وزارة التعليم العالي والبحث العلمي
جهاز الإشراف والتقويم العلمي
دائرة ضمان الجودة والاعتماد الأكاديمي
قسم الاعتماد

وصف البرنامج الأكاديمي والمقرر الدراسي

وصف البرنامج الأكاديمي

اسم الجامعة: جامعة الموصل

الكلية/ المعهد: كلية الهندسة

القسم العلمي: قسم الهندسة المعمارية

اسم البرنامج الأكاديمي او المهني: بكالوريوس / هندسة عمارة

اسم الشهادة النهائية: بكالوريوس علوم في الهندسة المعمارية

النظام الدراسي: بولونيا –فصلي– مقررات

تاريخ اعداد الوصف: **20/3/2024**

تاريخ ملء الملف: **20/3/2024**

التوقيع:

اسم رئيس القسم: أ.م.د. عمر خروفة

التاريخ: 20/3/2024

التوقيع:

اسم المعاون العلمي:أ.م.د. ايمن طالب حميد

التاريخ:

دقق الملف من قبل د. عبد الرحمن هاني طه

شعبة ضمان الجودة والأداء الجامعي

اسم مدير شعبة ضمان الجودة والأداء الجامعي:

التاريخ

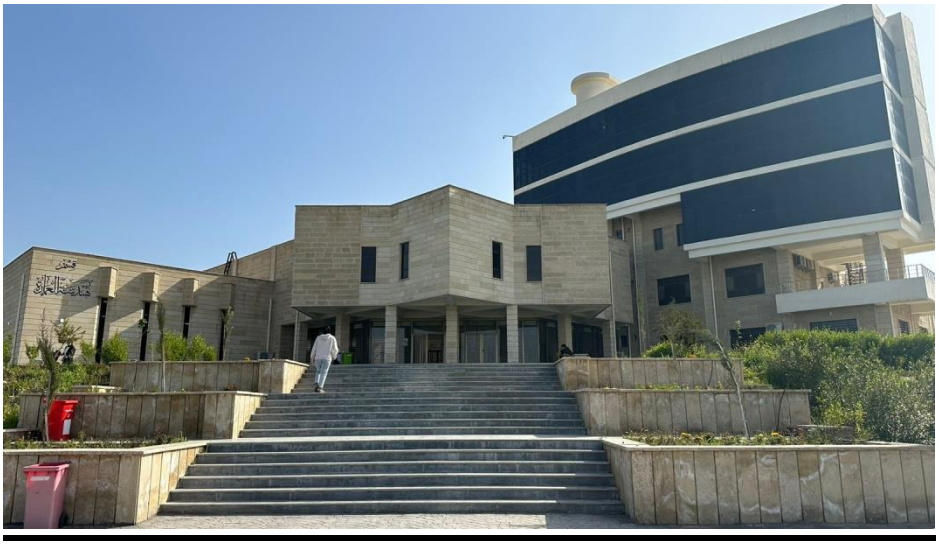
التوقيع

مصادقة السيد العميد

جامعة الموصل
كلية الهندسة

First Cycle – bachelor's degree (B.Sc.) – Architectural Engineering

بكالوريوس – هندسة العمارة



البرنامج الاكاديمي (مسار بولونيا / المرحلة الاولى)

2024 – 2023

Republic of Iraq - Ministry of Higher Education and Scientific Research

University of Mosul

Bachelor's degree in Architectural Engineering (First cycle)

Five years (Ten semesters) - 300 ECTS - Each 1 ECTS = 25 hr

Program Curriculum (2023 - 2024)

جمهورية العراق - وزارة التعليم العالي والبحث العلمي

جامعة الموصل

بكالوريوس في هندسة العمارة (الدورة الأولى)

خمس سنوات (عشرة فصول دراسية) - 300 وحدة اورية - كل وحدة اورية = ٢٥ ساعة

المنهاج الدراسي للعام 2023-2024

Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequis
							CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)							
UGI	One	1	ARC 111	Architecture Design and Graphic (1)	التصميم والرسم المعماري (1)	English	2			6			3	123	177	300	12.00	C	
		2	ARC 112	Descriptive geometry & Engineering Drawing	الهندسة الوصفية والرسم الهندسي	English	1			3			3	63	87	150	6.00	S	
		3	ARC 113	Art & Architecture	الفن والعمارة	English	2						3	33	67	100	4.00	C	
		4	ARC 114	Arabic Language	اللغة العربية	Arabic	2						2	32	18	50	2.00	E	
		5	ARC 115	Mathematics (1)	الرياضيات (1)	English	2	2			1		3	78	22	100	4.00	B	
		6	ARC 116	Democracy & Human Rights	الديمقراطية و حقوق الانسان	Arabic	2						2	32	18	50	2.00	E	
						Total	11	2	0	9	1	0	16	361	389	750	30.00		

Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequis
							CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)							
UGI	Two	1	ARC 121	Architecture Design and Graphic (2)	التصميم والرسم المعماري (2)	English	2			6			3	123	177	300	12.00	C	
		2	ARC 122	Free Hand Drawing (1)	الرسم اليدوي الحر (1)	English	1			3			3	63	62	125	5.00	S	
		3	ARC 123	Construction and Building Materials	الانشاء ومواد البناء	English	2			1			3	48	52	100	4.00	C	
		4	ARC 124	computer literacy	اساسيات الحاسوب	English	2						3	33	42	75	3.00	E	
		5	ARC 125	Mathematics (2)	الرياضيات (2)	English	2	2			1		3	78	22	100	4.00	B	
		6	ARC 126	English - Beginners	الانكليزية - المبتدئين	English	2						2	32	18	50	2.00	E	
						Total	11	2	0	10	1	0	17	377	373	750	30.00		

Level	Semester	No.	Module Code	Module Name in English	اسم المادة الدراسية	Language	SSWL (hr/w)						Exam hr/sem	SSWL hr/sem	USSWL hr/sem	SWL hr/sem	ECTS	Module Type	Prerequis
							CL (hr/w)	Lect (hr/w)	Lab (hr/w)	Pr (hr/w)	Tut (hr/w)	Semn (hr/w)							

اهداف البرنامج الاكاديمي	
المؤسسة التعليمية	**كلية الهندسة / جامعة الموصل**
القسم الجامعي / المركز	**قسم هندسة العمارة**
برنامج الاعتماد	**مسار بولونيا Bologna Process**

- إعداد كوادر مؤهلة علمياً ومهنياً وتربوياً في مختلف المجالات المعرفية وفقاً لمعايير جودة عالية.
- تعزيز البحث العلمي في العلوم النظرية والتطبيقية، مع تشجيع المبادرات المرتبطة ببرامج التنمية، والحرص على مواكبة التطورات العلمية العالمية والتخطيط للمستقبل.
- التطوير المستمر للمناهج الدراسية في المرحلتين الجامعية والدراسات العليا، بما يتناسب مع المستجدات العلمية والمنهجية والتقنية الحديثة.
- المشاركة في خدمة المجتمع من خلال التفاعل المستمر مع مؤسسات الدولة وتقديم الاستشارات العلمية، وتعزيز برامج التعليم المستمر.
- ربط العمارة بالتخصصات الهندسية الأخرى وتنمية العلاقات معها، باعتبارها جزءاً أساسياً من نهضة المجتمع.
- التأكيد على دور هندسة العمارة في بناء المجتمع وتحسين البيئة التي يعيش فيها الناس.
- إعداد خريجين معماريين وفق قواعد علمية تمكنهم من ممارسة المهنة بكفاءة في التصميم المعماري والحضري وتخطيط المدن والفضاءات الداخلية والخارجية، إلى جانب الحفاظ على التراث والآثار وفق الأساليب العلمية.
- تنفيذ برامج عملية واضحة تهتم بتكنولوجيا الاستدامة ومعايير الجمال المعماري، مع مواكبة التطور في الدول المتقدمة من خلال توفير برنامج تعليمي معماري يعتمد على التقنيات الحديثة في المجالات الهندسية والفنية.
- التركيز على جودة العملية التعليمية في العمارة من خلال اختيار مناهج دراسية متخصصة وحديثة باستمرار، وإنجاز تقارير التقييم الذاتي بهدف الحصول على الاعتماد الأكاديمي.
- تمكين الكوادر التدريسية في قسم هندسة العمارة من خلال زيادة نسبة حملة شهادات الدكتوراه مقارنة بحملة الماجستير.
- الاهتمام بالبحوث العلمية التطبيقية وتصميم المشاريع التطبيقية لتعزيز الشراكات والعلاقات مع المؤسسات والجامعات المرموقة.
- تطوير مهارات الخريجين من خلال توفير دورات التعليم المستمر التخصصية والحفاظ على التواصل معهم بما يعزز تحقيق رسالة القسم.

مخرجات التعلم المتوقعة للبرنامج

المعرفة

1أ. تشمل مبادئ العلوم الأساسية والتطبيقية والهندسية الضرورية لتقديم تخصص هندسة العمارة، مثل الرياضيات والهندسة المجسمة والفيزياء والرسم الهندسي والإحصاء والتقنيات الحاسوبية والأتمتة.

2أ. تغطي علوم هندسة العمارة التخصصية جوانب متنوعة من التصميم المعماري والتنفيذ والإنشاء والرسوم التنفيذية والرسم المعماري والحر، بالإضافة إلى التصميم الداخلي وتصميم الفضاءات الخارجية والتصميم الحضري وتخطيط المدن. تهتم هندسة العمارة بالعديد من الجوانب وتتفاعل مع العديد من العلوم وتساهم في تطبيقات مهمة في الحياة اليومية.

3أ . الأهداف المهنية والأسس المساندة: تشمل المهارات الداعمة للتطبيق ضمن أطر نظرية، مثل كتابة التقارير والبحوث، بالإضافة إلى المعرفة بالمحددات الاقتصادية والقانونية والصحية والاجتماعية والأمنية.

المهارات

1ب . مهارات التصميم: اكتساب القدرة على إنشاء تصاميم معمارية مبتكرة ومستدامة، بما في ذلك التصميم الداخلي وتصميم الفضاءات الخارجية والحضرية.

2ب. مهارات البحث والتحليل: تطوير مهارات البحث وجمع المعلومات وتحليلها لتطبيقها في مشاريع التصميم، بما في ذلك الاعتبارات البيئية والاقتصادية والاجتماعية.

3.ب. مهارات التواصل والتعاون: تعزيز مهارات التواصل الفعّال والعمل الجماعي مع زملاء الدراسة والمتخصصين في مجالات متعددة، بما في ذلك كتابة التقارير وعرض الأفكار بشكل واضح ومقنع.

القيم

ج1 الإبداع والابتكار: تعزيز قيم الإبداع والابتكار في عملية التصميم والبحث، مما يسهم في تطوير حلول معمارية مبتكرة ومستدامة.

ج2 المسؤولية الاجتماعية والبيئية: تعزيز الوعي بالمسؤولية الاجتماعية والبيئية للمهندس المعماري، وضمان تطبيق مبادئ التنمية المستدامة في مشاريع التصميم والبناء.

