abdullah Alazzawi	**e-mail**	E-mail	
Peer Reviewer Name	Name	**e-mail**	E-mail	
Scientific Committee Approval Date		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	.3 This course, in the design studio sequence, continues the development of a comprehensive building design process with problems of complex scope. .4 The studio focuses on building types that exhibit complexity and challenge such as hospital. Hospital project explored in this studio includes the synthesis of spatial, functional, and contextual concerns, as directly linked to the understanding and employment of building systems. .5 The course emphasis is placed on a building envelope in terms of form, massing, articulation and fenestration. The use of computer-aided drafting is a part of the formal design exploration.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	.10 Ability to gather, analyze, assess, record, apply, and comparatively evaluate relevant information within architectural coursework. .11 Using creativity, conceptual skills, and judgment to identify human and environmental needs and to meet or express them in space and form. .12 Demonstrate an understanding of principles and practices and integrate and apply that knowledge within architectural coursework and design processes. .13 Ability to raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well-reasoned conclusions, and test alternative outcomes against relevant criteria and standards. .14 Critical understanding of the theory and practice of environment and energy issues in the cultural context of society as a whole .15 Ability to develop imaginative and creative thinking within architectural coursework and design processes.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Introduction to hospital designs: types, functions, and characteristics includes precedents Analysis of previous hospital projects to highlight a handful of design issues: such as, functional zoning, plan circulation diagrams, systems integration ideas, structural concepts, elevation design, section-volume concepts, and so on. Then, data collection includes design standards and criteria of health facilities in hospital building designs. Next, site analysis includes traffic, environment, topography, etc. (30 hrs) Preparing preliminary design concept including land use, space layout of all floors and their massing in scale

	(1/500). (25 hrs) Developing design proposal including floor plans of all levels in scale (1/200). (40 hrs) Developing the formal design of building elevations and sections in scale (1/200). (20 hrs)

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Many strategies are adopted in delivering this Student-led design projects by encouraging students to participate in the following skills: - Analyze a problem and systematically design and implement an effective solution. - Using creativity and judgement; both as an individual or in group work to enhance the students' critical thinking skills. - Having negotiation skills to resolve complex building issues. - Having clarity of expression using spoken words, computer aided drafting, and visual media to deliver 2D and 3D drawings. - Ability to work in collaboration with others and in multidisciplinary teams to successfully complete design projects. This will be achieved through lectures and design studio-based tutorials for individual and group work.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	154	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	10
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	146	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	9.7
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	300		

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**				
	Assignments				
	Projects / Lab.	5	60% (60)	4-15	All
	Report	3	10% (10)	1-3	LO #1 and 4
Summative assessment	**Midterm Exam**	4 hr	15% (15)	7	All
	Final Exam	4 hr	15% (15)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Introduction to hospital designs: types, functions, and characteristics.
Week 2	Data collection: Precedents Analysis of previous hospial projects to highlight a handful of design issues: such as, functional zoning, plan circulation diagrams, systems integration ideas, structural concepts, elevation design, section-volume concepts, and so on.
Week 3	Data collection of Design standards and criteria of health facilities in hospital building designs.
Week 4	Site analysis
Week 5	Discussion of proposals of design concept
Week 6	First submission of Design concept
Week 7	Design concept development
Week 8	Midterm Exam
Week 9	Development of plans (zoning & circulation)

Week 10	Development of plans (building structure)
Week 11	Second submission: plans and physical model
Week 12	Development of elevations & sections
Week 13	Pre-final submission
Week 14	Solving minor problems: functional, formal & structural
Week 15	Final submission
Week 16	Final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	1- Joseph De Chiara, "Time-Saver Standards for Building Types". 2- Ernst Neufert ,"Neufert Architects' Data". 3- Philipp Meuser & Christoph Schirmer, "New Hospital Buildings in Germany". 5- Philipp Meuser "Construction and Design manual - Hospital and Health Centers". 6- Louis G. Redistone, "Hospitals and Health Care Facilities". 7- Christine Nickl-Weller & Hans Nickl, "Hospital Architecture + Design". 8- Richard Sprow, "Planning Hospitals of the Future".	Some of them
Recommended Texts	9- مجد ماجد خلوصي، "المستشفيات والمراكز الصحية والإجتماعية" 10- هشام حسن علي، "محاضرات في تخطيط وتنسيق المستشفيات"	No

Websites	

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية			
Module Title	Interior Design	**Module Delivery**	
Module Type	C	☐**Theory**	
Module Code	ARC412	☒ **Lecture**	
ECTS Credits	6	☐ **Lab**	
SWL (hr/sem)	150	☐**Tutorial** ☒**Practical** ☐ **Seminar**	
Module Level	UGIV	**Semester of Delivery**	7
Administering Department	ARC	**College**	COE
Module Leader	**Khawola Faith Mahmoud**	**e-mail**	Khawola.Mahmoud@uomosul.edu.iq
Module Leader's Acad. Title	Assist. prof	**Module Leader's Qualification**	PhD.
Module Tutor		**e-mail**	
Peer Reviewer Name	Name	**e-mail**	E-mail
Scientific Committee Approval Date		**Version Number**	1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى

Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	.23 Introduction to interior design principles and the definition of interior design, interior architecture, and decoration. .24 Understand the relationship between Architecture form and interior space and the integrations between them. .25 Understanding the types of interior design and industrial interior design and the theory in design .26 Identifying the interior design elements and relations .27 Understanding the physical, psychological and emotional needs of interior space users .28 The importance of designing furniture and interior design elements .29 The integration between interior design and sustainability developments goals
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	-1 At the end the semester The student learn the language of interior design and its vocabulary by studying and applying the basics and the technical relationship of its different elements and its impact on the environment -2 The student learn the design knowledge to construct any interior design in terms of functional and aesthetic, by studying the foundations on which any design is based, and the human, cultural, technological and environmental needs. -3 The student touch the initial elements of the design -4 The student learn the basics of flat organization -5 The student learn the principles of design -6 The student learn the basics of transforming shape into design -7 The student learn how to deal with interior space and furniture -8 The student learn how to design furniture of interior design elements.

Indicative Contents المحتويات الإرشادية	Define basic concepts of interior design, The principles of interior design and its differences from decoration, The interior design elements and relations The integration of architecture design and interior space The psychological, physical, and emotional needs of users of the interior space, Interior furniture and furnishing and its related to the overall interior design images Methodologies of interior design process and the concepts resources

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.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	5	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	78
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.8	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	72
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	150

Module Evaluation تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	10% (10)	4, 13	LO #1, 2, and 3
	Assignments	1	10% (10)	6	LO #3
	Projects / Lab.	4 hr	20% (20)	12	LO #3 and 4
	Report				
Summative assessment	Midterm Exam	4 hr	30% (30)	15	LO #1-4
	Final Exam	3 hr	30% (30)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	Material Covered
Week 1	Introduction to the course – : Define basic concepts of interior design
Week 2	The principles of interior design and its differences from decoration
Week 3	The interior design elements and relations
Week 4	The integration of architectural design and interior space
Week 5	The psychological, physical, and emotional needs of users of the interior space
Week 6	Interior furniture and furnishing and its related to the overall interior design images
Week 7	Methodologies of the interior design process and the concepts resources
Week 8	Sustainable interior design and the role of designers
Week 9	Theme and colour elements and its effects on interior space
Week 10	The interior design styles 1
Week 11	The interior design styles 2
Week 12	The history of interior design

Week 13	**The relation between space layout and furnishing**
Week 14	**The type of using lighting elements in the interior space**
Week 15	**Type of interior spaces related to the function**
Week 16	**Final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	Interior Design Illustrated 3rd Edition, **-1** Rethinking Design and Interiors: Human Beings in the Built Environment	No
Recommended Texts		No
Websites		

Grading Scheme

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية				
Module Title	**Theories of Architecture**		**Module Delivery**	
Module Type	**C**		**Theory** ☐	
Module Code	**ARC 413**		**Lecture** ☐	
ECTS Credits	**3**		**Lab**	
SWL (hr/sem)	**75**		**Tutorial** **Practical** **Seminar**	
Module Level	UGIV	**Semester of Delivery**	7	
Administering Department	ARC	**College**	COE	
Module Leader	**Asma H. Al-Dabbagh**	**e-mail**	**asma.dabbagh@uomosul.edu.iq**	
Module Leader's Acad. Title	Assist. prof	**Module Leader's Qualification**	Ph.D.	
Module Tutor	Sinan M. Al-Saffar	**e-mail**	sinan.mohammad@uomosul.edu.iq	
Peer Reviewer Name		**e-mail**		
Scientific Committee Approval Date		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents **أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية**	
Module Aims أهداف المادة الدراسية	The course includes a presentation of the theoretical framework of the main architectural movements and their secondary sub-divosions over their change within the nineteenth and twentieth centuries, to contemporary architecture today. This framework includes the presentation of the thought of modernist architecture from its beginnings and development, with its changes according to the regions and architects who practiced it, as well as the architecture of late modernity, postmodern architecture and deconstructive architecture. Classification of the important aspects of each of the architectural movements which distinguishes them from others. Clarify the theoretical aspect of each architectural movement by enhancing it with examples.

Module Learning Outcomes مخرجات التعلم للمادة الدراسية	● Recognize the main movements in architecture through the last three decades. ● Describing and identifying the characteristic concerning the main movements and secondary approaches in Architecture. ● Comparing the different architectural approaches in conceptual and formal characteristics. ● Analyzing the well-known projects according to the obtained knowledge. ● Evaluating the contemporary and local projects considering the main topics in course. ● Outlining the expected future evolution in architectural trends and applications.
Indicative Contents المحتويات الإرشادية	.13 Backgrounds of Modern Architecture, Revivalism, Eclecticism .14 The Beginning of Modern Architecture, Art Nouveau, De Stijl & Futurism .15 Constructivism, Expressionism, Organic Architecture/ Frank Lloyd Wright, The Chicago School of Architecture .16 Functionalism, Purism, New Objectivism & The Bauhaus School, .17 International Style, The Architecture of Le- Corbusier, The Architecture of Ludwig Mies .18 The deficiencies of Modern Architecture, Crises of Modern Architecture .19 The Architecture of Brutalism, Archigram & Metabolism .20 Late-Modern Movement .21 Post-Modern Movement .22 Deconstruction, Contemporary Architecture

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	.5 Encouraging students' to analyze implemented projects due to the characteristics of Styles .6 Discussing the conceptual and formal characteristics in order to outlining the expected future evolution.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	42	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

Module Evaluation تقييم المادة الدراسية					
As		**Time/ Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	15 min./3	30% (30)	3,6,9	1,2,3,4
	Structural model				
	Report	1	10% (10)	13	1,2,3,4,5,6
	Discussions& Analysis team's work				
Summative	**Midterm Exam**	30	10% (10)	8,11	1,2,3,4,5,6

assessment		min./2			
	Final Exam	3 hr	50% (50)	16	1,2,3,4,5,6
Total assessment			**Total assessment**	100% (100 Marks)	

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Backgrounds of Modern Architecture, Revivalism, Eclecticism
Week 2	The Beginning of Modern Architecture, Art Nouveau, De Stijl & Futurism
Week 3	Constructivism, Expressionism, Organic Architecture/ Frank Lloyd Wright, The Chicago School of Architecture
Week 4	Functionalism, Purism, New Objectivism & The Bauhaus School,
Week 5	International Style, The Architecture of Le- Corbusier, The Architecture of Ludwig Mies
Week 6	The deficiencies of Modern Architecture, Crises of Modern Architecture
Week 7	The Architecture of Brutalism, Archigram & Metabolism
Week 8	Midterm Exam
Week 9	Late-Modern Movement
Week 10	Late-Modern Movement
Week 11	Midterm Exam
Week 12	Post-Modern Movement
Week 13	Post-Modern Movement
Week 14	Late-Modern & Post-Modern spaces
Week 15	Deconstruction, Contemporary Architecture
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	None	
Recommended Texts	● Changing Ideals in Modern Architecture/ Peter Collins ● Modern Architecture since 1900/ William Curtis ● Architecture Today/ Charles Jencks ● International Style in Architecture/ Shereen Sherzad	All of them
Websites		

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Steel design**			**Module Delivery**	
Module Type	**S**			☒ **Theory**	
Module Code	**ARC 414**			☒ **Lecture**	
ECTS Credits	**4**			☐ **Lab**	
SWL (hr/sem)	**100**			☒ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Level	UGIV	**Semester of Delivery**	7		
Administering Department	ARC	**College**	COE		
Module Leader	Fahad akram saeed	**e-mail**	Fahad.akram@uomosul.edu.iq		
Module Leader's Acad. Title	assistant lecturer	**Module Leader's Qualification**	Ms.c		
Module Tutor	Name (if available)	**e-mail**	E-mail		
Peer Reviewer Name	Name	**e-mail**	E-mail		
Scientific Committee Approval Date		**Version Number**	1.0		

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. introduce students to the fundamental design process of steel as a structural member which found in bridges and building structures. 2. The AISC LRFD Code is the design specifications choice used in this course. 3. Understanding the relationship between analysis and design of steel structures by applying gain knowledge from statics, mechanics of solid, and structural analysis further. 4. In this course, the students learn how to analysis the steel members under different loading conditions. In addition to the connection between members.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. At the end of this course, students will have gained knowledge of the fundamental concepts behind the design of structural steel as well as instruction in the most recent design and analysis methods for steel structural elements. 2. Understand the design criteria, LRFD design philosophy and behavior of structural steel according to ANSI/AISC 360-16 - An American National Standard (Specification for Structural Steel Buildings). 3. Learning how to use the AISCM (American Institute of Steel Construction Manual). 4. Calculate the acceptable design loading for steel members. 5. Able to analyze and design tension members, compression members, 6. Able to analyze and design simple connections between structural elements including riveted and welded connections.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Introduction to steel as a structural material, hot rolled, cold formed and built-up sections, Introduction to various methods of design, fundamentals of allowable stress design (ASD) Methods Objectives of designer and selection design criteria, LRFD Method of Design: Factor of safety, loads and load combination. Concept of load and resistance factors, plastic design and limits on design [5 hrs]. Analysis and design of tension members, Nominal strengths of tension members, calculation of net areas. Effect of staggered holes in analysis of tension members. Shear lag and effective net areas. Block shear [10 hrs]. Design of tension members. Selection of sections. Built-up tension members. Threaded rods. Design of tension members and sag rods in roof trusses [10 hrs]. Compression members under concentric axial loads. Introduction. Sections used for columns. The Euler formula. Effective length and slenderness ratio [10 hrs]. AISC requirements for compression members. Analysis of compression members. Design compressive strength of compression members. Effective length of columns in frames and alignment charts. Stiffness-reduction factors [10 hrs]. Design of compression members. Built-up compression members. Connection requirements for built-up compression members composed of rolled shapes. Base plates for concentrically loaded columns [15 hrs].