Academic Program Objectives	
Faculty/Institute	**University of Mosul / College of Engineering**
Scientific Department	**Architecture Engineering Department**
Academic System	**Bologna Process**

- Preparing qualified cadres in various fields of knowledge in accordance with high quality standards.
- - Promoting scientific research in theoretical and applied sciences, encouraging initiatives related to development programmed and ensuring that global scientific developments are kept abreast and planning.
- - Continuous development of the curriculum at the undergraduate and postgraduate levels, commensurate with recent scientific, methodological, and technical developments.
- - Participation in the service of the community through continuous interaction with state institutions and the provision of scientific consultations and the promotion of continuing education programmed.
- - Linking architecture to other engineering disciplines and developing relations with them, as an essential part of society's renaissance.
- - Emphasizing the role of architecture in building society and improving people's environment.
- - Preparation of architectural graduates in accordance with scientific rules to enable them to practice the profession efficiently in architectural and urban design and planning of cities and indoor and outdoor spaces, as well as preservation of heritage and monuments according to scientific methods.
- - Implementation of clear practical programmed on sustainability technology and standards of architectural beauty, while keeping pace with the development in the developed countries by providing an architectural educational programmed based on modern techniques in the engineering and technical fields.
- - Focus on the quality of the architecture's educational process through the selection of specialized and continuously modern curricula and the completion of self-assessment reports with a view to obtaining academic accreditation.
- - Empowering teaching staff in the Department of Architecture Engineering by increasing the proportion of doctoral holders compared to the master's campaign.
- - Interest in applied scientific research and design of applied projects to strengthen partnerships and relationships with prestigious institutions and universities.
- - Developing graduate skills by providing specialized continuing education courses and maintaining communication with them to enhance the achievement of the department's

mission.

Expected learning outcomes of the program

Knowledge

A1- The basic, applied and engineering science principles necessary to provide architecture specialization, such as mathematics, stereotyping, physics, engineering drawing, statistics, computer techniques and automation.
A2. Specialized architecture sciences cover various aspects of architectural design, implementation, construction, executive drawings, architectural and free drawing, as well as interior design, outdoor space design, urban design, and city planning. Architecture is concerned with many aspects and interacts with many sciences and contributes to important applications in everyday life.
A3. Professional objectives and supporting foundations: Supporting skills include application within theoretical frameworks, such as reporting and research, as well as knowledge of economic, legal, health, social and security determinants.

Skills

1b. Design skills: Capability to create innovative and sustainable architectural designs, including interior design and design of outdoor and urban spaces.
2b. Research and analysis skills: developing research and information collection and analysis skills for application in design projects, including environmental, economic, and social considerations.
3.b. Communication and collaboration skills: Enhance effective communication and teamwork skills with classmates and specialists in multiple areas, including writing reports and presenting ideas clearly and convincingly.

Ethics

C1 Creativity and Innovation: Enhancing the values of creativity and innovation in the design and research process, contributing to the development of innovative and sustainable architectural solutions.
C2 Social and environmental responsibility: Promote awareness of the architect's social and environmental responsibility and ensure the application of sustainable development principles in design and construction projects.

مخرجات التعليم المطلوبة من البرنامج

رمز المقرر	اسم المقرر	اساسي ام اختياري	الساعات المعتمدة		مخرجات التعليم المطلوبة من البرنامج							
			نظري	عملي	المعرفة			المهارات			القيم	
ARC111	التصميم والرسم المعماري(1)	اجباري	**2**	**6**	√	√	√	√	√	√	√	√
ARC112	الهندسة الوصفية والرسم الهندسي	اجباري	**1**	**3**	√	√	√	√	√	√	√	√
ARC113	الفن والعمارة	اجباري	**2**		√	√	√	√	√	√	√	√
ARC114	اللغة العربية	اجباري	**2**		√	√	√	√	√	√	√	√
ARC115	الرياضيات 1	اجباري	**2**	**2**	√	√	√	√	√	√	√	√
ARC116	الديمقراطية وحقوق الانسان	اجباري	**2**		√	√	√	√	√	√	√	√
ARC121	التصميم والرسم المعماري(1)	اجباري	**2**	**6**	√	√	√	√	√	√	√	√
ARC122	الرسم اليدوي الحر	اجباري	**1**	**3**	√	√	√	√	√	√	√	√
ARC123	الانشاء ومواد البناء	اجباري	**2**	**1**	√	√	√	√	√	√	√	√
ARC124	أساسيات الحاسوب	اجباري		**2**	√	√	√	√	√	√	√	√
ARC125	الرياضيات 2	اجباري	**2**	**2**	√	√	√	√	√	√	√	√
ARC126	الإنكليزية للمبتدئين	اجباري		**2**	√	√	√	√	√	√	√	√

نموذج وصف المادة الدراسية MODULE DESCRIPTION FORM
المرحلة الاولى / التصميم والرسم المعماري (1)

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 Al-Fakhry		e-mail	ahmed.alfakhry@uomosul.edu.iq	
Module Leader's Acad. Title	Assist. Prof		Module Leader's Qualification	M.Sc	
Module Tutor	OMAR ADIL SABAH ALHIALY		e-mail	omar.sabah@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	

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	• 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. • Achieve a comprehensive understanding of Architecture Design and Graphic as an idea and its application in the context of architecture. • 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. • 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. • Explore a range of Architecture Design and Graphic

	• Open new horizons for students to explore architectural ideas. • 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 • 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. • Inform students – by practice – about: • Architectural elements (point, line, plane, & volume) and elements of design (line, • direction, shape, size, texture, value, & color) to achieve Unity in design according to • design principles. • The concepts of mass & space in architectural design • Influence of structural principles on architectural composition • Influence of human scale and functions on architectural design • Local identity in architecture
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	• Identify the concept of Design and Graphic and its role in Architecture. • Understanding the relationship between Architecture Design, Graphic and art in architecture and ways to develop it. • Familiarizing students with Architecture Design and Graphic form. • Studying l architectural projects and their use of Architecture Design and Graphic. • Encouraging exploration of architectural ideas and Architecture Design and Graphic development. • Enhancing student roles through report presentations and discussions. • Linking academic theories with practical applications and providing hands-on exercises. • Encouraging active learning and collaborative work among students. • Effective communication with Architecture Design and Graphic. • Functioning effectively as a team member, providing leadership, collaboration, and goal achievement. • Encouraging active learning Architecture Design and Graphic and collaboration through group presentations showcasing students' skills and collective work. • Acquiring and applying new knowledge using Architecture Design and Graphic learning strategies. • 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**	• Graphic and the concept of advanced Architecture Design and its relationship to architecture. • The most important elements and principles of advanced Architecture Design and Graphic and their applications in contemporary global projects. • The important elements and principles of advanced Architecture Design and Graphic and its significant classifications. • Important elements and principles of advanced Architecture Design and Graphic materials and their applications in global projects. • Elements and principles of advanced Architecture Design and Graphic, with international examples.
Learning and Teaching Strategies **استراتيجيات التعلم والتعليم**	

Strategies	• Encouraging students' active participation through pre-lecture readings and class discussions about the important elements and principles of advanced Architecture Design and Graphic. • 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

As		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

Gg	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 graphics. 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	Collage.
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

Week	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	Bedrooms, 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
المرحلة الاولى / الهندسة الوصفية والرسم الهندسي

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	• Descriptive Geometry provides training of the students' intellectual capability of space perception and spatial reasoning. • Training the student's mind to visualize imaginary objects and represent them. • 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	• Remember and understand the most ways to draw different shapes. • Comparing the different methods of drawing. • Describe different ways that are used for drawing the same object. • Naming and describing the different scales. • Carrying out the final 2d and 3d drawing of any project. • The use of different architectural drawing tools. • Benefit from the ways of drawing in engineering and architectural work after graduation.
Indicative Contents المحتويات الإرشادية	• Indicative content includes the following. • Introducing the engineering drawing subject. • How to draw different shapes. • How to draw 3d models. • How to draw projection.

rning 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 homework.

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	**93**	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	4
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	**57**	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	4.1
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	1	10% (10)	5	
	Projects / Lab. Class work	**12**	15% (10)	1,3,7,10,12, 14	
	Projects / Homework	**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	Midterm exam
Week 6	Auxiliary Views. Defining principal 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

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
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

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 tion.	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
المرحلة الاولى / الفن والعمارة

Module Information معلومات المادة الدراسية					
Module Title	**Art & Architecture**			Module Delivery	
Module Type	C			☒ Theory ☒ Lecture ☐ Lab ☐ Tutorial ☐Practical ☒ Seminar	
Module Code	ARC 113				
ECTS Credits	**4**				
SWL (hr/sem)	**100**				
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	• 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. • Elements of Design: The aim of this module is to introduce students to the fundamental elements of design and how they apply it to both art and architecture. Students will develop an understanding of how these elements contribute to the aesthetics and functionality of architectural design. • 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. • 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. • 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 the scale in their designs to achieve desired effects.

	• Architectural composition, types of geometric forms' connections, articulation of forms and corners and their application in art and architecture • Architectural trends and movements in art and architecture, (art nouveau, cubism). • 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. • 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. • into how technology is shaping the future of architecture and 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. • 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. • 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. • 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 into challenges and opportunities it presents.
Module Learning Outcomes **مخرجات التعلم للمادة الدراسية**	• Introduction to Art and Architecture: • Understand the relationship between art and architecture. • Use key concepts and terminology related to art and architecture. • Historical Architectural Styles: • Differentiate between major architectural styles throughout history. • Analyze the characteristics and influences of various architectural styles. • Elements of Design: • Apply design principles to create aesthetically pleasing and functional architectural designs. • Drawing and Visualization: • Communicate design ideas effectively through drawings and visualizations. • Space and Scale: • Manipulate spatial qualities and scale in architectural design. • Materials and Construction: • Evaluate construction materials used in architecture. • Make informed material choices for architectural applications. • Sustainable Design and Green Architecture: • Incorporate sustainable design principles and practices in architectural design. • Apply environmentally friendly materials and energy-efficient strategies. • Interior Design: • Apply principles of interior design within architectural spaces. • Landscape Design and Site Planning: • Integrate buildings with the surrounding environment through landscape design. • Architectural Representation: • Present architectural designs effectively using appropriate representation methods. • 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

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**	**67**	Unstructured SWL (h/w) **الحمل الدراسي غير المنتظم للطالب أسبوعيا**	4.7
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 #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 (identical , 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

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) 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)	No
Wbsites	• The Artstor Digital Library (www.artstor.org) for high-quality images of artworks, architectural drawing • s, 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
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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
المرحلة الاولى / اللغة العربية

Module Information معلومات المادة الدراسية					
Module Title	**Arabic Language**			Module Delivery	
Module Type	E			☒ Theory ☒ Lecture ☐ Lab ☐ Tutorial ☐Practical ☒ Seminar	
Module Code	ARC 114				
ECTS Credits	**2**				
SWL (hr/sem)	**50**				
Module Level	UGI	Semester of Delivery	1		
Administering Department	ARC	College	COE		
Module Leader	Nedhal Al Jarjary	e-mail			
Module Leader's Acad. Title	Assist. Lecturer	Module Leader's Qualification	MSc.		
Module Tutor		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		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 define students of the importance of Arabic in the university study by s 'discussing several vocabularies and concepts used in university teaching within the bachelor phase to raise awareness of the importance of using the correct language rules in writing reports and lectures.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	تعريف الطلاب بأهمية اللغة تعريف الطلاب بأهمية اللغة مدخل عام نظري استرجاعي لتقسيمات اللغة العربية مدخل عام نظري استرجاعي لتقسيمات اللغة العربية التعريف بمكونات الجملة وتقسيم الكلام تعريف الطلاب بأهمية اللغة عرض أنواع الجمل في اللغة العربية والتنبيه على الأساليب الإنشائية عرض أنواع الجمل في اللغة العربية والتنبيه على الأساليب الإنشائية البدء بمعمار النحو العربي وكيف تنشأ النصوص مع عرض إشكالية اللفظ والمعنى البدء بمعمار النحو العربي وكيف تنشأ النصوص مع عرض إشكالية اللفظ والمعنى الانطلاق غلى الحديث عن الشكل والمضمون اعتمادا على الثنائية الضدية المستقاة من فلسفة الواقع الانطلاق غلى الحديث عن الشكل والمضمون اعتمادا على الثنائية الضدية المستقاة من فلسفة الواقع مدخل لدراسة الشعر وعرض بعض آلياته

	مدخل لدراسة الشعر وعرض بعض آلياته
Indicative Contents **المحتويات الإرشادية**	

Learning and Teaching Strategies
استراتيجيات التعلم والتعليم

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

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**	**67**	Unstructured SWL (h/w) **الحمل الدراسي غير المنتظم للطالب أسبوعيا**	4.7
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)	4, 13	LO #3, 4, 5, and 6
	Assignments	4	10% (10)	4, 13	LO #3, 4, 5, and 6
	Projects / Lab.				
	Exam				
Summative assessment	Midterm Exam	1 hr	10% (10)	8	1,2,3,4,6,14
	Final Exam	3 hr	70% (70)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)
المنهاج الاسبوعي النظري

Week	Material Covered
Week 1	**التعريف بالمصطلحات الأدبية كالإيقاع والعروض ووحدة البيت الشعري ووحدة القصيدة العربية ونظامها العمودي.**
Week 2	**التعريف بالمصطلحات الأدبية كالإيقاع والعروض ووحدة البيت الشعري ووحدة القصيدة العربية ونظامها العمودي**
Week 3	**نماذج أدبية**
Week 4	**نماذج أدبية**
Week 5	**تجاوز نظام الشعر العمودي الى الشعر الحر وعرض فكرة التحول وربطها مع نظام البناء القديم والحديث من خلال مصطلحي الكلاسيكي والحداثوي**
Week 6	**تجاوز نظام الشعر العمودي الى الشعر الحر وعرض فكرة التحول وربطها مع نظام البناء القديم والحديث من خلال مصطلحي الكلاسيكي والحداثوي**
Week 7	**سيمياء العنوان وعده مدخلا مهما في نقد التصاميم المعمارية**
Week 8	Mid Term Exam
Week 9	**عرض التكرار بوصفه آلية من آليات بناء النص الأدبي**
Week 10	**عرض التكرار بوصفه آلية من آليات بناء النص الأدبي**
Week 11	**التمييز بين مصطلحي التكرار والتوازي وبيان دور التوازي في بناء النص**
Week 12	**التمييز بين مصطلحي التكرار والتوازي وبيان دور التوازي في بناء النص**
Week 13	**السخرية والتهكم مفهومان أدبيان وكيف يدخلان في الفن المعماري نقدا وتلقيا**

Week 14	السخرية والتهكم مفهومان أدبيان وكيف يدخلان في الفن المعماري نقدا وتلقيا
Week 15	مفهوم المتلقي من نظرية الاستقبال لياكومبسن
Week 16	Final Exam

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
المرحلة الاولى / الرياضيات (1)

Module Information معلومات المادة الدراسية					
Module Title	**Mathematics (1)**			Module Delivery	
Module Type	B			☒ Theory ☐ Lecture ☐ Lab ☒ Tutorial ☐ Practical ☐ Seminar	
Module Code	ARC 115				
ECTS Credits	4.0				
SWL (hr/sem)	100				
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	• Provide the fundamental concepts for elementary mathematics. • Use mathematical functions like trigonometric functions and application of derivatives to solve some Engineering problems.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	• At the end of this course, students will have gained knowledge of the Basic 2D Curves drawing using shifting properties. • Understanding the concepts of limits and continuity. • Being able to apply the differentiation to solve Engineering problems. • Learning how to use the power, product, quotient and chain rule to differentiate algebraic trigonometric functions. • Recognizing different types of matrices and their properties. • 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 assessment	Quizzes	4	30% (30)	4,7,10and15	LO #1, 2,3 and 4
	Assignments	5	10% (10)	3,9,11,13, and14	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.

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 (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
المرحلة الاولى / الديمقراطية و حقوق الانسان

Module Information معلومات المادة الدراسية					
Module Title	**Democracy and Human Rights**			Module Delivery	
Module Type	E			☒ Theory ☐ Lecture ☐ Lab ☐ Tutorial ☐ Practical ☐ Seminar	
Module Code	ARC 116				
ECTS Credits	**2**				
SWL (hr/sem)	**50**				
Module Level		UGI	Semester of Delivery		1
Administering Department		ARC	College		COE
Module Leader	Shatha jajan		e-mail		
Module Leader's Acad. Title		Assistant lecturer	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	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: • Understand the concept of human rights and explore their sources, including international, regional, national, and religious sources. • 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. • Trace the historical development and evolution of human rights, examining key milestones and movements that have shaped the modern understanding of human rights. • Differentiate between different categories of human rights, including civil and political rights, economic and social rights, and environmental, cultural, and developmental rights. • Explore legal, institutional, and societal guarantees to prevent human rights violations, including guarantees of human rights in Islam, national-level protections, and international safeguards. • 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: • Demonstrate a comprehensive understanding of the concept of human rights and their sources, including international, regional, national, and religious sources. • Identify and explain the fundamental characteristics of human rights, such as universality, indivisibility, interdependence, and inalienability. • Analyze the historical emergence and evolution of human rights, including key milestones and movements that have shaped their development. • Differentiate between different categories of human rights, including civil and political rights, economic and social rights, and environmental, cultural, and developmental rights. • 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. • Understand and discuss the concept of democracy, including its principles, values, and different forms of democratic governance. • Evaluate the Islamic stance on democracy and engage in critical analysis of the strengths and weaknesses of the democratic system. • Recognize and assess the impact of administrative corruption on society and propose methods to combat and prevent corruption in administrative systems. • Demonstrate critical thinking skills by analyzing and evaluating different perspectives on human rights, democracy, and corruption. • 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: • 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. • 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. • Research Projects: Assign research projects on specific human rights topics or

	issues. This encourages independent learning, critical analysis, and the development of research skills. • Collaborative Learning: Foster collaboration among students through group projects or assignments. This encourages teamwork, peer learning, and the exchange of diverse perspectives. • 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**			
Structured SWL (h/sem) **الحمل الدراسي المنتظم للطالب خلال الفصل**	**32**	Structured SWL (h/w) **الحمل الدراسي المنتظم للطالب أسبوعيا**	2.3
Unstructured SWL (h/sem) **الحمل الدراسي غير المنتظم للطالب خلال الفصل**	**18**	Unstructured SWL (h/w) **الحمل الدراسي غير المنتظم للطالب أسبوعيا**	1.2
Total SWL (h/sem) **الحمل الدراسي الكلي للطالب خلال الفصل**			

odule 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

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
	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
المرحلة الاولى / التصميم والرسم المعماري (2)

Module Information معلومات المادة الدراسية					
Module Title	**Architectural Design& Graphic (2)**			Module Delivery	
Module Type	Core			☒ Theory ☒ Lecture ☐ Lab ☒ Tutorial ☐ Practical ☐ Seminar	
Module Code	ARC 121				
ECTS Credits	12				
SWL (hr/sem)	**300**				
Module Leader	Ahmed Al-Fakhry	e-mail		ahmed.alfakhry@uomosul.edu.iq	
Module Leader's Acad. Title	Assist. Prof	Module Leader's Qualification		M.Sc	
Module Tutor		e-mail			
Peer Reviewer Name	Reem Al-Othman	e-mail		Reemalothman@uomosul.edu.iq	
Scientific Committee Approval Date		Version Number		1.0	
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	• 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. • Types of representation include freehand drawing (drawing from observation and from the imagination); analytic diagramming (the two-dimensional representation of an idea or process); • 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. • The method of instruction will emphasize application of representation skills in response to project assignments.
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	• 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. • General skills and other skills related to portability (Personal employment and development). • Teamwork within the group. Personal development through ethical values in dealing with, and respect for the other opinion. • 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/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

As		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 that 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.

Learning and Teaching Resources
مصادر التعلم والتدريس

	Text	Available in the Library?
Required Texts	Form, Space, Francis Ching, 1. Introduction to Architecture Design, 2. Francis ching Pattern Language. 3.	No
Recommended Texts		No
Websites		

Grading Scheme
خطط 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
المرحلة الاولى / الرسم اليدوي الحر (1)

Module Information معلومات المادة الدراسية					
Module Title	**Free Hand Drawing (1)**			Module Delivery	
Module Type				☐Theory ☒ Lecture ☐ Lab ☐Tutorial ☒Practical ☐ Seminar	
Module Code	ARC 122				
ECTS Credits	**5**				
SWL (hr/sem)	**125**				
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**	• Aesthetic artistic taste through a musical vision of different shapes and configurations. • Learn the theory of perspective, which is the basis for visual perception of the world. • Create a harmonious relationship between vision, brain and hand for expression and the ability to express architectural ideas through free hand drawing. • Using the measurement method for proportions and proportions by hand, pen, and sight • Realizing the differences in light values in the theory of perspective and being able to express them. • 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.
Indicative Contents **المحتويات الإرشادية**	• Visual perception of different shapes from the perspective of the concept of perspective and its concepts. • Proportions in dimensions and shapes and measuring them by hand, pen, and vision. • Estimating light values, colors, tones, and the differences between them • Derivations of various shapes from the basic cube shape. • 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**	4.2
Unstructured SWL (h/sem) **الحمل الدراسي غير المنتظم للطالب خلال الفصل**	**62**	Unstructured SWL (h/w) **الحمل الدراسي غير المنتظم للطالب أسبوعيا**	**4.13**
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	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 models consist of potteries
Week 12	simple models 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

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. pits , Watson- Guptill publications , 1965 , new York How to paint and draw , Bodo w. Jax Heimer , 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.