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.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	63
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.4	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	37
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	100

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	3	20% (20)	4, 12	LO #3, 4, 5, and 6
	Assignments	3	20% (20)	6, 14	LO #3, 4, 5, and 6
	Projects / Lab.				
	Report				
Summative assessment	**Midterm Exam**	2 hr	10% (10)	7	LO # 1-7
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**

Week 1	Introduction to structural steel design. Advantages of steel as a structural material. Disadvantages of steel as a structural material. Steel sections. Stress–strain relationships in structural steel.
Week 2	ANSI/AISC 360-16 doe definitions. How to used AISCM.
Week 3	Specifications, loads, and methods of design. Specifications and building codes. Load and resistance factor design (LRFD) and allowable strength design (ASD). Computing combined loads with LRFD expressions. Computing combined loads with ASD expressions.
Week 4	Tension members. Analysis of tension members. Introduction. Nominal strengths of tension members.
Week 5	Net areas. Effect of staggered holes in analysis of tension members.
Week 6	Shear lag and effective net areas. Block shear.
Week 7	Design of tension members. Selection of sections
Week 8	Built-up tension members. Threaded rods. Design of tension members and sag rods in roof trusses.
Week 9	Compression members under concentric axial loads. Introduction. Sections used for columns.
Week 10	The Euler formula. Effective length and slenderness ratio.
Week 11	AISC requirements for compression members. Analysis of compression members. Design compressive strength of compression members.
Week 12	Effective length of columns in frames and alignment charts. Stiffness-reduction factors.
Week 13	Design of compression members.
Week 14	Built-up compression members. Connection requirements for built-up compression members composed of rolled shapes.
Week 15	Base plates for concentrically loaded columns.
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	Structural Steel Design, Jack C. McCormac and Stephen F. Csernak, Pearson Education Limited, 5th edition, 2012.	No
Recommended Texts	AISC Construction Manual, 14th Edition.	No
Websites		

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراس

Module Information معلومات المادة الدراسية					
Module Title	**building techniques**			**Module Delivery**	
Module Type	**Support**			**Theory** ☐	
Module Code	**ARC415**			**Lecture** ☐	
ECTS Credits	**3**			**Lab**	
SWL (hr/sem)	**75**			**Tutorial** **Practical** ☐ **Seminar** ☐	
Module Level	UGIV		**Semester of Delivery**	7	
Administering Department	ARC		**College**	COE	
Module Leader	**Omar hazim kharofa**		**e-mail**	**omar.kharufa@uomosul.edu.iq**	
Module Leader's Acad. Title	Assist. prof		**Module Leader's Qualification**	Ph.D.	
Module Tutor	Maysaa Moffeq yones Alobaidi		**e-mail**	Maysaa.moffeq@uomosul.edu.iq	
Peer Reviewer Name	**Lecturer Dr.Rasha Abdulkareem Ali**		**e-mail**	rasha.abdulkareem@nahrainuniv.edu.iq	
Scientific Committee Approval Date			**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	.30 Introduce students to the concept of technology in its general and applied context, highlighting its role in the field of construction and architecture. Achieve a comprehensive understanding of technology as an idea and its application in the context of architecture. .31 Understand the relationship between technology and the art of architecture, with a focus on ways to develop technology through advanced and modern techniques of industrial and scientific technology. This relationship is elucidated within a comprehensive framework that encompasses architectural work. .32 Familiarize students with structural systems, including their fundamentals, the transfer of structural forces, and their impact on the form of the structural system. Additionally, students become acquainted with the details related to each system, especially modern systems used in contemporary architectural buildings. .33 Explore a range of global architectural projects executed by renowned architects, providing examples of advanced technology utilization in those projects. .34 Open new horizons for students to explore the architectural ideas they are working on in architectural design courses, with the aim of developing integrated projects from intellectual, design, and construction perspectives. .35 Enhance the role of students and activate their participation by presenting reports on structural systems, architects, and buildings that employed those systems. These reports are discussed in discussion sessions to delve into advanced technology and exchange ideas between students and the professor. Moreover, students' confidence in themselves is boosted, and their skills and knowledge in the technological field are increased through the presentation of the latest advanced concepts and applications used in the current era. .36 Bridging the Gap between academic theories and practical applications and explore the details of structural systems in architectural buildings and understand the methods used in their construction. Students are given the opportunity to train and work on practical exercises and present three-dimensional models of the main structural systems implemented in global engineering projects. This opportunity is achieved under the supervision and training of the course professor, helping students enhance their practical and theoretical skills in this field.

Module Learning Outcomes مخرجات التعلم للمادة الدراسية	28. Identify the concept of technology in architecture and its role in construction. 29. Understanding the relationship between technology and art in architecture and ways to develop it. 30. Familiarizing students with structural systems and their impact on construction form. 31. Studying global architectural projects and their use of technology. 32. Encouraging exploration of architectural ideas and comprehensive project development. 33. Bridging the academic-practical gap, exploring structural systems, and construction methods through hands-on training and creating 3D models of global engineering projects. 34. Enhancing student roles through report presentations and discussions. 35. Linking academic theories with practical applications and providing hands-on exercises. 36. Encouraging active learning and collaborative work among students. 37. Effective communication with diverse audiences. 38. Functioning effectively as a team member, providing leadership, collaboration, and goal achievement. 39. Encouraging active learning and collaboration through group presentations showcasing students' skills and collective work. 40. Acquiring and applying new knowledge using appropriate learning strategies. 41. Program skill goals: ● Ability to design structurally and aesthetically advanced buildings. ● Increasing the student's ability to solve technical problems in their work. ● Linking the course material with architectural design by seeking technical solutions for the student's design project. ● Understanding advanced building materials and how to use the appropriate material in the appropriate structure. ● Emphasizing the consideration of building service systems and ensuring their compliance with standards.
Indicative Contents المحتويات الإرشادية	23. Technology and the concept of advanced technology and its relationship to architecture. 24. The most important types of advanced construction systems and their applications in contemporary global projects. 25. The structural form and its significant classifications. 26. Advanced building materials and their applications in global projects. 27. Building systems, including seismic and fire systems, with detailed international examples. 28. Artificial intelligence and architectural engineering.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	7. Encouraging students' active participation through pre-lecture readings and class discussions. 8. Promoting an interactive learning environment by implementing reverse learning, where students explore and research important technologies, contemporary building materials, and new architectural applications, leading to meaningful discussions and a deeper understanding of the subject matter.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	33
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.8	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	42
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75

Module Evaluation تقييم المادة الدراسية					
As		**Time/ Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	15% (15)	3,10	1,2
	Structural model	1	15%(15)	3,5,7	6,8,9,10,11,12,13,14
	Report	1	5% (5)	2,10	5,7,8,9,10,11,12,13,,14
	Discussions& Analysis team's work	1	5% (5)	14,15	8,9,10,11,14
Summative assessment	**Midterm Exam**	1 hr	10% (10)	8	1,2,3,4,6,14
	Final Exam	3 hr	50% (50)	16	1,2, 3, 4,6,14
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	**Introduction to the course – : Define basic concepts of building techniques**
Week 2	**The concept of Tectonic and Atectonic & set the reports**
Week 3	**Structural Form &- model exercise explained 1**
Week 4	**Tent systems & Space frame Systems**
Week 5	**Construction systems In High Rise Buildings 1 &model exercise explained 2**
Week 6	**Construction systems In High Rise Buildings2**
Week 7	**Advanced Building materials & model**
Week 8	**Mid Term Exam**
Week 9	**Digital architecture**
Week 10	**Discuss the reports 2**
Week 11	**Artificial intelligence and it's applications in Architecture**
Week 12	**Building services systems 1 ; Earthquake Systems**
Week 13	**Building services systems 2; Dealing with fires in buildings techniques**
Week 14	**Reports analysis exercise – Seminar3**
Week 15	**Reports analysis exercise – Seminar4**
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	-	No
Recommended Texts	● "Sources of architectural form", Manchester University Press, MANCHESTER and NEW YORK-USA) ●) Robert.E Melchers, Richard Hough, "Modeling Complex Engineering Structures ",2007.(●)Design of reinforced concrete buildings(–) "High-Rise Building Structure", John Wiley & Sons, New York.(● (Gelernter, M. "Sources of architectural form", Manchester University Press, MANCHESTER and NEW YORK-USA) ● (Technology Effect In Constructing High Rise Buildings, M.sc Thesis by Rasha Abdulkareem Ali)	Yes most of them
Websites	Given that the lesson focuses on advanced technologies, it necessitates ongoing and evolving research. To fulfill this requirement, we frequently refer to reputable international sources, including renowned architects such as Zaha Hadid, Jean Nouvel, Norman Foster, and others. Additionally, we explore diverse building materials, contemporary technologies, and the field of artificial intelligence as relevant internet resources.	

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

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

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية			
Module Title	Engineering Services (2)	**Module Delivery**	
Module Type	**E**	☒ **Theory**	
Module Code	**ARC416**	☒ **Lecture**	
ECTS Credits	2	☐ **Lab**	
SWL (hr/sem)	50	☒ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Level	UGIV	**Semester of Delivery**	7
Administering Department	ARC	**College**	COE
Module Leader	Ahmed A. Alfakhry	**e-mail**	ahmed.alfakhry@uomosul.edu.iq
Module Leader's Acad. Title	Assistant Professor	**Module Leader's Qualification**	M. Sc.
Module Tutor	Name (if available)	**e-mail**	E-mail
Peer Reviewer Name	Name	**e-mail**	E-mail
Scientific Committee Approval Date		**Version Number**	1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. This course aims to introduce architecture students to the most significant knowledge in all engineering services, in order to make them more aware and understand what happens during the design process 2. Give architecture students sufficient experience to provide adequate spaces and access to the necessary building engineering systems and equipment during the early stages of the building design process.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	On successful completion of this course students will be able to: 1. Through this course, the students would learn how to deal with other engineering disciplines, especially electricity, which is considered an essential need in building design. 2. This course provides sufficient understanding of electrical and mechanical engineering, which is required during the conceptual stages for the design process of buildings, and to be partially enough qualified in building engineering services. 3. This course provides the student with efficient knowledge supported by examples and homework to give a glance at the necessary electrical and mechanical systems and equipment's with practical skills. 4. This course provides enough practical knowledge of building services terminologies and requirements (spatial and structural). 5. This course provides sufficient knowledge of interior lighting systems and preliminary basic information on special engineering systems such as fire detection systems, conveying systems, and their types. 6. This course promotes skills in solving problems in students.
Indicative Contents المحتويات الإرشادية	Introduction to engineering services and why architects should learn and understand engineering services.(2 hrs.) Basic information about electricity and how it's generated supplied and distributed. Describes the electricity energy consumption calculations, electrical installation systems and types. Presents types of various electrical systems in buildings.(4 hrs.) Interior lighting design calculations concentrated on (the lumen method) , lighting fixtures , types and their effects on interior design , other lighting characteristics like types of Glare and methods to avoid it , color temperature of lamps and its biological effects on humans and space , color rendering of lamps . (8 hrs.) Describes some light fixture types according to light direction and distribution. (6 hrs.) Covers some of the other building services which are in significant touch with architectural design (fire detection and alarm system, conveying systems including elevators, escalators and their types and design requirements).(10 hrs.)

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.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	42	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	50		

Module Evaluation تقييم المادة الدراسية					
As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	20% (20)	4, 13	1 ,2 , 3
	Assignments	1	10	10	4,5.6،
	Projects / Lab.				
	Report	1	10	14	4,5.6،
Summative assessment	Midterm Exam	2 hr	10% (10)	7	2, 4 , 5, 6
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	Material Covered
Week 1	Introduction to Building services
Week 2	Electricity energy consumption calculation
Week 3	Electricity load distribution in buildings + Electricity installation systems
Week 4	Lighting design (lumen method)
Week 5	Interior lighting design (1)
Week 6	Interior lighting design (2)
Week 7	Interior lighting design (3)
Week 8	Exterior lighting design and Media architecture
Week 9	Fire detection and Alarm system
Week 10	Firefighting and suppression

Week 11	Conveying systems (Elevators)
Week 12	Conveying systems (Escalators)
Week 13	Project of small house design (working drawings of electricity installations)
Week 14	Building systems integration
Week 15	General preview and discussion
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	• التأسيسات الكهربائية ، د. مظفر النعمة ، د. سنان عطار باشي 1982 • هندسة الخدمات الكهربائية المعمارية ، د. مظفر النعمة 2012	No

	• تصميم الانارة العربي ، عزت بارودي 2008	
Recommended Texts	• Environment and Services By Peter Burberry Dip Arch,Msc,RIBA,FCIOB, London,Basford Limited,1986. • Architectural Lighting Design, a practical guide , Admire Jukanovic 2018 • Building Control Systems , Vaughn Bradshaw 1985	No
Websites		

Grading Scheme

مخطط الدرجات

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية				
Module Title	**Architectural Design (6)**		**Module Delivery**	
Module Type	**Core**		☒ **Theory** ☒ **Lecture** ☐ **Lab** ☒ **Tutorial** ☒ **Practical** ☐ **Seminar**	
Module Code	**ARC 421**			
ECTS Credits	12			
SWL (hr/sem)	300			
Module Level	UGIV	**Semester of Delivery**	8	
Administering Department	ARC	**College**	COE	
Module Leader	Dr. Dhuha Abdulgani Al-kazzaz	**e-mail**	dhuha.kazzaz@uomosul.edu.iq	
Module Leader's Acad. Title	Assistant Professor	**Module Leader's Qualification**	Ph.D.	
Module Tutor	Ghada Mohammed Younis Miqdam Ameen Majeed Baydaa Hanna Saffo Farhan Awad Jasim Amer Abdullah Alazzawi	**e-mail**	E-mail	
Peer Reviewer Name	Name	**e-mail**	E-mail	
Scientific Committee Approval Date		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	.6 This course, in the design studio sequence, continues the development of a comprehensive building design process with problems of complex scope. .7 The studio focuses on building types that exhibit complexity and challenge such as educational buildings. College project explored in this studio includes the synthesis of spatial, functional, and contextual concerns, as directly linked to the understanding and employment of building systems. .8 The course emphasis is placed on a building envelope in terms of form, massing, articulation and fenestration. The use of computer-aided drafting is a part of the formal design exploration.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	.16 Ability to gather, analyze, assess, record, apply, and comparatively evaluate relevant information within architectural coursework. .17 Using creativity, conceptual skills, and judgment to identify human and environmental needs and to meet or express them in space and form. .18 Demonstrate an understanding of principles and practices and integrate and apply that knowledge within architectural coursework and design processes. .19 Ability to raise clear and precise questions, use abstract ideas to interpret information, consider diverse points of view, reach well-reasoned conclusions, and test alternative outcomes against relevant criteria and standards. .20 Critical understanding of the theory and practice of environment and energy issues in the cultural context of society as a whole .21 Ability to develop imaginative and creative thinking within architectural coursework and design processes.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. Introduction to the design of university colleges: types, functions, and characteristics includes precedents Analysis of previous projects to highlight a handful of design issues: such as, functional zoning, plan circulation diagrams, systems integration ideas, structural concepts, elevation design, section-volume concepts, and so on. Then, data collection includes design standards and criteria of educational facilities in college building. Next, site analysis

	includes traffic and pedestrian movement, environment, topography, etc. (30 hrs) Preparing preliminary design concept including space layout of all floors and their massing in scale (1/500). (25 hrs) Developing design proposal including floor plans of all levels in scale (1/200). (40 hrs) Developing the formal design of building elevations and sections in scale (1/200). (20 hrs)