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المرحلة الاولى / الانشاء ومواد البناء

Module Information معلومات المادة الدراسية					
Module Title	**Construction and Building Materials**			Module Delivery	
Module Type	Core			☒ Theory ☒ Lecture ☐ Lab ☐Tutorial ☐ Practical ☐ Seminar	
Module Code	ARC 123				
ECTS Credits	**4**				
SWL (hr/sem)	**100**				
Module Level	UGV		Semester of Delivery	10	
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

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

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.

Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	48	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	3.2
Unstructured SWL (h/sem) الحمل الدراسي غير المنتظم للطالب خلال الفصل	52	Unstructured SWL (h/w) الحمل الدراسي غير المنتظم للطالب أسبوعيا	3.46
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 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

Week	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 Thurstone, 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

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

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
المرحلة الاولى / اساسيات الحاسوب

Module Information معلومات المادة الدراسية					
Module Title	**computer literacy**			Module Delivery	
Module Type	Support			☒ Theory ☐ Lecture ☐ Lab ☒ Tutorial ☐ Practical ☐ Seminar	
Module Code	ARC 124				
ECTS Credits	**3**				
SWL (hr/sem)	**75**				
Module Level	UGI	Semester of Delivery	2		
Administering Department	ARC	College	COE		
Module Leader	Ebtisam Al Sawaf	e-mail	ebtisamalsawaf@uomosul.edu.iq		
Module Leader's Acad. Title	Lecturer	Module Leader's Qualification	PhD		
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	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	The course aims to make students owing basic skills in IT (Word, Excel, Internet), Photoshop, AutoCAD
Module Learning Outcomes مخرجات التعلم للمادة الدراسية	Introduction to Computer-Aided Drafting and Design which includes: 2D drawings, 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.
Indicative Contents المحتويات الإرشادية	

Learning and Teaching Strategies استراتيجيات التعلم والتعليم	
Strategies	

Student Workload (SWL) الحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا			
Structured SWL (h/sem) الحمل الدراسي المنتظم للطالب خلال الفصل	**33**	Structured SWL (h/w) الحمل الدراسي المنتظم للطالب أسبوعيا	**2.2**
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	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	Introduction
Week 2	Introduction to Word
Week 3	Font, paragraph
Week 4	Word, Font , paragraph
Week 5	Insert table
Week 6	Insert picture
Week 7	Examination
Week 8	Introduction to Excel
Week 9	Math & trig functions
Week 10	Excel Math & trig functions
Week 11	Logical functions
Week 12	Logical functions
Week 13	Introduction to internet
Week 14	Internet, searching process
Week 15	Downloading & uploading
Week 16	Final Exam

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.				

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المرحلة الاولى / الرياضيات (2)

Module Information معلومات المادة الدراسية						
Module Title	**Mathematics (2)**				Module Delivery	
Module Type	Basic				☒ Theory ☐ Lecture ☐ Lab ☒ Tutorial ☐ Practical ☐ Seminar	
Module Code	ARC 125					
ECTS Credits	4.0					
SWL (hr/sem)	100					
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	• Provide the fundamental concepts of elementary mathematics for integration. • 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: • Understanding and applying the fundamental concepts of integration. • Finding the indefinite integral of a function using substitution techniques. • Being able to solve problems involving applications of integration, such as area between curves, volume of revolutions and length of curves. • Understanding the concept of inverse functions and how they relate to the original functions. • Recognizing the relationship between inverse trigonometric functions and their application in solving problems. • 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) **لحمل الدراسي للطالب محسوب لـ ١٥ أسبوعا**			
Structured SWL (h/sem) **الحمل الدراسي المنتظم للطالب خلال الفصل**	**78**	Structured SWL (h/w) **الحمل الدراسي المنتظم للطالب أسبوعيا**	5.2
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 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.

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
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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
المرحلة الاولى / الانكليزية ـ المبتدئين

Module Information معلومات المادة الدراسية					
Module Title	**English language – Beginner**			Module Delivery	
Module Type				Theory □ Lecture □ Lab Tutorial Practical Seminar	
Module Code	ARC 126				
ECTS Credits	2				
SWL (hr/sem)	50				
Module Level		UGI	Semester of Delivery		1
Administering Department		Architectural Engineering	College	College of Engineering	
Module Leader	Rawya dabdob		e-mail		
Module Leader's Acad. Title		Assistant lecture	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	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's 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**	**2.13**
Unstructured SWL (h/sem) **الحمل الدراسي غير المنتظم للطالب خلال الفصل**	**18**	Unstructured SWL (h/w) **الحمل الدراسي غير المنتظم للطالب أسبوعيا**	**1.2**

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 negative, 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: Favorite 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

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	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 (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.				

Ministry of Higher Education
& Scientific Research
University of Mosul
College of Engineering
Architectural Engineering
Department

وزارة التعليم العالي والبحث العلمي
جامعة الموصل
كلية الهندسة
قسم هندسة العمارة

University of Mosul

جامعة الموصل

First Cycle – bachelor's degree (B.Sc.) – Architectural Engineering

بكالوريوس – هندسة العمارة

البرنامج الاكاديمي (النظام الفصلي / المرحلة الثانية)

2024 – 2023

السنة الثانية	الفصل الاول			
رمز المادة	اسم المادة	نظري	عملي	عدد الوحدات
ARC 211	التصميم المعماري 2	2	8	6
ARC 212	الرسم اليدوي 3		4	2
ARC 214	تاريخ عمارة قديمة	2		2
ARC 215	الرسم بمساعدة الحاسوب 1	1	2	2
ARC 216	تركيب مباني 1	1	2	2
UoM 212	اللغة الانكليزية- دون المتوسط	2		2
STR 217	الميكانيك الهندسي	2		2
SUR 218	المساحة	1	2	2
MAT 213	مبادئ الاحصاء وتطبيقاته	2		2
		31		22

الفصل الثاني				
رمز المادة	اسم المادة	نظري	عملي	عدد الوحدات
ARC 211	التصميم المعماري 2	2	8	6
ARC 223	الظل والمنظور	1	3	2
ARC 224	تاريخ عمارة اوربية	2		2
ARC 225	الرسم بمساعدة الحاسوب 2	1	2	2
ARC 226	تركيب مباني 2	1	2	2
ARC 227	مبادئ الاسكان	2		2
STR 227	مقاومة المواد	2		2
STR 222	مختبر فحص المواد	1	2	2
ARC 228	الفنون الاسلامية (اختيارية)	2		2
ARC 229	العمارة والعلوم الانسانية (اختيارية)	2		2
		31		22

اهداف البرنامج الاكاديمي	
المؤسسة التعليمية	**كلية الهندسة / جامعة الموصل**
القسم الجامعي / المركز	**قسم هندسة العمارة**
برنامج الاعتماد	**مسار بولونيا Bologna Process**

- إعداد كوادر مؤهلة علمياً ومهنياً وتربوياً في مختلف المجالات المعرفية وفقاً لمعايير جودة عالية.
- تعزيز البحث العلمي في العلوم النظرية والتطبيقية، مع تشجيع المبادرات المرتبطة ببرامج التنمية، والحرص على مواكبة التطورات العلمية العالمية والتخطيط للمستقبل.
- التطوير المستمر للمناهج الدراسية في المرحلتين الجامعية والدراسات العليا، بما يتناسب مع المستجدات العلمية والمنهجية والتقنية الحديثة.
- المشاركة في خدمة المجتمع من خلال التفاعل المستمر مع مؤسسات الدولة وتقديم الاستشارات العلمية، وتعزيز برامج التعليم المستمر.
- ربط العمارة بالتخصصات الهندسية الأخرى وتنمية العلاقات معها، باعتبارها جزءاً أساسياً من نهضة المجتمع.
- التأكيد على دور هندسة العمارة في بناء المجتمع وتحسين البيئة التي يعيش فيها الناس.
- إعداد خريجين معماريين وفق قواعد علمية تمكنهم من ممارسة المهنة بكفاءة في التصميم المعماري والحضري وتخطيط المدن والفضاءات الداخلية والخارجية، إلى جانب الحفاظ على التراث والآثار وفق الأساليب العلمية.
- تنفيذ برامج عملية واضحة تهتم بتكنولوجيا الاستدامة ومعايير الجمال المعماري، مع مواكبة التطور في الدول المتقدمة من خلال توفير برنامج تعليمي معماري يعتمد على التقنيات الحديثة في المجالات الهندسية والفنية.
- التركيز على جودة العملية التعليمية في العمارة من خلال اختيار مناهج دراسية متخصصة وحديثة باستمرار، وإنجاز تقارير التقييم الذاتي بهدف الحصول على الاعتماد الأكاديمي.
- تمكين الكوادر التدريسية في قسم هندسة العمارة من خلال زيادة نسبة حملة شهادات الدكتوراه مقارنة بحملة الماجستير.
- الاهتمام بالبحوث العلمية التطبيقية وتصميم المشاريع التطبيقية لتعزيز الشراكات والعلاقات مع المؤسسات والجامعات المرموقة.
- تطوير مهارات الخريجين من خلال توفير دورات التعليم المستمر التخصصية والحفاظ على التواصل معهم بما يعزز تحقيق رسالة القسم.

مخرجات التعلم المتوقعة للبرنامج

المعرفة

1أ. تشمل مبادئ العلوم الأساسية والتطبيقية والهندسية الضرورية لتقديم تخصص هندسة العمارة، مثل الرياضيات والهندسة المجسمة والفيزياء والرسم الهندسي والإحصاء والتقنيات الحاسوبية والأتمتة.

2أ. تغطي علوم هندسة العمارة التخصصية جوانب متنوعة من التصميم المعماري والتنفيذ والإنشاء والرسوم التنفيذية والرسم المعماري والحر، بالإضافة إلى التصميم الداخلي وتصميم الفضاءات الخارجية والتصميم الحضري وتخطيط المدن. تهتم هندسة العمارة بالعديد من الجوانب وتتفاعل مع العديد من العلوم وتساهم في تطبيقات مهمة في الحياة اليومية.

3أ . الأهداف المهنية والأسس المساندة: تشمل المهارات الداعمة للتطبيق ضمن أطر نظرية، مثل كتابة التقارير والبحوث، بالإضافة إلى المعرفة بالمحددات الاقتصادية والقانونية والصحية والاجتماعية والأمنية.

المهارات

1ب . مهارات التصميم: اكتساب القدرة على إنشاء تصاميم معمارية مبتكرة ومستدامة، بما في ذلك التصميم الداخلي وتصميم الفضاءات الخارجية والحضرية.

2ب. مهارات البحث والتحليل: تطوير مهارات البحث وجمع المعلومات وتحليلها لتطبيقها في مشاريع التصميم، بما في ذلك الاعتبارات البيئية والاقتصادية والاجتماعية.

3.ب. مهارات التواصل والتعاون: تعزيز مهارات التواصل الفعّال والعمل الجماعي مع زملاء الدراسة والمتخصصين في مجالات متعددة، بما في ذلك كتابة التقارير وعرض الأفكار بشكل واضح ومقنع.

القيم

ج1 الإبداع والابتكار: تعزيز قيم الإبداع والابتكار في عملية التصميم والبحث، مما يسهم في تطوير حلول معمارية مبتكرة ومستدامة.