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Many strategies are adopted in delivering this Student-led design projects by encouraging students to participate in the following skills: - Analyze a problem and systematically design and implement an effective solution. - Using creativity and judgement; both as an individual or in group work to enhance the students' critical thinking skills. - Having negotiation skills to resolve complex building issues. - Having clarity of expression using spoken words, computer aided drafting, and visual media to deliver 2D and 3D drawings. - Ability to work in collaboration with others and in multidisciplinary teams to successfully complete design projects. This will be achieved through lectures and design studio-based tutorials for individual and group work.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	154	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	10
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	146	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	9.7
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	300		

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**				
	Assignments				
	Projects / Lab.	5	60% (60)	4-15	All
	Report	3	10% (10)	1-3	LO #1 and 4
Summative assessment	**Midterm Exam**	4 hr	15% (15)	7	All
	Final Exam	4 hr	15% (15)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Introduction to College designs: types, functions, and characteristics.
Week 2	Data collection: Precedents Analysis of previous Colleges and Universities projects to highlight a handful of design issues: such as, functional zoning, plan circulation diagrams, systems integration ideas, structural concepts, elevation design, section-volume concepts, and so on.
Week 3	Data collection of Design standards and criteria of educational building designs.
Week 4	Site analysis
Week 5	Discussion of proposals of design concept
Week 6	First submission of Design concept
Week 7	Design concept development
Week 8	Midterm Exam

Week 9	Development of plans (zoning & circulation)
Week 10	Development of plans (building structure)
Week 11	Second submission: plans and physical model
Week 12	Development of elevations & sections
Week 13	Pre-final submission
Week 14	Solving minor problems: functional, formal & structural
Week 15	Final submission
Week 16	Final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	1- Joseph De Chiara, 2001, "Time-Saver Standards for Building Types". 2- Ernst Neufert & Peter Neufert, 2012, "Neufert Architects' Data". 3- Sibylle Kramer, 2010, "Colleges & Universities – Educational Spaces". 4- Katy Lee, 2011, "University Architecture".	Yes
Recommended Texts		
Websites		

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية				
Module Title	**Regional Contemporary Architecture**		**Module Delivery**	
Module Type	C		☐**Theory** ☒ **Lecture** ☐ **Lab** ☐**Tutorial** ☒**Practical** ☐ **Seminar**	
Module Code	**ARC 422**			
ECTS Credits	3			
SWL (hr/sem)	75			
Module Level	UG	**Semester of Delivery**	8	
Administering Department	ARC	**College**	COE	
Module Leader	Hafedh Abed Yahya Alhaj Raho	**e-mail**	hafedh.yahya@uomosul.edu.iq	
Module Leader's Acad. Title	Bayda Hanna Saffo	**Module Leader's Qualification**	bayda.saffo@uomosul.edu.iq	
Module Tutor	Ghada Musa Rzouk	**e-mail**	Ghada.alslik@coeng.uobaghdad.edu.iq	
Peer Reviewer Name		**e-mail**	E-mail	
Scientific Committee Approval Date		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. to provide students with an introduction to regional contemporary architecture, its key trends and concepts. 2. to provide students with experience of writing and analysing buildings and architectural theory. 3. to provide a critical overview of the major architectural movements in the region. 4. to give a historical and cultural context that influenced regional contemporary architecture. 5. to develop a critical knowledge of problems faced by architects in the 20^{th} and 21^{st} centuries.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. An ability to skillfully communicate orally with a gathering of people and in writing with various managerial levels. 2. An ability to perceive ethical and professional responsibilities in engineering cases and make brilliant judgments taking into account the consequences in worldwide financial, ecological and societal considerations. 3. An ability to perceive the continual necessity for professional knowledge growth and how to find, assess, assemble and apply it properly. An ability to work adequately on teams and to set up objectives, plan activities, meet due dates, and manage risk and uncertainty
Indicative Contents المحتويات الإرشادية	

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Learning and teaching strategies refer to instructors' methods and approaches to facilitate student learning and achievement of module learning outcomes. These strategies aim to engage students, promote understanding, and enhance their knowledge and skills. Here are some common learning and teaching strategies that can be employed: 1. Lectures and Presentations: Instructors can deliver lectures and presentations introducing key concepts, theories, and principles related to regional contemporary architecture. These sessions can provide a

	foundational understanding of the subject matter and help students grasp fundamental knowledge. 2. Case Studies and Real-Life Examples: Incorporating case studies and real-life examples allows students to see the practical application of regional contemporary architecture. Analyzing and discussing real-world projects can deepen their understanding of design, construction, and problem-solving processes. 3. Interactive Discussions: Engaging students in discussions promotes active learning and critical thinking. Instructors can facilitate class discussions on specific topics, encouraging students to share their insights, ask questions, and explore different perspectives on regional contemporary architecture. 4. Group Activities and Projects: Collaborative group activities or projects enable students to work together to solve problems, design structures, or analyze case scenarios. This approach fosters teamwork, communication skills, and the application of learned concepts in a practical context. 5. Field Trips and Site Visits: Organizing field trips or site visits to new constructed projects. 6. Problem-Based Learning: Presenting students with real-world problems related to regional contemporary architecture encourages them to apply their knowledge, think critically, and develop problem-solving skills. Instructors can guide students through problem-solving, encouraging them to analyze, evaluate options, and propose solutions. 7. Formative Assessments and Feedback: Regular formative assessments, such as quizzes, assignments, or in-class exercises, help instructors gauge students' understanding and progress. Providing timely feedback allows students to identify areas for improvement and reinforces their learning. 8. Independent Study and Research: Encouraging students to engage in independent study and research promotes self-directed learning. Assigning relevant readings, research projects, or literature reviews on specific topics in regional contemporary architecture enables students to deepen their knowledge and explore areas of interest.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	42	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

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

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	Material Covered
Week 1	Introduction to regional contemporary architecture.
Week 2	The period of establishing the regional contemporary architecture
Week 3	The effective factors on regional built environment changes
Week 4	International factors on regional contemporary architecture
Week 5	Contemporary Architects
Week 6	Traditional, conservative trend
Week 7	Architect Hassan Fathy and the most work
Week 8	Modern architectural styles in the region, Traditional architecture sympathy with international trend style
Week 9	Medterm exam
Week 10	Modern architectural styles in Iraq ,Architecture sympathy with international trends style
Week 11	Local particularity between tradition and modernism

Week 12	Architecture in the Arab Gulf ,Examples and projects
Week 13	Examples of projects
Week 14	Reports Discussion
Week 15	Reports Discussion
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	7- Radzinowicz, D., Bure, G. d. (2010). Talk about Contemporary Architecture. United Kingdom: Flammarion. 8- Canizaro, V. B. (2007). Architectural Regionalism: Collected Writings on Place, Identity, Modernity, and Tradition. United States: Princeton Architectural Press. 9- Al-Asad, M. (2012). Contemporary Architecture and Urbanism in the Middle East. Italy: University Press	No

	of Florida. "nassar, h. f. (2004). contemporary architecture trends in the arab world"analytical study" an application on the eastern arab countries. Egypt: جامعة عين شمس كلية الهندسة.	
Recommended Texts	1. Damluji, S. S. (2006). The Architecture of the United Arab Emirates. United Kingdom: Garnet. 2. Ragette, F. (2003). Traditional Domestic Architecture of the Arab Region. Germany: Edition Axel Menges. Constructing Identity in Contemporary Architecture: Case Studies from the South. (2009). Germany: Lit.	No
Websites		

Grading Scheme

مخطط الدرجات

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Theories of Urban Design**			**Module Delivery**	
Module Type	**Core**			**Theory** ☐ **Lecture** ☐ **Lab** **Tutorial** ✓ **Practical** **Seminar** ☐	
Module Code	**ARC 423**				
ECTS Credits	**3**				
SWL (hr/sem)	**75**				
Module Level	UGIV	**Semester of Delivery**	8		
Administering Department	ARC	**College**	COE		
Module Leader	**Faris Ataallah Matloob**	**e-mail**	**faris.matloob@uomosul.edu.iq**		
Module Leader's Acad. Title	Lecturer	**Module Leader's Qualification**	Ph.D.		
Module Tutor	Dr. Usama H. Ali	**e-mail**	usamahumadi@uomosul.edu.iq		
Peer Reviewer Name		**e-mail**			
Scientific Committee Approval Date		**Version Number**	1.0		

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	.37 Introduce students to the urban design field in its general and applied context, highlighting its role in the field creating successful built environments. .38 Present a clear idea of the key principles and current issues of urban design and its fundamental theories. .39 Acquiring students an understanding of the physical, socio- cultural, and technological forces, and their role in shaping the urban environment needed for a better life for society. .40 enable students dealing with issues such as urban space concept, space- mass relation, functions of urban space and space body when designing urban areas. .41 Providing students with the basic skills on how to use the physical elements of the built environment in achieving urban design objectives. .42 Introduce students to the significance of urban design theories in creating built environments that are suitable for human well being's.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	On successful completion of this course, students will be able to: -1 explain a general knowledge on urban design field and its position within the city development process. -2 classify the key issues and objectives of urban design and identify the physical elements and design principles that are related to achieving them. -3 Listing main theories of urban design and its role in achieving successful built environment for human being. -4 recognize and identify problems that built environments are suffering from and find treatments to handle them according to urban design principles. -5 analyze and deconstruct different urban spaces according to key urban design principles. -6 explain the role of urban design in promoting urban sustainability and human 's wellbeing.
Indicative Contents المحتويات الإرشادية	.29 The definition of urban design, its importance and its position within the overall configuration process of the built environment. .30 The importance of urban space, its enclosure and containment.

	31. Key urban design characteristics and how to meet them using the physical elements of the built environment. 32. Key theories of urban design, their principles and their effects in creating different cities and settlements. 33. Issues of sustainable urban design.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	9. Encouraging students' active participation through pre-lecture readings and class discussions. 10. Promoting an interactive learning environment by implementing reverse learning, where students explore and research important technologies, contemporary building materials, and new architectural applications, leading to meaningful discussions and a deeper understanding of the subject matter.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	42	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.8
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

Module Evaluation
تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	20%20	4,10	2,3
	Report	1	15% (15)	13	2,3,4,5,6
	Report seminar	1	5% (5)	14,15	2,3,4,5,6
Summative assessment	Midterm Exam	1 hr	10% (10)	12	1,2,3,4
	Final Exam	3 hr	50% (50)	16	3, 4,5,6
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	**Introduction to the course – : Define urban design, its goals, design characteristics .**
Week 2	**Urban space, enclosure and containment**
Week 3	**Quality of public realm**
Week 4	**Robustness**

Week 5	**Making connections**
Week 6	**Sustainable urban design**
Week 7	**Cognitive studies**
Week 8	**Spatial organization**
Week 9	**Space syntax theory**
Week 10	**Urban design theories**
Week 11	**Urban design theories**
Week 12	**Mid Term Exam**
Week 13	**Rationality in urban design**
Week 14	**Report seminar**
Week 15	**Report seminar**
Week 16	**Preparatory week before the final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	-	
Recommended Texts	● DETR & CABE 2000. By Design: Urban Design in the Planning System, Great Britain, Crown. ● BENTLEY, I. 1985. Responsive environments, Routledge ● DAVIES, L. 2000. Urban design compendium. London: English Partnership. ● Hillier, B; (2007) Space is the machine: a configurational theory of architecture. [Book]. Space Syntax: London, UK.	Yes most of them
Websites		

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

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

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Science of Statistics**			**Module Delivery**	
Module Type	B			☐**Theory** ☒ **Lecture** ☐ **Lab** ☐**Tutorial** ☒**Practical** ☐ **Seminar**	
Module Code	**ARC424**				
ECTS Credits	4				
SWL (hr/sem)	100				
Module Level	UGIII		**Semester of Delivery**	8	
Administering Department	ARC	**College**	COE		
Module Leader		**e-mail**			
Module Leader's Acad. Title	Lecturer	**Module Leader's Qualification**	M.A		
Module Tutor		**e-mail**			
Peer Reviewer Name	Name	**e-mail**	E-mail		
Scientific Committee Approval Date		**Version Number**	1.0		

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	

Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	Basic probability and statistics with applications and examples in engineering. Elementary probability, random variables and their distribution, random processes, statistical inference, linear regression, correlation and basic design of experiments with application to quality assurance, reliability, and life testing
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	
Indicative Contents المحتويات الإرشادية	

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
4	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	63	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل
2.4	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	37	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل
100			**Total SWL (h/sem)** الحمل الدراسي الكلي للطالب خلال الفصل

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	4, 13	LO #1, 2, and 3
	Assignments	1	10% (10)	6	LO #3
	Projects / Lab.	4 hr	20% (20)	12	LO #3 and 4
	Report				
Summative assessment	**Midterm Exam**	4 hr	30% (30)	15	LO #1-4
	Final Exam	3 hr	30% (30)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	
Week 2	
Week 3	
Week 4	
Week 5	Discussion
Week 6	Discussion
Week 7	
Week 8	
Week 9	
Week 10	
Week 11	Discussion
Week 12	Discussion
Week 13	Discussion
Week 14	Discussion
Week 15	Final submission
Week 16	**Final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	-5	No
Recommended Texts		No
Websites		

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Landscape Design**			**Module Delivery**	
Module Type	**C**			☐ **Theory** ☒ **Lecture** ☐ **Lab** ☐ **Tutorial** ☒ **Practical** ☐ **Seminar**	
Module Code	ARC 425				
ECTS Credits	**5**				
SWL (hr/sem)	**125**				
Module Level	UGIV	**Semester of Delivery**	8		
Administration Department	ARC	**College**	COE		
Module Leader	Dr. Ahmed Alomary	**e-mail**	Ahmed.alomary@uomosul.edu.iq		
Module Leader's Acad. Title	Asst. Professor	**Module Leader's Qualification**	Ph.D.		
Module Tutor	Dr. Omer Adel	**e-mail**	omar.sabah@uomosul.edu.iq		
Peer Reviewer Name	Dr. Rawaa Abawi	**e-mail**	Rawaa.f.abbawi@uotechnology		
Scientific Committee Approval Date		**Version Number**	1.0		

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1-Develop an understanding of the principles and theories of landscape design. 2- Develop practical skills in landscape design. 3- Foster creativity and design thinking. 4- Cultivate an understanding of environmental sustainability in landscape design 5- Enhance critical thinking and problem-solving skills characteristics, constraints, and opportunities.