ج2 المسؤولية الاجتماعية والبيئية: تعزيز الوعي بالمسؤولية الاجتماعية والبيئية للمهندس المعماري، وضمان تطبيق مبادئ التنمية المستدامة في مشاريع التصميم والبناء.

Academic Program Objectives	
Faculty/Institute	**University of Mosul / College of Engineering**
Scientific Department	**Architecture Engineering Department**
Academic System	**Bologna Process**

- Preparing qualified cadres in various fields of knowledge in accordance with high quality standards.
- - Promoting scientific research in theoretical and applied sciences, encouraging initiatives related to development programmed and ensuring that global scientific developments are kept abreast and planning.
- - Continuous development of the curriculum at the undergraduate and postgraduate levels, commensurate with recent scientific, methodological, and technical developments.
- - Participation in the service of the community through continuous interaction with state institutions and the provision of scientific consultations and the promotion of continuing education programmed.
- - Linking architecture to other engineering disciplines and developing relations with them, as an essential part of society's renaissance.
- - Emphasizing the role of architecture in building society and improving people's environment.
- - Preparation of architectural graduates in accordance with scientific rules to enable them to practice the profession efficiently in architectural and urban design and planning of cities and indoor and outdoor spaces, as well as preservation of heritage and monuments according to scientific methods.
- - Implementation of clear practical programmed on sustainability technology and standards of architectural beauty, while keeping pace with the development in the developed countries by providing an architectural educational programmed based on modern techniques in the engineering and technical fields.
- - Focus on the quality of the architecture's educational process through the selection of specialized and continuously modern curricula and the completion of self-assessment reports with a view to obtaining academic accreditation.
- - Empowering teaching staff in the Department of Architecture Engineering by increasing the proportion of doctoral holders compared to the master's campaign.
- - Interest in applied scientific research and design of applied projects to strengthen partnerships and relationships with prestigious institutions and universities.
- - Developing graduate skills by providing specialized continuing education courses and maintaining communication with them to enhance the achievement of the department's mission.

Expected learning outcomes of the program

Knowledge

A1- The basic, applied and engineering science principles necessary to provide architecture specialization, such as mathematics, stereotyping, physics, engineering drawing, statistics, computer techniques and automation.

A2. Specialized architecture sciences cover various aspects of architectural design, implementation, construction, executive drawings, architectural and free drawing, as well as interior design, outdoor space design, urban design, and city planning. Architecture is concerned with many aspects and interacts with many sciences and contributes to important applications in everyday life.

A3. Professional objectives and supporting foundations: Supporting skills include application within theoretical frameworks, such as reporting and research, as well as knowledge of economic, legal, health, social and security determinants.

Skills

1b. Design skills: Capability to create innovative and sustainable architectural designs, including interior design and design of outdoor and urban spaces.

2b. Research and analysis skills: developing research and information collection and analysis skills for application in design projects, including environmental, economic, and social considerations.

3.b. Communication and collaboration skills: Enhance effective communication and teamwork skills with classmates and specialists in multiple areas, including writing reports and presenting ideas clearly and convincingly.

Ethics

C1 Creativity and Innovation: Enhancing the values of creativity and innovation in the design and research process, contributing to the development of innovative and sustainable architectural solutions.

C2 Social and environmental responsibility: Promote awareness of the architect's social and environmental responsibility and ensure the application of sustainable development principles in design and construction projects.

مخرجات التعليم المطلوبة من البرنامج

رمز المقرر	اسم المقرر	اساسي ام اختياري	الساعات المعتمدة	الساعات المعتمدة	مخرجات التعليم المطلوبة من البرنامج							
			نظري	عملي	المعرفة			المهارات			القيم	
ARC211	التصميم المعماري (2)	اجباري	**2**	8	√	√	√	√	√	√	√	√
ARC212	الرسم اليدوي 3	اجباري		4	√	√	√	√	√	√	√	√
ARC214	تاريخ عمارة قديمة	اجباري	2		√	√	√	√	√	√	√	√
ARC215	الرسم بمساعدة الحاسوب 1	اجباري	1	2	√	√	√	√	√	√	√	√
ARC216	تركيب مباني 1	اجباري	1	2	√	√	√	√	√	√	√	√
UoM 212	اللغة الانكليزية – دون المتوسط	اجباري	2		√	√	√	√	√	√	√	√
ARC217	الميكانيك الهندسي	اجباري	2		√	√	√	√	√	√	√	√
ARC218	المساحة	اجباري	1	2	√	√	√	√	√	√	√	√
ARC213	مبادء الاحصاء وتطبيقاته	اجباري	2		√	√	√	√	√	√	√	√
ARC211	اتصميم المعماري (2)	اجباري	2	8	√	√	√	√	√	√	√	√
ARC223	الظل والمنظور	اجباري	1	3	√	√	√	√	√	√	√	√
ARC224	تاريخ عمارة اوربية	اجباري	2		√	√	√	√	√	√	√	√
ARC225	الرسم بمساعدة الحاسوب 2	اجباري	1	2	√	√	√	√	√	√	√	√
ARC226	تركيب مباني (2)	اجباري	1	2	√	√	√	√	√	√	√	√
ARC227	مبادئ الاسكان	اجباري	2		√	√	√	√	√	√	√	√
STR 227	مقاومة المواد	اجباري	2		√	√	√	√	√	√	√	√
STR 222	مختبر فحص المواد	اجباري	1	2	√	√	√	√	√	√	√	√
ARC228	الفنون الاسلامية	اختياري	2		√	√	√	√	√	√	√	√
ARC229	العمارة والعلوم الاسلامية	اختياري	2		√	√	√	√	√	√	√	√

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المرحلة الثانية / التصميم المعماري (2)

ARC 211 Architectural design (2): (Annual Course)

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

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المرحلة الثانية / الرسم اليدوي 3

ARC 212 Freehand Drawing (3)

Students will draw more complex models, and learn new techniques in shading and using colors. Also we will focus on drawing building and landscape for developing and communicating ideas in the design process.

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المرحلة الثانية / تاريخ عمارة قديمة

ARC 214 History of Ancient Architecture

The Course Deals with the evolution of architecture in Iraq in the ancient times and architecture in the Arab countries (Egypt and Syria) and neighboring countries (Asia Minor, Persia, Greece) and to clarify the effects of mutual design among them. The study will also clarify the relationship of the design concept of the buildings with the natural surroundings and cultural development within its period, and the relationship with the functional requirements and solutions to construction and environmental processors and integration with architectural form.

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المرحلة الثانية / الرسم بمساعدة الحاسوب 1

ARC 215 Computer Aid Drawing (1)

Introduction to Computer-Aided Drafting and Design which includes: 2D drawings, 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.

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المرحلة الثانية / تركيب مباني 1

ARC 216 Buildings Constructions (1)

This course initially the basic principles of construction elements constituting architectural spaces and other associate systems common to construction. It introduces students to the various construction phases from concrete foundation to finishing. The course also includes a study of the design and implementation criteria relevant to construction of walls, ceilings, staircases, flooring, insulation and finishing material. Students will be provided with of practical application on vertical and horizontal installation models. (In bearing wall system)

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المرحلة الثانية / اللغة الانكليزية – دون المتوسط

UoM 212 English Language Pre-Intermediate

This course is for Pre-Intermediate level students who want to communicate in English, and develop advanced speaking, reading, writing paragraphs, and listening skills**.**

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المرحلة الثانية / الميكانيك الهندسي
STR 217 Mechanical Engineering

Credit hours	:	2
Course type	:	Required (R)
E-Class (Code)	:	Google Classroom (g6jhzpy)
Instructor	:	Dr. Mohammed Shakib Al Jawahery
Instructor E-mail	:	Mohammed.aljawahery@uomosul.edu.iq
Pre-requisites	:	-----

Catalog Description:

This course is an introduction to learning and applying the principles required to solve engineering mechanics problems. Concepts will be applied in this course from previous courses you have taken in basic math and physics. The course addresses the modeling and analysis of static equilibrium problems with an emphasis on real-world engineering applications and problem-solving. Moreover ،the behavior of structural members under applied loads will be mentioned. Examples used in this unit cover a broad range of engineering applications in Civil engineering

Reference Books:

- Engineering Mechanics 14th by Hibbeler
- Vector Mechanics For Engineers Statics and Dynamics(12th)

Graduate outcomes (GOs) addressed by the course:

i	ii	iii	iv	v	vi	vii
✔	✓				✓	

Course Learning Outcomes (CLOs)

Students who successfully complete this unit will be able to:

1. Solving mechanic problems using principles of engineering (i).
2. Discern and determine the magnitude of loads acting on simple structural members(i).
3. Analyse rigid body equilibrium including(i).
4. Construct free body diagrams showing the function of simple structural elements(i).
5. Analyse the force(s) or moment(s) required to maintain a structure in equilibrium(i).
6. Analyse external reactions on structural members under applied loading(i).
7. Knowledge of different types of applied loading on a given structure(ii).
8. Understanding the distribution and the path of forces within a structure(vi).
9. Find center of gravity for a given body(i).
10. Find center of moment of inertia for a given body(i).

Weekly Teaching Plan:

Subject	Credit hours	No. of Weeks
Resultant of Force Systems.	2	1
Resultant of Concurrent Force Systems.	2	1
Moment of Force, Couple.	2	1
Resultant of Non-Concurrent Force Systems.	2	1
Equilibrium of Force Systems	2	1
Equations of Equilibrium of Concurrent Force Systems.	2	1
Free Body Diagram, Types of Supports, Types of Loadings.	2	1
Equations of Equilibrium of Non-Concurrent Force Systems.	2	1
Analysis of Trusses	2	1
Method of Joints.	2	1
Method of Section.	2	1
Centroids and Centers of Areas.	2	1
Centroids of Composite Figures.	2	1
Moments of inertia.	2	1
Moments of Inertia of Composite Figures.	2	1
Total	**30**	**15**

Grading Policy:

3 quizzes	10 pts
2 Homework	10 pts
Term Exam	20 pts
Final Exam	60pts
Total	100pts

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المرحلة الثانية / المساحة

SUR 218 Survey

The course gives fundamentals of plane surveying and an introduction to mapping science for architects. Topics covered include leveling, together with its field procedure and applications, computation of areas and earth volumes. Computation and determination of point coordinates are also covered through studying methods for horizontal distance measurement, traversing, including its theory, applications, and adjustment. An introduction to photogrammetry is also included. In addition, the course sheds some light on computer aided surveying techniques.

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المرحلة الثانية / مبادء الاحصاء وتطبيقاته

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المرحلة الثانية / الظل والمنظور

ARC 223 Shadows & Perspectives

The course introduces students to the fundamental principles of architectural drawings of both perspective and shadows. the student learns the techniques of drawing perspectives, such as general method, measuring point method, interior perspective. Also the students learn the techniques of shade & shadows on plans, elevations, isometric, exterior perspectives, and interior perspectives.