	6- Foster effective communication and presentation skills. 7- Cultivate an appreciation for the cultural, social, and historical contexts of landscape design.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1-Demonstrate an understanding of design principles and elements and apply them effectively in landscape design projects. 2-Conduct comprehensive site analysis, considering factors such as topography, climate, soil conditions, and cultural context. 3-Develop creative and innovative landscape design concepts that address client needs, site constraints, and sustainability considerations. 4-Utilize appropriate design tools and technologies, including computer-aided design (CAD) software and visual communication techniques, to effectively present design ideas. 5-Apply ecological principles and sustainable design strategies to enhance the environmental performance of landscape design projects. 6-Evaluate and select appropriate plant materials, hardscape elements, and construction techniques for landscape design projects. 7-Critically analyze and evaluate landscape design projects, considering their aesthetic, functional, and cultural aspects, as well as their environmental and social impacts. 8-Demonstrate effective communication skills by presenting and articulating design concepts, ideas, and solutions to both technical and non-technical audiences.
Indicative Contents المحتويات الإرشادية	1-Overview of different types of landscapes (urban, residential, public, etc.) 2-Design Principles and Elements 3-Site Analysis and Assessment 4-Concept Development 5-Design Development and Documentation: 6-Sustainable Design Practices 7- Design Communication and Presentation: Freehand sketching and drawing techniques Computer-aided design (CAD) software and other design tools 3D modeling and visualization techniques 8- Case Studies and Examples
Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	1-Project-based learning: Provide students with hands-on, real-world projects that simulate the challenges they will face as landscape designers. This approach allows them to apply their knowledge and problem-solving skills in a practical context. 2- Field trips and site visits: Take students to various landscapes, such as parks, gardens, and urban spaces, to observe and analyze different design approaches. Encourage them to document their observations, take measurements, and engage in discussions about the design principles used in those spaces. 3-Design critiques and peer feedback: Create a studio environment where students can present their design concepts and receive constructive feedback from both their peers and the instructor. Encourage students to explain their design choices and consider different perspectives, fostering critical thinking and communication skills. 4-Visual aids and technology: Utilize visual aids like sketches, drawings, diagrams, and photographs to illustrate design principles, techniques, and case studies. Additionally, incorporate relevant technology such as computer-

	aided design (CAD) software, virtual reality (VR) tools, to enhance students' understanding and engagement. 5- Sustainable design principles: Emphasize the importance of sustainable and environmentally conscious design practices. Incorporate lessons on topics such as water conservation, native plant selection, ecological restoration, and the use of renewable materials. 6- Case studies and research: Assign students to research and analyze notable landscape designs, both historical and contemporary. By studying successful projects, students can gain insights into design principles, material selection, spatial organization, and the integration of various elements.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	78	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	5
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	47	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.1
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	125		

Module Evaluation
تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Report	1	5% (5)	2	1,7
	Weekly activity	5	5% (5)	2, 4,6,8,10	3,7,8
	Concept submission	1	5% (5)	2	2-3
	first phase submission	1	5% (5)	5	1,2,3,4
	Pre-final submission	1	10% (10)	11	1,2,3,4,5 ,7,8
	Final submission	1	20% (20)	15	1,2,3,4,5,6,7,8
Summative assessment	day sketches	3 hr/2	20% (20)	4.12	1,2.3.4.8
	Final Exam	3 hr	30% (30)	16	All
Total assessment			100% (100		

	Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Introduction ,definitions , references ,
Week 2	Review of international landscape design projects
Week 3	History of Landscape design,
Week 4	How to start landscape Design
Week 5	Foundation of landscape Architecture
Week 6	Site furniture and fixture
Week 7	Site furniture and fixture
Week 8	Water in Landscape design
Week 9	Interactive Spaces
Week 10	Sustainable landscape design
Week 11	Sustainable landscape design
Week 12	Landscape detailing
Week 13	Landscape detailing
Week 14	Planting design
Week 15	Report discussion
Week 16	Final Exam

Delivery Plan (Weekly Practical. Syllabus) المنهاج الاسبوعي للعملي	
Week	**Material Covered**
Week 1	Site analysis
Week 2	Concept submission
Week 3	Landscape Design Project ,parks, plazas ,riverfronts ,urban open spaces ,public squares, pedestrians streets
Week 4	day sketch
Week 5	Submission of first phase presentation (assessment), Landscape Design Project
Week 6	Improve, developed design concept. Landscape Design Project
Week 7	Improve, developed design concept. Landscape Design Project
Week 8	Improve, developed design concept. Landscape Design Project
Week 9	Improve, developed design concept. Landscape Design Project
Week 10	Improve, developed design concept. Landscape Design Project
Week 11	Pre-final submission (assessment), Landscape Design Project
Week 12	day sketch
Week 13	Improve, developed design concept. Landscape Design Project
Week 14	Improve, developed design concept. Landscape Design Project
Week 15	Final submission (assessment)Landscape Design Project

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Foundations of landscape architecture : integrating form and space using the language of site design , Norman Booth.2009	No
Recommended Texts	Timesaver Standards for Landscape Architecture, Charles W. Harris and Nicholas D. Dines,1998	No
Websites	https://www.asla.org/ https://www.iflaworld.com/who-we-are	

Grading Scheme
مخطط الدرجات

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

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

Module DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Design methodology and programming**			**Module Delivery**	
Module Type	**C**			☒ **Theory**	
Module Code	**ARC 426**			☒ **Lecture**	
ECTS Credits	**3**			☐ **Lab**	
SWL (hr/sem)	**75**			☒ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Level	UGIV		**Semester of Delivery**	8	
Administering Department	ARC		**College**	COE	
Module Leader	Ghada M. Younis , Bayda Hanna		**e-mail**	ghadayounis@uomosul.edu.iq	
Module Leader's Acad. Title	Assestant Professor		**Module Leader's Qualification**	Msc	
Module Tutor			**e-mail**		
Peer Reviewer Name			**e-mail**		
Scientific Committee Approval Date			**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	.5 Architectural education of spaces programming details , built theoretical approach for pre-design briefing of design project , as first step of understanding how program of project have been built . .6 It aims to develop student's ability to raise intellectual & systematic thinking used in solving design problems
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Theoretical course which include Previous Methods and Programming and The Process of Design Problem Solving, also the course related with aspects of design products (function; Performance Methods, Analysis, Goals Delineation, Performance Requirements, Programming Concepts, Synthesis Evaluation and Development), (form; Formal Methods, Berkal and Boss Strategy, and Greg Lynn Strategy), and (expression, and Al-Nijaidy Strategy)
Indicative Contents المحتويات الإرشادية	Increasing methodological knowledge for students to planning design process according to scientific and recent methods, with analytical application for real projects to discover its Goals and positions of application .

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.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	33
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.8	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	42
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	3	20% (20)		
	Assignments				
	Projects / Lab.				
	Report	1	20% (20)		
Summative assessment	**Midterm Exam**	1hr	10%10		
	Final Exam	3 hr	50% (50)		
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Thinking , Patten of Thinking& perception schemes, Physiological definitions of thinking and productive thinking,
Week 2	Methodology and Epistemology
Week 3	Design Methodology
Week 4	Black box methodology in architectural design
Week 5	Glass box methodology in architectural design
Week 6	Projects Site & function analysis
Week 7	Projects synthesis
Week 8	Projects alternative evaluation
Week 9	Introduction , definition ,considerations of programming .

Week 10	Steps of design process , design constrains
Week 11	Methodology of design process .
Week 12	Concept of architectural programming , Pena model.
Week 13	Formation of concept in programming & design ,Durek framework of programming
Week 14	Steps of functional program /activities ,relationships ,zoning . Case study of programming and design concept formation .
Week 15	Architectural programming representations ,diagrams ,matrix .
Week 16	Examine

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	Baker, G. H. DESIGN STRATIGIES IN ARCHITECTURE, An Approach to Analysis Form ,(2nd Ed.)Van Nostrand Reinhold Co. New York, 1996. Architectural Programming by Duerk (Structure of Design Process) by Al-Nijaidy (Animate Form) by Lynn (The Contrived Architectural Form in Design Methodology Framework) by Shubbar	Yes
Recommended Texts		No
Websites		

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية				
Module Title	Graduation Project (1)		**Module Delivery**	
Module Type	C		☐**Theory** ☒ **Lecture** ☐ **Lab** ☐**Tutorial** ☒**Practical** ☐ **Seminar**	
Module Code	**ARC 511**			
ECTS Credits	8			
SWL (hr/sem)	200			
Module Level	UGV	**Semester of Delivery**	9	
Administering Department	ARC	**College**	COE	
Module Leader	Hafedh Abed Yahya Alhaj Raho	**e-mail**	hafedh.yahya@uomosul.edu.iq	
Module Leader's Acad. Title	Lecturer	**Module Leader's Qualification**	PhD.	
Module Tutor		**e-mail**		
Peer Reviewer Name	Name	**e-mail**	E-mail	
Scientific Committee Approval Date		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	This course is a capstone course. The objective of this course is to enable students to synthesize all previous course work by addressing and providing a solution for a design problem defined in Thesis of Architecture Design. Students are expected to achieve a high level of competence in design graduation project that integrates Commodity, Firmness, and Delight. The projects should reflect thoroughness in attention to aesthetic and technical aspects of design including construction, building systems, lighting and materials, as well as application of environment and behavior knowledge. The projects should aim for well-developed solutions, rich in details that celebrate innovation, imagination, and creative solutions for human existence. 6. An ability to distinguish, identify, define, formulate, and solve engineering problems by applying principles of engineering, science and mathematics. 7. An ability to produce engineering designs that meet desired needs within certain constraints by applying both analysis and synthesis in the design process. 8. An ability to create and carry out proper measurement and tests with quality assurance, analyze and interpret results, and utilize engineering judgment to make inferences. 9. An ability to skillfully communicate orally with a gathering of people and in writing with various managerial levels. 10. An ability to perceive ethical and professional responsibilities in engineering cases and make brilliant judgments taking into account the consequences in worldwide financial, ecological and societal considerations.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. An ability to apply the engineering design process to produce solutions that meet specified needs with consideration for public health and safety, and global, cultural, social, environmental, economic, and other factors as appropriate to the discipline. 2. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions. 3. An ability to communicate effectively with a range of audiences. 4. An ability to recognize the ongoing need to acquire new knowledge, to choose appropriate learning strategies, and to apply this knowledge. 5. An ability to function effectively as a member or leader of a team that establishes goals, plans tasks, meets deadlines, and creates a collaborative and inclusive environment.
Indicative Contents	1. Students should begin thinking about Thesis topics as soon as possible. They are encouraged to explore topics beyond what they have done in School up to that point. But to ensure highlevel and in-depth results. Thesis should be framed as connected to, or evolving out of, a student's existing interests and architectural

المحتويات الإرشادية	education, including using the design process as the primary means of working, rather than jump into completely new or unexplored areas or ways of working. 2. In order to create synergistic relationships between student Thesis work and studios, students are encouraged to categorize their Thesis in terms that match the strengths of the faculty, and the graduate programs, including: Computational Design (CD); Sustainable Design (SD); Urban Design (UD), Critical Practice (CP), Speculative Design (SP); Urban Design Build (UDBS) and Furniture Design (FD). 3. Students are strongly encouraged to choose electives inside and outside to expand their expertise and supplement their Thesis work, and perhaps find other advisors. 4. In order to assure quality advising, the student is obligated to find advisors, both SoArch faculty and outside advisors, that can provide the disciplinary expertise needed to advise/support students. 5. The scale of inquiry for Thesis can range from the scale of a building component, to larger architectural developments, and from discrete objects to complex and embedded systems. With the increased recognition that architecture is an integral part of a larger natural ecology and world urban system, explorations at various scales, in various methods, and through various disciplines may be a necessary part of architectural research.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Learning and teaching strategies refer to instructors' methods and approaches to facilitate student learning and achievement of module learning outcomes. These strategies aim to engage students, promote understanding, and enhance their knowledge and skills in the context of a reinforced concrete course. Here are some common learning and teaching strategies that can be employed: 1. Lectures and Presentations: Instructors can deliver lectures and presentations introducing key concepts, theories, and principles. These sessions can provide a foundational understanding of the subject matter and help students grasp fundamental knowledge. 2. Case Studies and Real-Life Examples: Incorporating case studies and real-life examples allows students to see the practical application of reinforced concrete principles. Analyzing and discussing real-world projects can deepen their understanding of design, construction, and problem-solving processes. 3. Interactive Discussions: Engaging students in discussions promotes active learning and critical thinking. Instructors can facilitate class discussions on specific topics, encouraging students to share their insights, ask questions, and explore different perspectives on reinforced concrete. 4. Field Trips and Site Visits: Organizing field trips or site visits to sites projects. 5. Problem-Based Learning: Presenting students with real-world problems encourages them to apply their knowledge, think critically, and develop problem-solving skills. Instructors can guide students through problem-solving, encouraging them to analyze, evaluate options, and propose solutions. Independent Study and Research: Encouraging students to engage in independent study and research promotes self-directed learning. Assigning relevant readings, research projects, or literature reviews on specific topics in reinforced concrete enables students to deepen their knowledge and explore areas of interest

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	8	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	123
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.8	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	77
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	200

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Week Due**
Formative assessment	**Quizzes**	**Quizzes**	2	2-14	LO # 1 - 5
	Assignments	**Assignments**	4	2-14	LO # 1 - 5
	Projects / Lab.	**Projects / Lab.**			
	Report	**Report**	4	4-13	
Summative assessment	**Midterm Exam**	**Midterm Exam**	2 hr		
	Final Exam	**Final Exam**	2 hr	16	LO # 1 - 5

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Site selection and give alternatives, justifications of choice.
Week 2	Study of the site, dimensions, size, neighborhood, the surrounding land uses
Week 3	Submission of the first stage (location and size).
Week 4	An analytical study of similar examples.
Week 5	Study the components of the project and the relationship between these components.
Week 6	Analyzing the relationship between Spaces according to the movement and clustering.
Week 7	Analyzing the relationships between the project spaces by using Matrix. The Bubble Diagram of the project and the spatial zoning schemes. Site Analysis
Week 8	Submission of second stage.
Week 9	Each student is directed to study a new trend (linked to his project) like high tech. and Sustainable Architecture.
Week 10	A structural study (structural systems used in this type of projects, forms materials, and the impact of the proposed materials on the form of product identity, and the relationship to the city. - The initial submission of the third stage (of structural systems and services).
Week 11	Study of environmental (impact on the project and the project's impact on the surrounding environment)
Week 12	Study of engineering services systems on the project (services, electrical, air conditioning, entrances and exits of safety and security).
Week 13	The Submission of the third stage
Week 14	Submission of the pre-final
Week 15	Final submission
Week 16	**Final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	10- De Chiara, J., Panero, J., Zelnik, M. (2001). Time-saver Standards for Interior Design and Space Planning. New York: McGraw-Hill.	Yes
	11- LaGro, J. A. (2013). Site Analysis: Informing Context-Sensitive and Sustainable Site Planning and Design. United Kingdom: Wiley.	No
	12- Sanoff, H. (2016). Methods of Architectural Programming (Routledge Revivals). United Kingdom: Taylor & Francis.	No
	13- Stapenhorst, C. (2016). Concept: A Dialogic Instrument in Architectural Design. Germany: Jovis.	No
Recommended Texts	Archiprix 2010: the Best Dutch Graduation Projects. (2010). Netherlands: 010 Publishers.	No
Websites	https://archcod.com/best-ideas-for-architectural-graduation-projects/	