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المرحلة الثانية / تاريخ عمارة اوربية

ARC 224 History of European Architecture

Inform students about the development of European Architecture from pre-Roman age until Renaissance and Baroque. Enhance the concept of architectural interactions between European civilizations and others, especially with Arabic-Islamic civilizations. Analyzing historical examples according to architectural theories of Design. Free-hand architectural drawings analysis

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المرحلة الثانية / الرسم بمساعدة الحاسوب 2

ARC 225 Computer Aid Drawing (2)

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 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 DESCRIPTION FORM نموذج وصف المادة الدراسية
المرحلة الثانية / تركيب مباني (2)

ARC 226 Buildings Constructions (2)

This course initially the basic principles of construction elements constituting architectural spaces and other associate systems common to construction. It introduces students to the various construction phases from concrete foundation to finishing. The course also includes a study of the design and implementation criteria relevant to construction of walls, ceilings, staircases, flooring, insulation and finishing material.

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المرحلة الثانية / مبادئ الاسكان

ARC 227 Housing Principles

Definitions & Discussion of Housing Need, Human Demand, Housings Standards & types. Definitions & Discussion of Components of Residential urban fabric with their Comprehensive View & philosophy. As a requirement, student should present a report about one of main housing topics during the course.

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المرحلة الثانية / مقاومة المواد

STR 227 Strength of Materials

Credit hours	:	3.
Course type	:	Required (R).
E-Class (Code)	:	Google Classroom (2fmka3x).
Instructor	:	Tuqa Waleed Ahmed.
Instructor E-mail	:	new.matrix242@uomosul.edu.iq
Pre-requisites	:	Engineering mechanics - Statics (ARC 244).

Catalog Description:

This course provides the basic knowledge in materials behavior, stress-strain relations and their analysis. During the course, students will review the engineering mechanics first and get knowledge in stress-strain relations and their types. Also the students will have basic concept on theory of flexure and deflection of beams.

Reference Books:

- F. L. Singer and A. Pytel , Strength of materials , 3rd edition, 1980.
- Pytel and J. Kiusalaas, Mechanics of Materials, 2nd edition ,2012, Library of Congress.

Graduate Outcomes (GOs) addressed by the course:

i	ii	iii	iv	v	vi	vii
✓	✓					

Course Outcomes (CLOs)

On successful completion of this course students will be able to:

- Analyze the behavior of structures under mechanical loads by free body diagrams.(i)
- Recognize physical phenomenon in the context of strength of materials.(i)
- Apply stress-strain relations in conjunction with elasticity and material properties to analyze and design the engineering problems.(ii)
- Identifying the relationships between loads, member forces and deformations.(i)
- Designing simple bars for allowable stresses and loads.(ii)
- Apply structural mechanics of deformable bodies to solve engineering problems.(i)

Weekly Teaching Plan:

Subject	Credit hours	No. of Weeks
Introduction to Strength of Materials.	3	1
Simple Stresses.	3	1

Axial Stress, Shearing Stresses.	3	1
Bearing Stresses.	3	1
Simple Strain	3	1
Stress-Strain diagram and Hook's Low.	6	2
Shear and Moment in beam.	3	1
Shear force diagram, bending moment diagram.	6	2
Stresses in beams	3	1
Flexural Formula	3	1
Maximum bending stresses	3	1
Deflection of beams	6	2
Total	**45**	**15**

Grading Policy:

2 quizzes	10 pts
2 homeworks	5 pts
Term Exam	25 pts
Final Exam	60 pts
Total	100 pts

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المرحلة الثانية / مختبر فحص المواد

STR 222 Materials Test Laboratory

This course deals with the composition, specifications, and uses of construction materials. This study supports by experimental tests of building materials Mechanical Properties of construction materials, including composition, specification, and experimental test of building materials.

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المرحلة الثانية / الفنون الاسلامية

ARC 228 Islamic Arts (Elective)

Art is a language used by man to express what is in his essential self. There is a set of intellectual principles in the Islamic faith that accommodate the principles of Islamic arts. And this was evident in the design and creation of a collection of architectural and sculptural masterpieces. Art appeared in the Islamic world, providing a stylistic unity. It was the use of a common style of writing, decoration, engineering and wall decorations.

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المرحلة الثانية / العمارة والعلوم الاسلامية

ARC 229 Architecture & Human Science (Elective)

The course introduces students to the fundamental principles of architecture and human sciences. The subject aims are defined theoretical links to architecture and the humanities, human values and the specificity of the architectural product, the nature of the interaction between humans and the place, philosophy of beauty and its relationship to human emotion in architecture.

Ministry of Higher Education
& Scientific Research
University of Mosul
College of Engineering
Architectural Engineering
Department

وزارة التعليم العالي والبحث العلمي
جامعة الموصل
كلية الهندسة
قسم هندسة العمارة

University of Mosul

جامعة الموصل

First Cycle – bachelor's degree (B.Sc.) – Architectural Engineering

بكالوريوس – هندسة العمارة

البرنامج الاكاديمي (نظام المقررات / المستوى الثالث)

2024 – 2023

المستوى الدراسي الثالث (الفصل الاول)									
اسم المتطلب	اسم المقرر		نوع المتطلب	عدد الساعات النظرية	عدد الساعات العملية	عدد الوحدات	الممهد ان وجد	رمز المقرر	الملاحظات
	باللغة العربية	باللغة الانكليزية							
متطلبات الكلية	مبادئ التصميم الهندسي	Principles of Engineering Design	اختياري	2		2		ENGE337	اجباري لطلبة القسم
متطلبات القسم	التصميم المعماري(5)	Architectural Design (5)	اجباري	1	8	5	التصميم المعماري(4)	ARC 341	
	الرسوم التنفيذية(1)	Working Drawings(1)	اجباري	1	4	3	تركيب المباني(3)	ARC 342	
	خدمات المباني (1)	Building Services (1)	اجباري	2		2		ARC 343	
	الخرسانة المسلحة (1)	Reinforced Concrete (1)	اجباري	1	2	2		ARC 344	
	مبادئ التخطيط	Principles of Planning	اجباري	2		2		ARC 345	
	تقنيات الاظهار المعماري بالحاسوب	Computer Aided Architectural Presentation	اجباري	1	2	2		ARC 346	
مجموع ساعات و وحدات الفصل الاول للمستوي الثالث				10	16	18			

	المستوى الدراسي الثالث (الفصل الثاني)								
اسم المتطلب	اسم المقرر		نوع المتطلب	عدد الساعات النظرية	عدد الساعات العملية	عدد الوحدات	الممهد ان وجد	رمز المقرر	الملاحظات
	باللغة العربية	باللغة الانكليزية							
متطلبات الجامعة	اللغة الانكليزية- المتوسط	English Language - Intermediate	اجباري	2		2			
متطلبات القسم	التصميم المعماري(6)	Architectural Design (6)	اجباري	1	8	5	التصميم المعماري(5)	ARC347	
	تاريخ العمارة (2)	History of Architecture(2)	اجباري	2		2		ARC348	
	الخرسانة المسلحة (2)	Reinforced Concrete (2)	اجباري	1	2	2	الخرسانة المسلحة(1)	ARC349	
	خدمات المباني(2)	Building Services(2)	اجباري	2		2		ARC350	
	الرسوم التنفيذية(2)	Working drawings (2)	اجباري		4	2		ARC351	
	منطق ومنهجية التصميم	Design Logic & Methodology	اجباري	1		1		ARC352	
	تطبيقات التخطيط والاسكان	Planning Applications And Housing	اختياري	1	2	2	مبادئ التخطيط	ARC361	يختار الطالب مقرر واحد ،عدد الوحدات المطلوبة=2 وحدة
	نظم التحكم البيئي	Environmental Control Systems		2		2		ARC362	
	التشريعات العمرانية	Architectural Legislations		2		2		ARC363	
مجموع ساعات و وحدات الفصل الثاني للمستوي الثالث				11	14	18			

اهداف البرنامج الاكاديمي	
المؤسسة التعليمية	**كلية الهندسة / جامعة الموصل**
القسم الجامعي / المركز	**قسم هندسة العمارة**
برنامج الاعتماد	**مسار بولونيا Bologna Process**

- إعداد كوادر مؤهلة علمياً ومهنياً وتربوياً في مختلف المجالات المعرفية وفقاً لمعايير جودة عالية.
- تعزيز البحث العلمي في العلوم النظرية والتطبيقية، مع تشجيع المبادرات المرتبطة ببرامج التنمية، والحرص على مواكبة التطورات العلمية العالمية والتخطيط للمستقبل.
- التطوير المستمر للمناهج الدراسية في المرحلتين الجامعية والدراسات العليا، بما يتناسب مع المستجدات العلمية والمنهجية والتقنية الحديثة.
- المشاركة في خدمة المجتمع من خلال التفاعل المستمر مع مؤسسات الدولة وتقديم الاستشارات العلمية، وتعزيز برامج التعليم المستمر.
- ربط العمارة بالتخصصات الهندسية الأخرى وتنمية العلاقات معها، باعتبارها جزءاً أساسياً من نهضة المجتمع.
- التأكيد على دور هندسة العمارة في بناء المجتمع وتحسين البيئة التي يعيش فيها الناس.
- إعداد خريجين معماريين وفق قواعد علمية تمكنهم من ممارسة المهنة بكفاءة في التصميم المعماري والحضري وتخطيط المدن والفضاءات الداخلية والخارجية، إلى جانب الحفاظ على التراث والآثار وفق الأساليب العلمية.
- تنفيذ برامج عملية واضحة تهتم بتكنولوجيا الاستدامة ومعايير الجمال المعماري، مع مواكبة التطور في الدول المتقدمة من خلال توفير برنامج تعليمي معماري يعتمد على التقنيات الحديثة في المجالات الهندسية والفنية.
- التركيز على جودة العملية التعليمية في العمارة من خلال اختيار مناهج دراسية متخصصة وحديثة باستمرار، وإنجاز تقارير التقييم الذاتي بهدف الحصول على الاعتماد الأكاديمي.
- تمكين الكوادر التدريسية في قسم هندسة العمارة من خلال زيادة نسبة حملة شهادات الدكتوراه مقارنة بحملة الماجستير.
- الاهتمام بالبحوث العلمية التطبيقية وتصميم المشاريع التطبيقية لتعزيز الشراكات والعلاقات مع المؤسسات والجامعات المرموقة.
- تطوير مهارات الخريجين من خلال توفير دورات التعليم المستمر التخصصية والحفاظ على التواصل معهم بما يعزز تحقيق رسالة القسم.

مخرجات التعلم المتوقعة للبرنامج

المعرفة

1أ. تشمل مبادئ العلوم الأساسية والتطبيقية والهندسية الضرورية لتقديم تخصص هندسة العمارة، مثل الرياضيات والهندسة المجسمة والفيزياء والرسم الهندسي والإحصاء والتقنيات الحاسوبية والأتمتة.

2أ. تغطي علوم هندسة العمارة التخصصية جوانب متنوعة من التصميم المعماري والتنفيذ والإنشاء والرسوم التنفيذية والرسم المعماري والحر، بالإضافة إلى التصميم الداخلي وتصميم الفضاءات الخارجية والتصميم الحضري وتخطيط المدن. تهتم هندسة العمارة بالعديد من الجوانب وتتفاعل مع العديد من العلوم وتساهم في تطبيقات مهمة في الحياة اليومية.

3أ . الأهداف المهنية والأسس المساندة: تشمل المهارات الداعمة للتطبيق ضمن أطر نظرية، مثل كتابة التقارير والبحوث، بالإضافة إلى المعرفة بالمحددات الاقتصادية والقانونية والصحية والاجتماعية والأمنية.

المهارات

1ب . مهارات التصميم: اكتساب القدرة على إنشاء تصاميم معمارية مبتكرة ومستدامة، بما في ذلك التصميم الداخلي وتصميم الفضاءات الخارجية والحضرية.

2ب. مهارات البحث والتحليل: تطوير مهارات البحث وجمع المعلومات وتحليلها لتطبيقها في مشاريع التصميم، بما في ذلك الاعتبارات البيئية والاقتصادية والاجتماعية.

3.ب. مهارات التواصل والتعاون: تعزيز مهارات التواصل الفعّال والعمل الجماعي مع زملاء الدراسة والمتخصصين في مجالات متعددة، بما في ذلك كتابة التقارير وعرض الأفكار بشكل واضح ومقنع.

القيم

ج1 الإبداع والابتكار: تعزيز قيم الإبداع والابتكار في عملية التصميم والبحث، مما يسهم في تطوير حلول معمارية مبتكرة ومستدامة.

ج2 المسؤولية الاجتماعية والبيئية: تعزيز الوعي بالمسؤولية الاجتماعية والبيئية للمهندس المعماري، وضمان تطبيق مبادئ التنمية المستدامة في مشاريع التصميم والبناء.

Academic Program Objectives	
Faculty/Institute	**University of Mosul / College of Engineering**
Scientific Department	**Architecture Engineering Department**
Academic System	**Bologna Process**

- Preparing qualified cadres in various fields of knowledge in accordance with high quality standards.
- - Promoting scientific research in theoretical and applied sciences, encouraging initiatives related to development programmed and ensuring that global scientific developments are kept abreast and planning.
- - Continuous development of the curriculum at the undergraduate and postgraduate levels, commensurate with recent scientific, methodological, and technical developments.
- - Participation in the service of the community through continuous interaction with state institutions and the provision of scientific consultations and the promotion of continuing education programmed.
- - Linking architecture to other engineering disciplines and developing relations with them, as an essential part of society's renaissance.
- - Emphasizing the role of architecture in building society and improving people's environment.
- - Preparation of architectural graduates in accordance with scientific rules to enable them to practice the profession efficiently in architectural and urban design and planning of cities and indoor and outdoor spaces, as well as preservation of heritage and monuments according to scientific methods.
- - Implementation of clear practical programmed on sustainability technology and standards of architectural beauty, while keeping pace with the development in the developed countries by providing an architectural educational programmed based on modern techniques in the engineering and technical fields.
- - Focus on the quality of the architecture's educational process through the selection of specialized and continuously modern curricula and the completion of self-assessment reports with a view to obtaining academic accreditation.
- - Empowering teaching staff in the Department of Architecture Engineering by increasing the proportion of doctoral holders compared to the master's campaign.
- - Interest in applied scientific research and design of applied projects to strengthen partnerships and relationships with prestigious institutions and universities.
- - Developing graduate skills by providing specialized continuing education courses and maintaining communication with them to enhance the achievement of the department's

mission.

Expected learning outcomes of the program

Knowledge

A1- The basic, applied and engineering science principles necessary to provide architecture specialization, such as mathematics, stereotyping, physics, engineering drawing, statistics, computer techniques and automation.
A2. Specialized architecture sciences cover various aspects of architectural design, implementation, construction, executive drawings, architectural and free drawing, as well as interior design, outdoor space design, urban design, and city planning. Architecture is concerned with many aspects and interacts with many sciences and contributes to important applications in everyday life.
A3. Professional objectives and supporting foundations: Supporting skills include application within theoretical frameworks, such as reporting and research, as well as knowledge of economic, legal, health, social and security determinants.

Skills

1b. Design skills: Capability to create innovative and sustainable architectural designs, including interior design and design of outdoor and urban spaces.
2b. Research and analysis skills: developing research and information collection and analysis skills for application in design projects, including environmental, economic, and social considerations.
3.b. Communication and collaboration skills: Enhance effective communication and teamwork skills with classmates and specialists in multiple areas, including writing reports and presenting ideas clearly and convincingly.

Ethics

C1 Creativity and Innovation: Enhancing the values of creativity and innovation in the design and research process, contributing to the development of innovative and sustainable architectural solutions.
C2 Social and environmental responsibility: Promote awareness of the architect's social and environmental responsibility and ensure the application of sustainable development principles in design and construction projects.

مخرجات التعليم المطلوبة من البرنامج

رمز المقرر	اسم المقرر	اساسي ام اختياري	الساعات المعتمدة	الساعات المعتمدة	مخرجات التعليم المطلوبة من البرنامج							
			نظري	عملي	المعرفة			المهارات			القيم	
ENGE337	مبادئ التصميم الهندسي	اجباري	**2**		√	√	√	√	√	√	√	√
ARC341	التصميم المعماري (5)	اجباري	**1**	8	√	√	√	√	√	√	√	√
ARC342	الرسوم التنفيذية (1)	اجباري	1	4	√	√	√	√	√	√	√	√
ARC343	خدمات المباني (1)	اجباري	**2**		√	√	√	√	√	√	√	√
ARC344	الخرسانة المسلحة (1)	اجباري	1	**2**	√	√	√	√	√	√	√	√
ARC345	مبادئ التخطيط	اجباري	**2**		√	√	√	√	√	√	√	√
ARC346	تقنيات االظهار المعماري بالحاسوب	اجباري	1	2	√	√	√	√	√	√	√	√
	اللغة الانكليزية -المتوسط	اجباري	**2**		√	√	√	√	√	√	√	√
ARC347	التصميم المعماري (6)	اجباري	1	8	√	√	√	√	√	√	√	√
ARC348	تاريخ العمارة (2)	اجباري	2		√	√	√	√	√	√	√	√
ARC349	الخرسانة المسلحة (2)	اجباري	1	**2**	√	√	√	√	√	√	√	√
ARC350	خدمات المباني (2)	اجباري	2		√	√	√	√	√	√	√	√
ARC351	الرسوم التنفيذية (2)	اجباري		4	√	√	√	√	√	√	√	√
ARC352	منطق ومنهجية التصميم	اجباري	1		√	√	√	√	√	√	√	√
ARC361	تطبيقات التخطيط واالسكان	اختياري	1	2	√	√	√	√	√	√	√	√
ARC362	نظم التحكم البيئي	اختياري	2		√	√	√	√	√	√	√	√
ARC363	التشريعات العمرانية	اختياري	2		√	√	√	√	√	√	√	√

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الثالث / مبادئ التصميم الهندسي

Course Title: Principles of Geometric design
Course Number/Type: ENGE337/Core
Credit Hours: 2 (2 lecture hours/week)
Level/Term: 3rd level /Fall

Course Description:

A Core course in which the student learns the basic principles of engineering design in general, design principles, and the steps and stages through which engineering products are designed in all disciplines. In this course, the student learns the design thinking process to produce engineering designs that meet the design needs according to engineering standards and codes and a sequential design system. The student is introduced to the basic elements of engineering design, which represent the focus of the course, in addition to the stages of engineering design and global design. The course also contains some principles related to the design process, such as creativity, engineering codes, and design for all. This course is considered one of the courses related to engineering sciences and is essential for developing capabilities in how to start engineering design and how to harmonize between standards and design and functional requirements, customer requirements and the need for design.

Refernces:

1- Ertas, A. & Jones, J. (1996). The Engineering Design Process. 2nd ed. New York, N.Y., John Wiley & Sons, Inc
2- Yousef Haik, Sangarappillai Sivaloganathan, Tamer M. Shahin (2018) Engineering Design Process.
3- The Strategic Designer: Tools & Techniques for Managing the Design Process وDavid Holston(2011)

Course Details:

Subject	Week
Introducing the course and general terms that will be circulated during the semester and getting to know the division of the degree and exams and the activities required during the semester	1
Definition of engineering design, its elements and requirements	2
The basic stages of engineering design for all engineering disciplines	3
The research stage	4
The Design requirements stage	5
The feasibility study stage	6
The idea and concept stage	7
Initial design stage	8
Detailed design and full characterization stage	9
The plan and design tools	10

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الثالث / التصميم المعماري(5)

Course Title: Architectural design 5
Course Number/Type: ARC 341/Core
Credit Hours: 5 (1 theory 8 practical)
Level/Term: 3rd level /Fall

Course Description:

Design of a Multi-Family Housing Complex in Mosul City
The course initially introduces the basics of architectural design for a multi-family multi-storey housing complex.

Objectives:

To make students of architecture familiar with principles and concepts of planning taking into consideration the importance of planning process and the role of architect within this process. Students should be able to deal with urban planning process and its elements including street and parking design and master plans besides introducing many world-wide experiments within this subject.

• Systematic introduction to issues related with the design of human habitat, its components and space standards. The objective of the studio will be on understanding residential spaces in both the urban and traditional contexts.

• To train students for undertaking design of multi-story buildings, frame structure, considering site planning, structures, services, etc.

• Study architecture prevalent in Iraq (Mosul city) and its local character and characteristic elements of design.

• Green: Demonstration of world-leading sustainability principles

• Global: Understanding of and interprets the past, present and future of the city, iconic, defining the identity and character of different Neighborhoods on 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.

• Responsiveness: Welcoming, open and inclusive, integrated and harmonious, visually connected with, and open to, its immediate surroundings, responsive to the site, the wider context, the social needs of the families and whole community.

Refernces:

1. Joseph De Chiara, Julius Panero, Time-Saver Standards for Housing and Residential Development
2. Polservice , 1982 Housing Technical Standards & Codes of Practice

Course Details:

Subject	Week
Introduction to multi family housing	1
Analysis of similar examples	2
Site analysis	3

Design concept and primary idea formulation	4
Discussion	5
Discussion	6
First submission	7
Details of plans	8
Elevations and visual aspect	9
Details	10
Pre- Final submission	11
Discussion	12
Discussion	13
Final presentation settings	14
Final submission	15

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الثالث / الرسوم التنفيذية (1)

Course Title: working drawing 1
Course Number/Type: ARC 351/Core
Credit Hours: 3 (4 Practical+1 theoritical)
Level/Term: 3rd level / Fall

Course Description:

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.