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks (%)**	**Definition**
Success Group (50 - 100)	**A -** Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C – Good	جيد	70 - 79	Sound work with notable errors
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Fail Group (0 – 49)	**FX –** Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية				
Module Title	**Architectural Conservation**		**Module Delivery**	
Module Type	**C**		☒ **Theory** ☒ **Lecture** ☐ **Lab** ☐**Tutorial** ☒ **Practical** ☐ **Seminar**	
Module Code	**ARC 512**			
ECTS Credits	**3**			
SWL (hr/sem)	**75**			
Module Level	UGV	**Semester of Delivery**	9	
Administering Department	ARC	**College**	COE	
Module Leader	Dr. Emad Hani Ismaeel	**e-mail**	emad.hani.ismaeel@uomosul.edu.iq	
Module Leader's Acad. Title	Assistant Professor	**Module Leader's Qualification**	Ph.D.	
Module Tutor		**e-mail**		
Peer Reviewer Name		**e-mail**		
Scientific Committee Approval Date		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	.6 To learn the most important theories in the field of built Conservation. .7 To learn the most important reasons for the deterioration of historical buildings and constructions. .8 To learn the most important methods of evaluating the heritage value of historical constructions, sites and existing built environments .9 To learn the preventive preservation mechanisms and procedures and to benefit from modern digitization techniques in the maintenance of historical and constructed buildings.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	On successful completion of this course students will be able to: .8 Utilize basic principles of conservation of the built heritage. .9 Compose a well-designed reports of managing of the historic buildings. .10 To learn cultural heritage management and cultural heritage legislation .11 To learn the effects of cultural heritage management on cultural heritage conservation and tourism. .12 To learn the communication process in cultural Heritage and conservation .13 To learn the historical development and current status of cultural heritage studies in Iraq and in the world.
Indicative Contents المحتويات الإرشادية	Architectural Conservation is a scientific course with theoretical and practical parts, concerned with providing and analyzing information specialized in the field of built and urban conservation. The semester establishes for fundamental base for the conservation processes, and provides the ability to use different techniques and tools for this purpose.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Instructional strategies are hands-on learning, direct instruction, document based questions. Introduction to the principles of conservation of cultural heritage. Examples of conservation implementations both national and international. Problems and developments in the field of conservation in the world

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	33
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.4	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	42
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**				
	Assignments	5	30% (30)	4 – 12	LO #1,2,3, 4, and 5
	Projects / Lab.				
	Report	1	10% (10)	13	LO # 1-5
Summative assessment	**Midterm Exam**	1 hr	10% (10)	7	LO # 1-5
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	The causes of deterioration in historical buildings and sites
Week 2	Sustainable urban preservation
Week 3	Degrees of intervention in built conservation
Week 4	International conventions for the preservation and management of the world cultural heritage
Week 5	Adaptive reuse of the historic building
Week 6	Assessment of the Heritage significance of historic buildings and sites
Week 7	Integrated Conservation and Planned Conservation
Week 8	Semester exam
Week 9	Preventive Conservation, Architectural Representation and Models
Week 10	Photogrammetry techniques and the creation of models for buildings and the urban fabric of cities
Week 11	Agisoft PhotoScan software
Week 12	CIM - City Information Management
Week 13	Virtual reality and Geographic Information Systems GIS application in heritage conservation
Week 14	Application
Week 15	Presentation of the practical project
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**Material Covered**
Week 1	
Week 2	
Week 3	

Week 4	
Week 5	
Week 6	
Week 7	
Week 8	
Week 9	
Week 10	
Week 11	
Week 12	
Week 13	
Week 14	
Week 15	

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	• Fielden, B. (2003). Conservation of Historic Buildings. London: Architectural Press.	No
Recommended Texts	• Al-Allaf, Emad Hani, (2018). Information modeling and management technology for historical sites and urban heritage buildings.	Yes
Websites		

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية				
Module Title	**Specifications & Estimation**		**Module Delivery**	
Module Type	**S**		**☒ Theory** **☒ Lecture** **☐ Lab** **☒ Tutorial** **☐ Practical** **☐ Seminar**	
Module Code	**ARC513**			
ECTS Credits	3			
SWL (hr/sem)	75			
Module Level	UGV	**Semester of Delivery**	9	
Administering Department	ARC	College	COE	
Module Leader	Raed salim ahmed	**e-mail**	raeedalnumman@uomosul.edu.iq	
Module Leader's Acad. Title	Assistant Professor	**Module Leader's Qualification**	MSc.	
Module Tutor	Abdulaha alsafar	**e-mail**	Abdullah@uomosul.edu.iq	
Peer Reviewer Name	Name	**e-mail**	E-mail	
Scientific Committee Approval Date		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	1. The primary objective of the Specifications & Estimation course is to give every student awareness and understanding of the conceptual framework and knowledge base of practice in order to facilitate the transition from professional school to professional practice. 2. Enable students to apply theoretical knowledge of specifications and estimation to real-world architectural projects. 3. Enhance students' ability to use industry-standard software and tools for accurate and efficient estimation. 4. Foster the development of practical skills such as material quantification, cost analysis, and project scheduling. 5. Encourage students to make informed decisions and ethical judgments when dealing with clients, contractors, and other stakeholders.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	1. Knowledge and Understanding: a. Demonstrate a comprehensive understanding of the fundamental concepts and principles of estimation in architecture. b. Identify and explain different types of estimates, measurement units, and cost factors relevant to architectural projects. 2. Theoretical Application: a. Apply estimation techniques and methods to accurately estimate quantities, costs, and timelines for architectural projects.. b. Interpret and analyze estimation data, such as cost breakdowns and material quantities, to inform decision-making in architectural design. Communication and Collaboration: a. Effectively communicate estimation concepts, methods, and results to both technical and non-technical

	stakeholders. b. Collaborate with multidisciplinary teams to integrate estimation considerations into architectural design and decision-making processes.
Indicative Contents المحتويات الإرشادية	Introduction to Specifications and Estimation: Importance of specifications and estimation in architectural practice. Relationship between specifications, estimation, and the design process. Overview of industry standards and best practices. Types of Estimates: Preliminary, conceptual, and detailed estimates. Order of magnitude estimates and detailed quantity takeoffs. Cost estimation methods and techniques. Measurement Units and Quantification: Understanding measurement units and conversion factors. Quantification of construction materials, finishes, and equipment. Methods for quantifying labor, time, and project resources. Specifications and Construction Documentation: Role and importance of construction specifications. Understanding construction documentation and its components. Overview of writing specifications and interpreting construction documents. These key points provide a concise overview of the most important topics to be covered in the Specifications & Estimation course.

Learning and Teaching Strategies

استراتيجيات التعلم والتعليم	
Strategies	Conceptual understanding through visual aids: Use visual aids such as diagrams, charts, and graphs to explain the theoretical concepts of estimation in architecture. Visual representations help students grasp complex ideas more easily and reinforce their understanding of estimation principles and techniques. Real-world case studies: Introduce real-world case studies of architectural projects that require estimation. Analyze these case studies as a class, discussing the estimation process, challenges faced, and solutions implemented. This approach provides practical examples and allows students to apply theoretical knowledge to real-world scenarios, enhancing their comprehension and problem-solving skills. These strategies focus on promoting conceptual understanding and practical application, allowing students to develop a solid foundation in estimation theory while being able to relate it to real-world architectural projects.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	33
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.4	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	42
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75

Module Evaluation

تقييم المادة الدراسية

As		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	20% (10)	4, 13	LO #1, 2, 3, 4, 5, and 6
	Assignments	3	20% (10)	4, 13	LO #3, 4, 5, and 6,7

	Projects / Lab.				
	Report				
Summative assessment	**Midterm Exam**	1hr	10% (20)	7	LO # 1-7
	Final Exam	3 hr	50% (60)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	General definitions
Week 2	Cost Estimates Basis
Week 3	Types of Estimation/ actual cost
Week 4	Building Material & Unit Measurements/ Brick
Week 5	Building Material & Unit Measurements/ Plastering
Week 6	Building Material & Unit Measurements/ Concrete
Week 7	Building Material & Unit Measurements/ I Beam section
Week 8	Wastes in Building Materials/ Quizzes
Week 9	Specifications & Bills of Quantities
Week 10	Standard Specifications
Week 11	technical Specifications
Week 12	Semester exam
Week 13	Bills of Quantities & Prices
Week 14	Total Bills of Contract Costs
Week 15	Contract or Suggested Alternatives
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	Specifications & Cost Estimate By Nasir Al- Assady , Univ. Of Baghdad	No
Recommended Texts	Standard Methods for Preparing Bills of Quantities in civil, Services and architectural works, By Khalid Mohamed Hadeed, Baghdad , 2003	No
Websites		

Grading Scheme مخطط الدرجات

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية				
Module Title	**Computer Aided Architectural Design Methods**		**Module Delivery**	
Module Type	**C**		☒ **Theory**	
Module Code	**ARC 514**		☒ **Lecture**	
ECTS Credits	**3**		☐ **Lab**	
SWL (hr/sem)	75		☐ **Tutorial** ☒ **Practical** ☒ **Seminar**	
Module Level	UGV	**Semester of Delivery**	9	
Administering Department	ARC	**College**	COE	
Module Leader	Dr. Dhuha Abdulgani Al-kazzaz	**e-mail**	dhuha.kazzaz@uomosul.edu.iq	
Module Leader's Acad. Title	Assistant Professor	**Module Leader's Qualification**	Ph.D.	
Module Tutor	Aseel Ibraheem	**e-mail**	E-mail	
Peer Reviewer Name	Name	**e-mail**	E-mail	
Scientific Committee Approval Date		**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	9. Introduce students to the concept of computational design methods highlighting its role in the architectural design process. 10. Introduce students to algorithmic design thinking using rules to describe information, defined in a logical sequence to generate design ideas. 11. Understanding computational design as the set of methods borrowed from fields such as computer science, mathematics, and geometry, applied to solving design problems. 12. Introduce students to the concept of generative design approach such shape grammars, case-based design, genetic algorithms, etc. 13. Introduce students to the simulation-based building design as the guiding principle behind form generation through performative simulation processes. 14. Introduce students to the BIM as the guiding method in current architecture practice. 15. Achieve a comprehensive understanding of the application of digital tools in the context of architecture. 16. Explore a range of global architectural projects, providing examples of advanced digital design methods. 17. Bridging the Gap between academic theories and architecture practice.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	22. Acquiring new knowledge with the possibility of applying some of the methods in the architectural design course 23. Identify the roles of computational design methods and techniques in architecture. 24. Understanding digital design thinking and methods and their impact on the architectural design process. 25. Knowing the effect of computational design methods on global architectural projects. 26. Encouraging exploration of architectural methods. 27. Bridging the gap between the academic world and practice. 28. Enhancing student roles through report writing, presentations and discussions.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following: Introduction to computational design methods.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Implementing lecture-based teaching method with students' active participation through class discussions. Promoting an interactive learning environment by implementing reverse learning, where students explore and investigate important topics related to computational design processes and techniques leading to meaningful discussions and a deeper understanding of the subject matter.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	33
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.4	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	42
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75

Module Evaluation تقييم المادة الدراسية					
	As	**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**				
	Assignments				
	Projects / Lab.				
	Report	1	40% (30)	12-15	All
Summative assessment	**Midterm Exam**	2 hr	20% (30)	8	LO #1-6
	Final Exam	3 hr	40% (40)	16	LO #1-6
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	Introduction to computational design: types and functions.
Week 2	Generative Design Methods: Shape grammars
Week 3	Generative Design Methods: Case-based Design
Week 4	Generative Design Methods: Genetic Algorithms
Week 5	Generative Design Methods: Parametric Design
Week 6	Simulation techniques in Architectural Design
Week 7	Virtual reality techniques in Architectural Design
Week 8	Midterm Exam
Week 9	Machine Learning techniques in Architectural Design
Week 10	3D printing techniques in Architectural Design
Week 11	Building Information Modelling
Week 12	Discussion of reports
Week 13	Discussion of reports
Week 14	Discussion of reports
Week 15	Discussion of reports
Week 16	Final Exam

Learning and Teaching Resources مصادر التعلم والتدريس		
	Text	**Available in the Library?**
Required Texts	Architecture's New Media - Principles, Theories, and Methods of Computer-Aided Design. By Yehuda E. Kalay - Algorithmic architecture. by Kostas Terzidis - Computational Design: Technology, Cognition and Environments. By Rongrong Yu, Ning Gu, Michael J. Ostwald	None

Recommended Texts		No
Websites		

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Urban Design**			**Module Delivery**	
Module Type	**C**			☐ **Theory**	
Module Code	ARC 515			☒ **Lecture**	
ECTS Credits	10			☐ **Lab**	
SWL (hr/sem)	250			☒ **Tutorial** ☒ **Practical** ☐ **Seminar**	
Module Level	**UGV**	**Semester of Delivery**	9		
Administering Department	**ARC**	**College**	**COE**		
Module Leader	**Mazin Jaber Omar**	**e-mail**	**mazinjaber@uomosul.edu.iq**		
Module Leader's Acad. Title	**Assistant Professor**	**Module Leader's Qualification**	**M.SC.**		
Module Tutor	Name (if available)	**e-mail**	E-mail		
Peer Reviewer Name	Name	**e-mail**	E-mail		
Scientific Committee Approval Date		**Version Number**	**1.0**		

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	ARC 423 Theories of Urban Design	**Semester**	8

Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	.1 Introduce students to the fundamental design process in the urban areas in cities. .2 It aims to develop student's ability to conduct with the urban design problems. .3 It aims to give students the ability to find solution of urban spatial problems and urban rehabilitation. Examination of case studies is undertaken at the scale of a district within the city.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	.1 Understand the urban design as practicing moreover than theories. .2 Learning how to use the urban standards in urban design projects. .3 Able to analyze and design the movement networks within urban districts, and able to solve their problems. .4 Able to analyze and design urban open spaces. .5 At the end of this course, students will have gained knowledge of the fundamental concepts behind the urban design and urban design theories.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. It's a theoretical & practical course for a single semester,12 hours weekly concentrate on the student's practice urban design problems**.** This semester is focused on the solution of urban spatial problems and urban rehabilitation. Examination of case studies is undertaken at the urban scale of a district within the city. Action area projects are chosen from adjacent urban areas to allow easy accessibility for data collection and actual site analysis. [15 hrs]. Students have to analyze and design the movement networks (pedestrian & vehicles) within urban districts, and able to solve their problems. Moreover they deal with the design of urban open spaces considering 5 elements of city scene mentioned by Keven lynch [36 hrs]. Examination of case studies is undertaken at the scale of a district within the city. Also they deal with the Land use modeling for design proposal within the area of case study[24 hrs]. In the old city students learn how to deal with conservation areas and buildings, and the need for rehabilitation treatment for some buildings.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The main strategy that will be adopted is to make behavioral changes for students after they had the experience of dealing with urban field, and to encourage students' participation in the urban project, at the same time is to refining and expanding their designing skills. This will be achieved through number of presentations, interactive tutorials and by practicing examples of similar projects.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	154	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	10
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	96	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	9.7
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	250		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Report**	2	5% (5)	1,2	LO #1, 5
	Weekly Assignments	5	5% (5)	3 ,6,7,8,10,11	LO #3, 4, and 5
	Concept Submission	1	5% (5)	4	LO # 1,2
	Midterm Submission	1	10%(10)	9	LO #2,3, 4, and 5
	Pre-final Submission	1	15% (15)	12	LO #2,3, 4, and 5
	Final Submission	1	30%(30)	15	All

Summative assessment	**Midterm Exam (Day Sketch)**	3 hr	15% (15)	5	LO # 1-5
	Final Exam (Day Sketch)	3 hr	15% (15)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Data collection of project
Week 2	Data analysis of project
Week 3	Data assessment and calibration
Week 4	Concept generation for design proposal
Week 5	Mass modeling for design proposal+ 1st Day sketch
Week 6	Land use modeling for design proposal
Week 7	Land use modeling for design proposal
Week 8	Elementary presentation
Week 9	Elevations modeling for design proposal
Week 10	Elevations modeling for design proposal+2nd Day sketch
Week 11	Sections modeling for design proposal
Week 12	Pre final presentation
Week 13	Perspective modeling for design proposal
Week 14	Perspective modeling for design proposal
Week 15	Perspective modeling for design proposal

Week 16	Final presentation

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	Structural Steel Design, Jack C. McCormac and Stephen F. Csernak, Pearson Education Limited, 5th edition, 2012.	No
Recommended Texts	AISC Construction Manual, 14th Edition.	No
Websites		

Grading Scheme مخطط الدرجات				
Group	**Grade**	التقدير	**Marks (%)**	**Definition**
Success Group (50 - 100)	**A -** Excellent	امتياز	90 – 100	Outstanding Performance
	B - Very Good	جيد جدا	80 – 89	Above average with some errors
	C - Good	جيد	70 – 79	Sound work with notable errors
	D - Satisfactory	متوسط	60 – 69	Fair but with major shortcomings

	E - Sufficient	مقبول	50 – 59	Work meets minimum criteria
Fail Group	**FX –** Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
(0 – 49)	**F –** Fail	راسب	(0-44)	Considerable amount of work required

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

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	Smart Building Systems			**Module Delivery**	
Module Type	**E**			☐ **Theory**	
Module Code	ARC516			☒ **Lecture**	
ECTS Credits	3			☐ **Lab**	
SWL (hr/sem)	75			☒ **Tutorial** ☒ **Practical** ☐ **Seminar**	
Module Level	**UGV**	**Semester of Delivery**	9		
Administering Department	**ARC**	**College**	**COE**		
Module Leader	Dr. Omar H. kharofa	**e-mail**	Omar.kharufa@uomosul.edu.iq		
Module Leader's Acad. Title	Ass.prof	**Module Leader's Qualification**			
Module Tutor	Maysaa Moffeq yones Alobaidi	**e-mail**	E-mailMaysaa.moffeq@uomosul.edu.iq		
Peer Reviewer Name	Name	**e-mail**	E-mail		
Scientific Committee Approval Date		**Version Number**	**1.0**		

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module		**Semester**	
Co-requisites module		**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	The course aims to introduce the student to smart architecture, smart buildings, their components and features, and what are the most important smart systems attached to the smart building that enable the building to improve its functional and environmental performance, leading to the introduction of smart cities that represent an important solution for achieving sustainable development for cities and compatible with modern technological developments witnessed by contemporary societies.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Students who study **Smart building systems** will be able to • Defining the concept of smart architecture. • Distinguish between Generations of smart buildings. • Define, Advantages, technologies and features of intelligence for each generation of smart buildings. • explain, Features of smart buildings. • Classification of smart buildings according to smart building evaluation criteria. • Learns the impact of smart architecture on the design process. • Define the concept of smart systems in building. • Learn about the components of smart systems inside buildings and the idea of their work. • Learn how achieve the integration between systems in smart buildings • Introduction to the smart cover, its components, and how it works • Learn about smart sustainable cities, their components, and mechanisms for achieving sustainability in them
Indicative Contents المحتويات الإرشادية	

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	33

Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	42	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Report**	1	5% (5)	1,2	LO #1, 5
Summative assessment	**Midterm Exam (Day Sketch)**	2 hr	15% (15)	5	LO # 1-5
	Final Exam (Day Sketch)	3 hr	15% (15)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	Introduction to the concept of intelligence and artificial intelligence , smart architecture
Week 2	Introduction to the concept of Smart buildings, their features, and classification of smart buildings
Week 3	The first generation of smart buildings, intelligence features of the first generation buildings, technical equipment for the first generation smart buildings, First Quiz

Week 4	The second and third generation of smart buildings, intelligence features of the second and third generation buildings, technical equipment for smart buildings in the second and third generation
Week 5	Smart architecture, features of smart architecture, criteria for evaluating smart buildings, the impact of smart architecture on the design process, (Tutorial sheet) H.W, Second Quiz
Week 6	Smart systems, components of smart systems inside buildings
Week 7	integration between systems in smart buildings (Tutorial sheet) H.W
Week 8	A review of international projects that represent models and applications of smart architecture
Week 9	A review of international projects that represent models and applications of smart architecture
Week 10	Smart covers, characteristics of smart covers, importance and features of smart covers
Week 11	Types of smart covers, features of single and double covers and the properties of each type.
Week 12	Midterm Exam
Week 13	Introduction to the concept of smart city .
Week 14	Smart Applications in urban design projects
Week 15	Smart cities
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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		
Recommended Texts		
Websites		

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Graduation Project (2)**			**Module Delivery**	
Module Type	**Core learning activity**			☒ **Theory** ☒ **Lecture** ☐ **Lab** ☐ **Tutorial** ☒ **Practical** ☒ **Seminar**	
Module Code	**ARC 521**				
ECTS Credits	15				
SWL (hr/sem)	375				
Module Level		UGV	**Semester of Delivery**		10
Administering Department		ARC	**College**	COE	
Module Leader	Hafedh Abed Yahya		**e-mail**	Hafedh.yahya@uomosul.edu.iq	
Module Leader's Acad. Title		Lecturer	**Module Leader's Qualification**		Ph.D.
Module Tutor	Hassan Mahmood Qasim		**e-mail**	hassan.kasim@uomosul.edu.iq	
Peer Reviewer Name		Hasan Alsanjary	**e-mail**	hasan.sanjary@uomosul.edu.iq	
Scientific Committee Approval Date		01/06/2023	**Version Number**		1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	ARC 501 Thesis of Architecture Design	**Semester**	9
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	This course is a capstone course. The objective of this course is to enable students to synthesize all previous course work by addressing and providing a solution for a design problem defined in Thesis of Architecture Design. Students are expected to achieve a high level of competence in design graduation project that integrates Commodity, Firmness, and Delight. The projects should reflect thoroughness in attention to aesthetic and technical aspects of design including construction, building systems, lighting and materials, as well as application of environment and behavior knowledge. The projects should aim for well-developed solutions, rich in details that celebrate innovation, imagination, and creative solutions for human existence. 11. Demonstrate creativity through fluid reasoning and the capacity to think logically to solve problems in novel situations. The Thesis should feature creative synthesis, organizational logic, and an effective relationship of concept and form. 12. Define appropriate and rigorous methods of research and design processes, as well as understand and choreograph the relationship between the two so that Thesis results a sophisticated design project that can be "defended" and validated by others. 13. Employ critical and contextual research, including pertinent social, theoretical, historical, and cultural material from other disciplines, to situate the Thesis proposition in relevant contemporary or historical discourses, both within and outside the discipline. 14. Communicate effectively through visual, verbal, and written form, in 2D and 3D, in analogue and digital means, to achieve high quality discussions, essays, models, presentations and documentation of the process 15. Demonstrate motivation by employing professional, high level skills to work individually and collaboratively, in matters of personal initiative, organization and planning, meeting deadlines, attendance, communication, teamwork, managing of advisory committee, and public presentations.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	6. An ability to apply the engineering design process to produce solutions that meet specified needs with consideration for public health and safety, and global, cultural, social, environmental, economic, and other factors as appropriate to the discipline. 7. An ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions. 8. An ability to communicate effectively with a range of audiences. 9. An ability to recognize the ongoing need to acquire new knowledge, to choose appropriate learning strategies, and to apply this knowledge. 10. An ability to function effectively as a member or leader of a team that establishes goals, plans tasks, meets deadlines, and creates a collaborative and inclusive environment.
Indicative Contents المحتويات الإرشادية	6. This studio begins with a presentation of the program document with clear indication of the intent and direction of emphasis. Having been reviewed and approved by a senior project committee, This project design is undertaken to its completion. 7. The project must exhibit a comprehensive mastery of architectural design, reflecting the knowledge and skills acquired during four years of study in architecture.

	8. Students are strongly encouraged to choose electives inside and outside to expand their expertise and supplement their Thesis work, and perhaps find other advisors. 9. In order to assure quality advising, the student is obligated to find advisors, both SoArch faculty and outside advisors, that can provide the disciplinary expertise needed to advise/support students. 10. The scale of inquiry for Thesis can range from the scale of a building component, to larger architectural developments, and from discrete objects to complex and embedded systems.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Learning and teaching strategies refer to instructors' methods and approaches to facilitate student learning and achievement of module learning outcomes. These strategies aim to engage students, promote understanding, and enhance their knowledge and skills in the context of a reinforced concrete course. Here are some common learning and teaching strategies that can be employed: 18. Lectures and Presentations: Instructors can deliver lectures and presentations introducing key concepts, theories, and principles. These sessions can provide a foundational understanding of the subject matter and help students grasp fundamental knowledge. 19. Case Studies and Real-Life Examples: Incorporating case studies and real-life examples allows students to see the practical application of reinforced concrete principles. Analyzing and discussing real-world projects can deepen their understanding of design, construction, and problem-solving processes. 20. Interactive Discussions: Engaging students in discussions promotes active learning and critical thinking. Instructors can facilitate class discussions on specific topics, encouraging students to share their insights, ask questions, and explore different perspectives on reinforced concrete. 21. Field Trips and Site Visits: Organizing field trips or site visits to sites projects. 22. Problem-Based Learning: Presenting students with real-world problems encourages them to apply their knowledge, think critically, and develop problem-solving skills. Instructors can guide students through problem-solving, encouraging them to analyze, evaluate options, and propose solutions. 23. Independent Study and Research: Encouraging students to engage in independent study and research promotes self-directed learning. Assigning relevant readings, research projects, or literature reviews on specific topics in reinforced concrete enables students to deepen their knowledge and explore areas of interest.

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	154	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	10
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	221	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	13.2
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	375		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Quizzes**	2	10% (10)	2-14	LO # 1 , 2
	Assignments	3	25% (25)	2-14	LO # 1 , 3 , 4
	Projects / Lab.	1	25% (25)	14	All
	Report				
Summative assessment	**Midterm Exam**	2 hr	10% (10)	7	All
	Final Exam	2 hr	30% (30)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري	
	Material Covered
Week 1	Introduction
Week 2	Concept development for design proposal
Week 3	Finalizing Concept
Week 4	The presentation & Critique
Week 5	Functional modeling for design proposal
Week 6	Functional modeling for design proposal
Week 7	The presentation & Critique
Week 8	Elevations modeling for design proposal
Week 9	Elevations modeling for design proposal
Week 10	The presentation & Critique
Week 11	Sections modeling for design proposal
Week 12	Sections modeling for design proposal
Week 13	The presentation & Critique
Week 14	Perspective modeling for design proposal
Week 15	Finalize the project
Week 16	Final Exam (Final Presentation)

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	14- De Chiara, J., Panero, J., Zelnik, M. (2001). Time-saver Standards for Interior Design and Space Planning. New York: McGraw-Hill.	Yes
	15- LaGro, J. A. (2013). Site Analysis: Informing Context-Sensitive and Sustainable Site Planning and Design. United Kingdom: Wiley.	No
	16- Sanoff, H. (2016). Methods of Architectural Programming (Routledge Revivals). United Kingdom: Taylor & Francis.	No

	17- Stapenhorst, C. (2016). Concept: A Dialogic Instrument in Architectural Design. Germany: Jovis.	No
Recommended Texts	Archiprix 2010: the Best Dutch Graduation Projects. (2010). Netherlands: 010 Publishers.	No
Websites	https://archcod.com/best-ideas-for-architectural-graduation-projects/	

Grading Scheme

مخطط الدرجات

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية				
Module Title	Ethics and Proffecinal Practice		**Module Delivery**	
Module Type	**S**		**☒ Theory**	
Module Code	**ARC522**		**☒ Lecture**	
ECTS Credits	**3**		**☐ Lab**	
SWL (hr/sem)	**75**		**☒ Tutorial** **☐ Practical** **☐ Seminar**	
Module Level	UGV	**Semester of Delivery**	10	
Administering Department	ARC	College	COE	
Module Leader	Raed salim ahmed	**e-mail**	raeedalnumman@uomosul.edu.iq	
Module Leader's Acad. Title	Assistant Professor	**Module Leader's Qualification**	Msc.	
Module Tutor	Abdulaha alsafar	**e-mail**	abdulah@uomosul.edu,iq	
Peer Reviewer Name	Name	**e-mail**	E-mail	
Scientific Committee Approval Date	01/06/2023	**Version Number**	1.0	

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	The primary objective of the Professional Practice course is to give every student awareness and understanding of the conceptual framework and knowledge base of practice in order to facilitate the transition from professional school to professional practice, and an understanding of the role of the architect in society through these points. 1. Professional Ethics and Responsibilities: Foster an understanding of professional ethics and the ethical responsibilities of architects. Explore the ethical dilemmas and challenges faced by architects in their practice. 2. Project Management and Contract Administration: Introduce principles of project management and contract administration in architectural practice. Cover topics such as project planning, scheduling, budgeting, and risk management. Provide an overview of contract documents, contract types, and the architect's role in contract administration. 3. Legal and Regulatory Framework: Familiarize students with the legal and regulatory framework governing architectural practice. Explore laws, building codes, regulations, and zoning requirements relevant to architectural projects. Address the architect's professional liability, responsibilities, and obligations in legal contexts. These additional aims complement the primary objective of facilitating the transition from professional school to professional practice and understanding the architect's role in society. They emphasize the importance of ethics, project management, contract administration, and legal knowledge in the successful practice of architecture.
Module Learning Outcomes	1. Knowledge and Understanding: a. Demonstrate a comprehensive understanding of the conceptual framework and knowledge base of architectural practice. b. Identify and explain the role and responsibilities of architects in society, including ethical considerations and

مخرجات التعلم للمادة الدراسية	professional obligations. c. Understand the legal and regulatory framework that governs architectural practice, including laws, building codes, and zoning requirements. 2. Transition to Professional Practice: a. Acquire the necessary skills and knowledge to facilitate a smooth transition from professional school to professional practice in architecture. b. Develop an awareness of the practical aspects of architectural practice, such as project management, communication with clients and stakeholders, and collaboration with multidisciplinary teams. c. Apply critical thinking and problem-solving skills to navigate real-world challenges and complexities encountered in professional practice. 3. Ethical and Professional Conduct: a. Demonstrate an understanding of professional ethics and ethical responsibilities specific to the practice of architecture. b. Apply ethical decision-making frameworks to resolve ethical dilemmas commonly faced by architects. c. Exhibit professional conduct, integrity, and accountability in dealing with clients, colleagues, and the wider community. 4. Legal and Contractual Knowledge: a. Develop a comprehensive understanding of the legal and regulatory aspects relevant to architectural practice, including contracts, liability, and intellectual property rights. b. Analyze and interpret contract documents, identifying the architect's role, responsibilities, and obligations. c. Apply legal knowledge to mitigate risks, ensure compliance, and protect the interests of clients and stakeholders. These module learning outcomes focus on equipping students with the necessary knowledge, skills, and professional attributes to thrive in the field of architecture. They encompass both theoretical understanding and practical application, fostering a holistic understanding of professional practice and its ethical, legal, and societal dimensions.
Indicative Contents	Introduction to Professional Practice:

المحتويات الإرشادية	Overview of the architectural profession, its historical context, and its evolving role in society. Understanding the professional responsibilities and ethical considerations of architects. Exploring the regulatory and legal frameworks that govern architectural practice. Project Management and Contract Administration: Principles and practices of project management in architectural projects. Understanding the architect's role in contract administration, including contract types, project scheduling, and budgeting. Risk management and quality control in architectural projects. Professional Ethics and Conduct: Introduction to professional ethics and codes of conduct specific to architectural practice. Ethical decision-making frameworks and strategies for resolving ethical dilemmas. Professional integrity, accountability, and the architect's responsibility to clients, colleagues, and the public. Legal and Regulatory Considerations: Communication and Collaboration: Effective communication strategies with clients, stakeholders, and multidisciplinary teams. Developing strong interpersonal skills, including negotiation and conflict resolution. Collaboration and teamwork in architectural practice. Professional Development and Career Pathways.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	This strategy emphasizes the importance of lifelong learning and continuous professional development in the

	field of architecture. It encourages students to take ownership of their professional growth, stay informed about industry developments, and develop the skills necessary to adapt to an ever-evolving architectural landscape. through these points. 1. Analyze and discuss case studies as a class to promote critical thinking, problem-solving, and decision-making skills. 2. Encourage students to reflect on how they would approach similar situations in their own professional practice. Guest Speakers and Practitioner Engagement: 3. Invite guest speakers, such as practicing architects or professionals from related fields, to share their experiences and insights. 4. Foster interactive discussions and debates on ethical dilemmas, legal considerations, and emerging trends in architectural practice. Encourage students to voice their opinions, analyze different viewpoints, and develop well-reasoned arguments. 5. Provide opportunities for students to engage in professional development activities, such as workshops, seminars, or conferences, Encourage students to participate in relevant professional organizations, forums, or online communities to stay updated on industry trends and practices. Assign research projects or assignments that require students to explore and critically evaluate current issues and advancements in architectural practice. This strategy emphasizes the importance of lifelong learning and continuous professional development in the field of architecture. It encourages students to take ownership of their professional growth, stay informed about industry developments, and develop the skills necessary to adapt to an ever-evolving architectural landscape.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
2	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	33	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل
2.4	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	42	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل
75			**Total SWL (h/sem)** الحمل الدراسي الكلي للطالب خلال الفصل

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

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	General definitions.
Week 2	The architect and his basic duties
Week 3	The making of the architect and his obligation
Week 4	Elements of the building felid
Week 5	Grading of architect
Week 6	Professional organizations
Week 7	Code of professional ethics
Week 8	The architect and his services
Week 9	Methods of paying the architect
Week 10	Selection of the architect

Week 11	Architectural competitions
Week 12	Semester exam
Week 13	Architectural professional services agreement
Week 14	Types of contracts
Week 15	Bidding and contracting legal document
Week 16	Final exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	Professional Practice and Code of Prof. Ethics by Nasir Majeed Al Asady	No
Recommended Texts	The Law & the Internal System of Iraqi Engineers Union General conditions for contracting, Ministry of Local Government	No
Websites		

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Islamic Architecture**			**Module Delivery**	
Module Type	**C**			☒ **Theory**	
Module Code	**ARC 523**			☒ **Lecture**	
ECTS Credits	**3**			☐ **Lab**	
SWL (hr/sem)	**75**			☒ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Level	UGIV	**Semester of Delivery**	10		
Administering Department	ARC	**College**	COE		
Module Leader	Dr.Ahmed Abdulwahid Dhannoon	**e-mail**	Ahmadabdulwahid@uomosul.edu.iq		
Module Leader's Acad. Title	Associate Professor	**Module Leader's Qualification**	Ph.D.		
Module Tutor	Talaat Ibrahim Alaane	**e-mail**	Talaat.alaane@uomosul.edu.iq		
Peer Reviewer Name	Name	**e-mail**	E-mail		
Scientific Committee Approval Date		**Version Number**	1.0		

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	

Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	.1 introduce students to the basic principles of Islamic architectural, and Identify the general characteristics of Islamic architecture. .2 Teach the students the relationship between these characteristics which associated with the religious aspect and the climatic side, In addition, knowledge of the properties associated with flexibility, formal adaptation, achieving ambiguity, unity, diversity, and others. .3 In this course, the students learn how to Identify the different functional types of Islamic architecture, such as religious buildings such as mosques and schools, service buildings such as markets, khans, caravanserai, baths, bimaristans, residential buildings such as traditional Islamic house, palaces of rulers, Sufi buildings such as Al-Khanqah, Rabat, Zawiya, Al-Takiya, and funerary buildings such as the Mausoleum, Shrine, almshhd, and Water facilities buildings such as Al Sabil Building , Bridges, Water gauges.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	.1 Recognize the most important characteristics of Islamic architecture. .2 Understanding the relationship between these characteristics which associated with the religious aspect and the climatic side, In addition, knowledge of the properties associated with flexibility, formal adaptation, achieving ambiguity, unity, diversity, and others. .3 ….Describing and Identifying the most important functional types in Islamic architecture, such as the mosque, the school, the palace, the khan, the bimaristan, and the bathroom. . .4 Recognize the detailed components of each functional type in Islamic architecture. .5 Comparing the characteristics of Islamic architecture and Western architecture .6 Analyzing of contemporary design projects that include characteristics of Islamic architecture . .7 report of the data about the contemporary design projects that include characteristics of Islamic architecture.
Indicative Contents المحتويات الإرشادية	Indicative content includes the following. -Introduction to the basic principles of Islamic architectural, Introduction to the general characteristics of Islamic architecture [25 hrs]. -Analysis the general characteristics of Islamic architecture which associated with the religious aspect and the climatic side, In addition, knowledge of the properties associated with flexibility, formal adaptation, achieving ambiguity, unity, diversity, and others [25 hrs]. -Identify the different functional types of Islamic architecture, such as religious buildings The mosques and

	schools, The service buildings such as markets, khans, caravanserai, baths, bimaristans, The residential buildings such as traditional Islamic house, palaces of rulers, The Sufi buildings such as Al-Khanqah, Rabat, Zawiya, Al-Takiya, and funerary buildings such as the Mausoleum, Shrine, almshhd, and finaly The Water facilities buildings such as Al Sabil Building , Bridges, Water gauges. [25 hrs].

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	The teaching and learning strategies used within the Islamic Architecture course are a mixture of two types, the teacher-centered learning strategy and the student-centered learning strategy, with the use of a mixture of high-tech materials versus the use of low-tech materials.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	2	**Structured SWL (h/sem)** الحمل الدراسي المنتظم للطالب خلال الفصل	33
Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.9	**Unstructured SWL (h/sem)** الحمل الدراسي غير المنتظم للطالب خلال الفصل	42
		Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	3hr / 0.5	30% (30)	4, 13	,3,41,2
	Assignments				
	Projects / Lab.				

	Report	W /18	10% (10)	7	1,2,3,4,5,6,7
Summative assessment	**Midterm Exam**	hr 1	**10% (10)**	8	1,2,3,4,5,6
	Final Exam	3 hr	**50% (50)**	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	**Material Covered**
Week 1	Definition of Islamic architecture , factors of origin and composition (natural and Cultural factors)
Week 2	The general characteristics of Islamic architecture, characteristics related to the principles of the Islamic religion
Week 3	The characteristics related to the climatic environment
Week 4	The characteristics related to formal and functional concepts characterized by Islamic architecture.
Week 5	The main functional types in Islamic architecture First Religious buildings (Mosque) The main components of the mosque building; (Al-Musalla (Prayer House), mihrab, alminbar,The Courtyard, The wall, minaret).
Week 6	The minor components of the mosque (Ablution places, Quran reading platform, Places of prayer for VIP)
Week 7	The main types of mosques: The Arabic type mosques, The Iwan type mosques, and The Ottoman type mosques
Week 8	Religious buildings (madrasa)School Architectural features of the school Famous examples of Islamic schools
Week 9	Second: Service buildings (markets, khans, the Crown Saray) -Markets, markets definition, markets location -Alkanat, the definition of the khan, its architectural characteristics -Al-Crown Saray ,its definition, , its architectural characteristics

Week 10	Service buildings(bathrooms, and bimaristans) -Bathrooms , its definition, , its architectural characteristics -Bimaristans, its definition, , its architectural characteristics
Week 11	Third Residential buildings (The traditional Islamic House)
Week 12	Residential buildings (The Islamic Places)
Week 13	Fourthly , The buildings of Sufism (Al-Khanqah, Rabat, Zawiya, Al-Takiya)
Week 14	Fifthly, funeral buildings(Mausoleum, Shrine, almshhd)
Week 15	Sixth: Water facilities buildings (Al Sabil Building , Bridges, Water gauges)
Week 16	Final Exam

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	1. Islamic Architecture , John . D. Hoag,	No

	2. Islamic Architecture , Form, Function, and Meaning, Robert Hillenbrand.	
Recommended Texts	3. الفن والعمارة الإسلامية (1250-1800) ، شيلا بلير، جوناثان بلوم 4. العمارات العربية الإسلامية في العراق، الجزء الاول، عيسى سليمان وأخرون 5. موسوعة العمارة الإسلامية، عبد الرحيم غالب 6. تطوير عمارة المساجد، دراسة دور التكيف في تطوير مساجد القرن الاول الهجري، أحمد عبد الواحد ذنون. 7. معجم عمارة الشعوب الإسلامية، علي ثويني.	No
Websites		

Grading Scheme

مخطط الدرجات

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Projects Management**			**Module Delivery**	
Module Type	**S**			☒ **Theory**	
Module Code	**ARC524**			☒ **Lecture**	
ECTS Credits	**3**			☐ **Lab**	
SWL (hr/sem)	**75**			☒ **Tutorial** ☐ **Practical** ☐ **Seminar**	
Module Level	**UGV**	**Semester of Delivery**	**10**		
Administering Department	**ARC**	**College**	**COE**		
Module Leader	**Mozahim mohammed mustafa**	**e-mail**	**Mozahim.hadidi@uomosul.edu.iq**		
Module Leader's Acad. Title	**LECTURER**	**Module Leader's Qualification**	**Ph.D.**		
Module Tutor	**Name (if available)**	**e-mail**	**E-mail**		
Peer Reviewer Name	**Name**	**e-mail**	**E-mail**		
Scientific Committee Approval Date		**Version Number**	**1.0**		

Relation with other Modules

العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	**None**	**Semester**	
Co-requisites module	**None**	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	.1 **Acquaintance with the concepts of modern management in general and project management in a focused manner, leading to the possession of the required skills in addition to knowledge so that the student can manage the project according to a solid scientific mechanism.** .2 **Identifying the vocabulary required within the framework of project management according to what is universally recognized as a language of privacy that enables the students to reach the goals of management.**
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	.7 **At the end of the course, the student will be able to acquire the necessary knowledge of the vocabulary adopted in the context of project work first and the appropriate mechanism for managing the project based on international experiences approved in this context.** .8 **The ability to choose a specific path in the project's work after analyzing the multiple pathways to achieve the duality of efficiency and effectiveness.** .9 **The ability to manage project resources efficiently within the ideal framework to achieve a state of sustainability with regard to resources first and efficiency of outputs on the other level.**
Indicative Contents المحتويات الإرشادية	**Management in its general framework, its nature, components, and levels, with a focus on the entrance to engineering project management.** **Some of the skills required in managing engineering projects, with a focus on soft skills.** **Introduction to engineering project management, basic characteristics and concepts.**

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.**

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	**33**	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	**2**
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	**42**	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	**2.8**
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	**75**		

Module Evaluation تقييم المادة الدراسية					
As		**Time/Number**	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	**3**	**20% (20)**	**4, 13**	**LO #3, 4, 5, and 6**
	Assignments	**3**	**20% (20)**	**4, 13**	**LO #3, 4, 5, and 6**
	Projects / Lab.				
	Report				

Summative assessment	Midterm Exam	2 hr	10% (10)	7	LO # 1-7
	Final Exam	3 hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus) المنهاج الاسبوعي النظري	
Week	Material Covered
Week 1	management components
Week 2	Basic organization functions under the engineering project management approach
Week 3	A brief overview of the concept of the system
Week 4	Some of the required skills in managing engineering projects, with an emphasis on soft skills (Organizational Skills) (Communication Skills) (Organizational Skills)
Week 5	Some of the required skills in managing engineering projects, with an emphasis on soft skills (Leadership Skills) (Coping Skills) (Negotiation skills)
Week 6	Various project management tools and techniques.
Week 7	Introduction to engineering project management, basic characteristics and concepts.
Week 8	Success factors and reasons for project failure
Week 9	Areas of knowledge related to project management as per pmbok
Week 10	SQCT Target
Week 11	Stakeholders analysis matrix
Week 12	WPS (Work Process structure)
Week 13	Project schedule (Critical Path)

Week 14	**Network Diagram**
Week 15	**Practical exercise in managing a virtual project**
Week 16	**Final Exam**

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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		**No**
Recommended Texts		**No**
Websites		

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

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

MODULE DESCRIPTION FORM

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	**Sustainable Architecture**			**Module Delivery**	
Module Type	**Core learning activities**			☒ **Theory** ☒ **Lecture** ☐ **Lab** ☐ **Tutorial** ☒ **Practical** ☒ **Seminar**	
Module Code	**ARC 525**				
ECTS Credits	3				
SWL (hr/sem)	75				
Module Level		UGIV	**Semester of Delivery**		4
Administering Department		Type Dept. Code	**College**	College of Engineering	
Module Leader	Bisam Ehessan ALHAFIZ		**e-mail**	**Bisam.alhafiz@uomosul.edu.iq**	
Module Leader's Acad. Title		Lecturer	**Module Leader's Qualification**		Ph.D.
Module Tutor	Reem Ali Talib Alothman		**e-mail**	reemalothman@uomosul.edu.iq	
Peer Reviewer Name		Name	**e-mail**	E-mail	
Scientific Committee Approval Date		13/06/2023	**Version Number**		1.0

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	None	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	The module aims for the curriculum on on Sustainable Architecture are as follows: 1. To introduce students to the concept of sustainable architecture and its significance in addressing environmental challenges. 2. To provide students with a comprehensive understanding of the environmental impacts associated with buildings and construction, and the strategies to mitigate them through sustainable design. 3. To familiarize students with passive design strategies that optimize natural resources, such as light, ventilation, and thermal comfort, in building design. 4. To enable students to analyze and evaluate the sustainability performance of buildings using green building rating systems and criteria. 5. To develop students' skills in sustainable site planning and urban design, considering the minimization of environmental impact and the promotion of sustainable communities. 6. To equip students with knowledge and techniques for water management in buildings, including efficient water use, rainwater harvesting, greywater recycling, and sustainable stormwater management. 7. To introduce students to renewable energy sources, energy-efficient technologies, and their integration into architectural design for reduced energy consumption and increased renewable energy generation. 8. To familiarize students with sustainable materials selection based on life cycle analysis and understanding the environmental impact of materials used in construction. 9. To provide students with the tools and methodologies for conducting life cycle assessments and carbon footprint analyses to evaluate and minimize the environmental impacts of buildings. 10. To develop students' skills in adaptive reuse and retrofitting strategies to transform existing buildings into sustainable structures. 11. To explore biophilic design principles and their application in enhancing indoor environmental quality and occupant well-being. 12. To foster an understanding of the social equity, cultural sensitivity, and community engagement aspects of sustainable architectural design. 13. To develop students' knowledge and skills in designing resilient and disaster-resistant buildings that can withstand and mitigate the impacts of natural disasters and climate change. 14. To introduce students to the economic benefits and costs associated with sustainable architecture and develop strategies to overcome financial barriers. 15. To expose students to future trends, technologies, and innovations in sustainable architecture, including net-zero energy and carbon-neutral design principles. These module aims provide an overview of the goals and objectives of the curriculum on Sustainable Architecture, highlighting the key areas of knowledge and skills that students will acquire throughout the course.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	By the end of this module, students should be able to: 1. Understand the concept and significance of sustainable architecture and its role in addressing environmental challenges. 2. Identify and evaluate the environmental impacts associated with buildings and construction, and propose sustainable design strategies to mitigate them. 3. Apply passive design strategies to optimize natural lighting, ventilation, and thermal comfort in building design. 4. Assess the criteria and requirements of green building rating systems, and apply them

	to analyze and evaluate the sustainability performance of buildings. 5. Develop sustainable site planning and urban design strategies that minimize environmental impact and promote sustainable communities. 6. Design water management systems that optimize water efficiency, incorporate rainwater harvesting and greywater recycling, and adopt sustainable stormwater management practices. 7. Integrate renewable energy sources and energy-efficient technologies into architectural design to minimize energy consumption and promote renewable energy generation. 8. Select and specify sustainable materials based on life cycle analysis and understand their environmental impact. 9. Conduct life cycle assessments and carbon footprint analyses to evaluate and minimize the environmental impacts of buildings throughout their life cycle. 10. Implement adaptive reuse and retrofitting strategies to transform existing buildings into sustainable structures. 11. Apply biophilic design principles and strategies to enhance indoor environmental quality and occupant well-being. 12. Incorporate social equity, cultural sensitivity, and community engagement in sustainable architectural design. 13. Design resilient and disaster-resistant buildings that can withstand and mitigate the impacts of natural disasters and climate change. 14. Evaluate the economic benefits and costs associated with sustainable architecture and develop strategies to overcome financial barriers. 15. Explore and anticipate future trends, technologies, and innovations in sustainable architecture, including net-zero energy and carbon-neutral design principles. 16. Demonstrating effective communication and teamwork skills. These module learning outcomes will help guide the students' learning and ensure they acquire a comprehensive understanding of sustainable architecture, its principles, practices, and their application in real-world scenarios.
Indicative Contents المحتويات الإرشادية	The curriculum covers the fundamentals of sustainable architecture, including environmental considerations, passive design strategies, green building rating systems, sustainable site planning, water management, renewable energy integration, green materials and technologies, life cycle assessment, adaptive reuse, biophilic design, social and cultural aspects, resilient architecture, green building economics, and future trends. Students will learn about minimizing environmental impacts, optimizing resource efficiency, enhancing indoor environmental quality, and designing for climate resilience. The curriculum emphasizes the integration of sustainable principles, technologies, and strategies to create environmentally responsible and socially conscious architectural solutions for a more sustainable future.

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	Learning and Teaching Strategies for the curriculum on Sustainable Architecture: 1. Lectures: Traditional lectures will provide foundational knowledge and introduce key concepts, theories, and principles of sustainable architecture. Lectures can incorporate multimedia presentations, case studies, and real-world examples to enhance understanding. 2. Interactive Discussions: Facilitate group discussions to encourage critical thinking and deeper understanding of sustainable architecture topics. Students can engage in

	debates, analyze case studies, and share their perspectives on various sustainability issues. 3. Practical Exercises: Assign practical exercises such as design projects, simulations, and hands-on activities to allow students to apply sustainable design principles and strategies in real-world scenarios. This can include energy modeling, site analysis, material selection exercises, and sustainable building design exercises. 4. Site Visits and Field Trips: Organize site visits to sustainable buildings, green infrastructure projects, and eco-communities to provide students with practical exposure and firsthand experience of sustainable architectural practices. 5. Workshops and Seminars: Conduct workshops and seminars to delve deeper into specific topics or emerging trends in sustainable architecture. These sessions can involve hands-on activities, demonstrations, and collaborative problem-solving exercises. 6. Group Projects: Assign group projects that require students to work collaboratively to address sustainable design challenges. This fosters teamwork, research skills, and critical thinking while encouraging students to explore innovative sustainable solutions. 7. Research Assignments: Assign research assignments that require students to explore and analyze current research articles, case studies, and industry reports related to sustainable architecture. This promotes independent learning and exposes students to the latest advancements in the field. 8. Online Resources and Platforms: Utilize online resources, educational platforms, and learning management systems to provide supplementary materials, readings, interactive quizzes, and discussion forums for students to engage with the content outside of class. 9. Assessments: Design assessments that evaluate students' understanding of sustainable architecture concepts, their ability to apply sustainable design principles, and their critical thinking skills. This can include written assignments, presentations, design portfolios, and exams. By incorporating a variety of learning and teaching strategies, students can actively engage with the curriculum, develop practical skills, and gain a deeper understanding of sustainable architecture principles and practices.

Student Workload (SWL)

الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	42	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	1.13
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	Quizzes	2	15% (15)	3,10	1,2,3
	homework/classwork	5	10%(10)	3,5,7,9,11	1,2,3,4,5,6,7,8,9,10,11,15
	Report	1	10% (10)	10	1,2,3,4,5,6,7,8,9,10,11,12, 13,14,15,16
	Discussions& Analysis team's work	1	5% (5)	12,13	2,4,5,7,8,13,15,16
Summative assessment	Midterm Exam	1 hr	10% (10)	8	1,2,3,4,5,7,14,15
	Final Exam	3 hr	50% (50)	16	1,2,3,4,5,6,7,8,9,10,11,12, 13,14,15
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

	Material Covered
	This curriculum provides a comprehensive overview of sustainable architecture, covering various aspects such as environmental considerations, passive design strategies, green building rating systems, renewable energy integration, and more. It also explores social, cultural, and economic aspects, as well as future trends in the field.
Week 1	Lecture 1: Introduction to Sustainable Architecture • Defining sustainable architecture and its importance in the modern world • Principles and objectives of sustainable design • Historical context and evolution of sustainable architecture
Week 2	Lecture 2: Environmental Considerations in Architecture

	• Environmental impacts of buildings and construction • Energy efficiency and conservation strategies in architecture • Sustainable materials selection and waste management
Week 3	Lecture 3: Passive Design Strategies • Harnessing natural light and ventilation in building design • Thermal comfort and passive heating/cooling techniques • Integration of natural elements and landscape in architectural design
Week 4	Lecture 4: Green Building Rating Systems • Overview of major green building certification programs (e.g., LEED, BREEAM) • Understanding rating criteria and sustainable building performance metrics • Case studies of exemplary green buildings
Week 5	Lecture 5: Sustainable Site Planning and Urban Design • Site selection and analysis for sustainable development • Strategies for minimizing environmental impact and preserving ecosystems • Designing walkable and transit-oriented communities
Week 6	Lecture 6: Water Management in Sustainable Architecture • Efficient water use and conservation in buildings • Rainwater harvesting and greywater recycling systems • Sustainable stormwater management practices
Week 7	Lecture 7: Renewable Energy Integration • Introduction to renewable energy sources (solar, wind, geothermal, etc.) • Designing buildings for renewable energy generation and utilization • Integration of energy-efficient technologies and smart systems
Week 8	Lecture 8: Green Materials and Technologies • Exploring sustainable building materials and their life cycle analysis • Energy-efficient building envelopes and insulation systems • Advancements in green technologies for sustainable architecture
Week 9	9. Lecture 9: Life Cycle Assessment and Carbon Footprint Analysis • Understanding life cycle assessment (LCA) methodology • Evaluating environmental impacts throughout a building's life cycle • Assessing carbon footprints and carbon-neutral design strategies
Week 10	Lecture 10: Adaptive Reuse and Retrofitting • Transforming existing buildings into sustainable structures

	• Strategies for adaptive reuse and historic preservation • Energy-efficient retrofits and building performance improvements
Week 11	Lecture 11: Biophilic Design and Indoor Environmental Quality • Enhancing human well-being through connection with nature • Incorporating biophilic design principles in architecture • Indoor air quality, acoustics, and occupant comfort considerations
Week 12	Lecture 12: Social and Cultural Aspects of Sustainable Architecture • Sustainable design for social equity and inclusivity • Cultural sensitivity in architectural projects • Community engagement and participatory design approaches
Week 13	Lecture 13: Resilient and Disaster-Resistant Architecture • Designing for climate change adaptation and resilience • Strategies for mitigating natural disasters' impact on buildings • Case studies of resilient architecture in different regions
Week 14	Lecture 14: Green Building Economics and Cost Analysis • Evaluating the economic benefits of sustainable design • Life cycle cost analysis and return on investment considerations • Overcoming financial barriers and promoting sustainable practices
Week 15	Lecture 15: Future Trends in Sustainable Architecture • Emerging technologies and innovations in sustainable architecture • Net-zero energy and carbon-neutral building design • Designing for circular economy principles and regenerative architecture
Week 16	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	Textbooks and Reference Materials: 1. "Sustainable Architecture: Principles, Paradigms, and Case Studies" by David Gissen 2. "Green Building: Principles and Practices in Residential Construction" by Abe Kruger and Carl Seville 3. "The Green Studio Handbook: Environmental Strategies for Schematic Design" by Alison G. Kwok and Walter T. Grondzik 4. "Sustainable Construction: Green Building Design and Delivery" by Charles Kibert	No
Recommended Texts	"Sustainable Architecture: Principles, Paradigms, and Case Studies" by David Gissen "Green Building: Principles and Practices in Residential Construction" by Abe Kruger and Carl Seville	No
Websites	• United States Green Building Council (USGBC) website • World Green Building Council (WorldGBC) website • Sustainable Architecture and Building Magazine (SABMag) online resources • Sustainable Buildings Research Centre (SBRC) website	

Grading Scheme

مخطط الدرجات

Group	Grade	التقدير	Marks (%)	Definition
Success Group (50 - 100)	**A -** Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
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	D - Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E - Sufficient	مقبول	50 - 59	Work meets minimum criteria

Fail Group **(0 – 49)**	**FX –** Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
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Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

نموذج وصف المادة الدراسية

Module Information معلومات المادة الدراسية					
Module Title	Architectural Details			**Module Delivery**	
Module Type	E			☐ **Theory**	
Module Code	ARC526			☒ **Lecture**	
ECTS Credits	3			☐ **Lab**	
SWL (hr/sem)	75			☒ **Tutorial** ☒ **Practical** ☐ **Seminar**	
Module Level	UGV		**Semester of Delivery**	9	
Administering Department	ARC		**College**	COE	
Module Leader	Dr. Omar H. kharofa		**e-mail**	Omar.kharufa@uomosul.edu.iq	
Module Leader's Acad. Title	Ass.prof		**Module Leader's Qualification**		
Module Tutor	Mr. Talaat I. M. Alaane		**e-mail**	Talaat.alaane@uomosul.edu.iq	
Peer Reviewer Name	Name		**e-mail**	E-mail	
Scientific Committee Approval Date			**Version Number**	1.0	

Relation with other Modules العلاقة مع المواد الدراسية الأخرى			
Prerequisite module	non	**Semester**	
Co-requisites module	non	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents أهداف المادة الدراسية ونتائج التعلم والمحتويات الإرشادية	
Module Aims أهداف المادة الدراسية	-Teaching the student to design architectural details that have a functional characteristic and how to deal with problems that appear in parts of the building, such as (moisture leakage, heat transfer inside the building, or passive acoustic transfer), and how to deal with them as part of the building's architectural design. - Teaching the student to design and modify architectural details that have structural and structural characteristics and how to deal with problems that appear in parts of a structural building, such as (expansion joints and structural movements in the general structure of the building and the foundations of buildings... etc.) and how to deal with such details in designing The building is architecturally and structurally as an integrated unit.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	The ability to create and design integrated architectural details of the building with engineering quality through the interpretation of the studied information at all detailed levels (functional, structural, aesthetic) to reach scientific results of high engineering quality.
Indicative Contents المحتويات الإرشادية	

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ اسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	33	**Structured SWL (h/w)** الحمل الدراسي المنتظم للطالب أسبوعيا	2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	42	**Unstructured SWL (h/w)** الحمل الدراسي غير المنتظم للطالب أسبوعيا	2.4
Total SWL (h/sem) الحمل الدراسي الكلي للطالب خلال الفصل	75		

Module Evaluation

تقييم المادة الدراسية

		Time/Number	Weight (Marks)	Week Due	Relevant Learning Outcome
Formative assessment	**Report**	1	5% (5)	1,2	LO #1, 5
Summative assessment	**Midterm Exam (Day Sketch)**	2 hr	15% (15)	5	LO # 1-5
	Final Exam (Day Sketch)	3 hr	15% (15)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)

المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	An introduction to what architectural details are and how to deal with them through architectural building compositions.
Week 2	Study the difference between schematic designs and detailed designs through detailed drawings of some parts of the building(1)
Week 3	Study the difference between schematic designs and detailed designs through detailed drawings of some parts of the building(2)
Week 4	An introduction to the architectural details with functional structure in different types of buildings and how they work in detail.
Week 5	Study and draw the architectural details related to treating moisture leakage in the building structure and its standard details.
Week 6	Drawing the architectural details for moisture intrusion treatment and its standard details.
Week 7	Study and draw the architectural details of thermal insulation in building parts and their standard details.

Week 8	Drawing the architectural details for thermal insulation treatment and its standard details.
Week 9	Learn the architectural details of sound insulation treatment in two parts, the first pertaining to the building's outer shell and the second pertaining to the interior walls and ceilings and their standard details.
Week 10	Drawing the architectural details for sound insulation treatment and its standard details.
Week 11	Term Exam
Week 12	Study and explore architectural details with aesthetic features, whether for the outside of the building or inside the building, and how to deal with their types.
Week 13	Drawing architectural details with aesthetic features for the outside of the building.
Week 14	Drawing architectural details with special aesthetic features inside the building.
Week 15	An integrated and comprehensive review of all architectural details (drawing and design.(
Week 16	Supporting details for Architectural systems (building systems –Engineering services- Function)

Delivery Plan (Weekly Lab. Syllabus) المنهاج الاسبوعي للمختبر	
Week	**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	1-Architectural Detailing - Function, Constructability, Aesthetics , Publication date 2021 Topics Architectural drawing – Detailing Publisher New York : Wiley , USA.	

	2-Working Drawings Handbook , Keith Styles, Andrew Bichard , SBN 9780750663724 Published September 4, 2004 by Routledge , UK , 2004 3-Architectural Working Drawings: Residential and Commercial Buildings , William P. Spence , John Wiley & Sons , USA , 2000	
Recommended Texts		
Websites		

Grading Scheme

مخطط الدرجات

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

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