Refernces:

1. building construction vol. 3
2. building construction vol. 5
3. structure and fabric
4. working drawing handbook
5. **التصميمات و الرسوم التنفيذية / د. مجدي تمام**
6. التصميمات التنفيذية / د. هشام علي-

Course Details:

Subject	Week
Definition of building construction material and the relationship between initial ideas and planned Executive and to all the terms of reference.	1
How to set up the chart of the Executive and the standards of the scheme, as well as special symbols chart Executive.	2
First submission: A detailed explanation of the physical layout of the level of sections and plans and interfaces, as architectural details.	3
Detailed explanation of the planned construction and structural details.	4
Discussion	5
Discussion	6
Detailed explanation of the plan and details.	7
Day sketch	8
Second submission: Detailed explanation of the method of construction-ready systems and various Construction.	9
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).	10
Discussion	11
Discussion	12
Discussion	13
Discussion	14
Final submission	15

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الثالث / خدمات المباني (1)

Course Title: Building services 1
Course Number/Type: ARC 343
Credit Hours: 2 theoretical hours/week

Course Description:

The course is parted into five sections. Each section addresses a certain part of plumbing. The first section lunges the scope of plumbing and plumbing equipment. 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 in order 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. 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 uses types of valves, tanks, and other apparatuses to convey fluids. 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.

Refernces:

1- Plumbing Complete: Expert Advice from Start to Finish, Book by Rex Cauldwell.
2- Ultimate Guide: Plumbing, Updated 5th Edition, Book

Course Details:

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: water and sewerage. Hence, there are many attributable goals that are aimed to fulfill as mentioned below:

1.Studying plumbing provides the student with the efficient knowledge to be partially enough qualified in building engineering services

2. Technically, studying plumbing introduces students to plumbing facilities especially domestic plumbing.

3.This course promotes skills solving problems in students.

4.This course provides the students with examples and homework that give a glance at practical skills and technical equipment.

5.Since the majority of plumbing work is carried out on new domestic, commercial and retail constructions, it is considered great career with lots of job prospects. It provide an opportunity for a successful job for those who want to become self-employed.

Subject	Week
Introduction: the scope of plumbing	1
Plumbing equipment and plumbing fixture	2
Water supply system: 1. General water distribution network 2. Conditions of designing general water distribution network Types of general water distribution network	3
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	4
Water supply system: 1. Calculations of water demands in a building. 2. Determining pipe size Calculating the average of water usage in a building.	5
Water supply system: 1. Design the water distribution network in buildings 2. Using traditional pipes and methods Using PEX system	6
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. Seminar Reports Submission and Presentation	7
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 Seminars Presentation	8
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. Seminars Presentation	9
Storm-water 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.	10
Seminars Presentation	11
C.W.: Drawing water supply system and sewage for house plane. Seminars Presentation	12

Seminars Presentation	13
Seminars Presentation	14
Seminars Presentation	15

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الثالث / الخرسانة المسلحة (1)

Credit hours	:	2
Course type	:	Required (R)
E-Class (Code)	:	Google Classroom (r3k6f6b)
Instructor	:	Dr. Mohammed Shakib al Jawahery
Instructor E-mail	:	Mohammed.aljawahery@uomosul.edu.iq
Pre-requisites	:	-----

Catalog Description:

Analysis and Design of rectangular beams subjected to flexural bending and Shear design for beams moreover, Design and analysis of Short Columns Subject to Axial Load and Bending.

Reference Books:

- Darwin, David, Charles William Dolan, and Arthur H. Nilson.Design of concrete structures. New York, NY, USA:: McGraw-Hill Education, 2020.
- Hassoun, M. Nadim, and AkthemAl-Manaseer.Structural concrete: theory and design. John wiley& sons, 2020.
- Aghayere, A. O. , Limbrunner, George F. (2014) "DESIGN OF REINFORCED CONCRETE"8th ed. Library of Congress, USA.

Graduate outcomes (GOs) addressed by the course:

i	ii	iii	iv	v	vi	vii
✓	✓				✓	✓

Course Learning Outcomes (CLOs)

On successful completion of this course, students will be able to:

11. Recognize the design philosophy of reinforced concrete structure (i, ii).
12. Understand the difference between the structural behavior of different reinforced concrete structural elements through demonstration experiments and data analysis (i).
13. Be able to analyze reinforced concrete structural systems under gravity and lateral Loads (i).
14. Be able to design different elements of reinforced concrete structural systems subjected to gravity and lateral loads (i, ii, vi).

15. Be able to analyze and design a complete structural system through a comprehensive design project (ii, vi).
16. Be able to produce a complete project document and present in a concise and complete manner to include structural drawings and structural calculations(vi, vii).

Weekly Teaching Plan:

Subject	Credit hours	No. of Weeks
Introduction to Reinforced Concrete	2	1
Flexural Analysis of Beams (working stress method)	2	1
Flexural Analysis of Beams (working stress method)	2	1
Flexural Analysis of Beams (Ultimate) According to ACI Code	2	1
Flexural Analysis of Beams (Ultimate) According to ACI Code	2	1
Analysis and Design of Doubly Reinforced Beams	2	1
Analysis and Design of Doubly Reinforced Beams	2	1
Analysis and Design of T Beams and Doubly Reinforced Beams	2	1
Analysis and Design of T Beams and Doubly Reinforced Beams	2	1
Shear Stresses in Concrete Beams; Design for Shear	2	1
Shear Stresses in Concrete Beams; Design for Shear	2	1
Columns	2	1
Design of Short Columns Subject to Axial Load and Bending	2	1
Design and Analysis of Eccentrically Loaded Columns Using Interaction Diagrams	2	1
Design and Analysis of Eccentrically Loaded Columns Using Interaction Diagrams	2	1
Total	30	15

Grading Policy:

3 quizzes	10 pts
2 Homework	10 pts
Term Exam	20 pts
Final Exam	60pts
Total	100pts

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الثالث / مبادئ التخطيط

Course Title: Principle of Planning
Course Number/Type: ARC345/Core
Credit Hours: 2 (2 lecture and 0 laboratory hours/week)
Level/Term: 3rd level / Fall

Course Description:

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.

Refernces:

1. Gallin, Arthur B., The Urban Pattern, Van Nostrand Reinhold Co.
2.Aldewachi, Momtaz, Introduction to Urban Planning , Cihan University.
3.Chapin, F. Stewart, Urban Land use Planning, University of Illinois
4. Mortada, Hisham, ,Traditional Islamic Principles of Built Environment, Routledge Curzon .

Course Details:

Subject	Week
Introduction and Basic Definitions.	1
The Emergence of Human Settlements in Ancient Civilizations.	2
Medieval Towns , The Islamic City.	3
Modern Theories and Ideas of Urban Planning.	4
Contemporary and Sustainable Cities.	5
Elements of Urban Areas/ Streets.	6
Technical Aspects of Streets' Planning.	7
Technical Aspects of Walk Ways' Planning.	8
Technical Aspects of Car Parking's Planning.	9
Urban Land Use Patterns , The Residential Use.	10
Urban Land use Patterns , The Commercial and Industrial Use.	11
Open Spaces and Water Fronts.	12
The Master Plans with Review of Iraqi Experiment.	13
Introduction to Urban Renewal.	14
The Iraqi Experiment of Urban Renewal.	15

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الثالث / تقنيات الاظهار المعماري بالحاسوب

Course Title: Computer Aided Architectural Presentation
Course Number/Type: ARC 346/Core
Credit Hours: 2 (1 lecture and 2 laboratory hours/week)

Course Description:

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 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.

Refernces:

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

Course Details:

Subject	Week
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.	1
Learn the basic commands and commands used in 3ds Max.	2
Learn how to dra two dimensional geometric shapes and Edit spline applications.	3
Learn how to creat advanced and 3D architectural models.	4
Edit poly applications.	5
Ready-made models used in architectural and construction works AEC Extended.	6
Get to know the modifiesr list and the most important modifiers used.	7
Presenting an exterior design project using instructions, orders and rates.	8
Learn about Corona render software and how to install it in 3ds Max.	9
Adjust Corona render settings.	10
Recognize the types and forms of Corona light and how to choose, adjust and define the appropriate lighting to control it.	11
Learn how to put cameras and Corona camera, how to adjust the main setting for them, and how to choose the appropriate shot.	12
1 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.	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. Post production using Adobe Photoshop software program and adding different backrounds and environmental effects.	14
Presenting a presentation for an exterior and interior design project using Corona render.	15

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الثالث / اللغة الانكليزية- المتوسط

Course Title: English Language - Intermediate
Course Number/Type: / Core
Credit Hours: 2 theoretical hours/week
Level/Term: 3rd level / Spring
Prerequisties: -

Course Description:

First of all, Headway's trusted methodology combines solid grammar and practice, vocabulary development, and integrated skills with communicative role-plays and personalization. It is a perfectly-balanced syllabus, and packed with new material. It builds student confidence and enhances fluency in speaking. Authentic material from a variety of sources enables students to see new language in context, and a range of comprehension tasks, language and vocabulary exercises, and extension activities practise the four skills that support the four skills of language learning: listening, reading, writing and speaking. The curriculum provides two important parts of learning the English language: the first is the 'Everyday English' and the second part is 'Spoken grammar' sections practise real-world speaking skills. The curriculum also provides detailed information about the grammar of the language and how to write it, which is mentioned in each unit in the book units mentioned independently at the end of the book to provide models for students to analyze and imitate.

Refernces:

1- Liz and John Soars (2012) New Headway Intermediate Student's Book Fourth Edition. OXFORD University Press. ISBN-13 : 978-0194770200

Course Details:

The New Headway book's curriculum includes a range of topics and Up-to-date material with global appeal. style. The curriculum integrates a balanced syllabus that supports the four skills of listening, reading, writing and speaking. The curriculum followed an integrative approach that provides linguistic information, grammatical and vocabulary. The curriculum emphasizes on to parts of learning English Language: firstly, 'Everyday English', and secondly, 'Spoken grammar'. Accordingly, the curriculum focused on formal linguistic rules, methods of writing and formulating them, tenses of verbs and their uses, auxiliary verbs, compound sentences, interrogative sentences, tools for affirmation, affirmation and negation sentences. The curriculum also focused on the daily language spoken by the general public in daily life, which included talking about general information, personal preferences, expressing opinion, advice, support and rejection...ect. Besides, the curriculunm emphyzises on the way the sentences are pronounced in the English Music tone. In addition, the curriculum included articles to develop reading skills by understanding the general context with related questions about the articale. Besides, this course includes New – iTutor DVD-ROM included in Student Book for interactive home study. Moreovere, New – iChecker CD-ROM included in Workbook for workbook audio, self-tests, and links to online tests and practice. .

Subject	Week
Unit 1: A world of difference / Present, past, present perfect tenses / Auxiliary verbs	1

/ Questions and negatives / Short answers /Sounding polite	
Unite 2: The working week /Present and continuous tenses /State verbs /Passive / How often	2
Unit 3: Good time, bed / Past tenses	3
Unit 4: Getting it right / Modal and related verbs	4
.Unit 5: Our Changing world / Future forms / Future possibilities	5
Unit 6: What matters to me / Information questions	6
Unit 7: Passions and fashions / Present perfect / Passive / Adverbs /Time expressions	7
Unit 8: No fear / Verb patterns / The infinitive / The reduced infinitive	8
Unit 9: It depends how you look at it / Conditionals / Might have done/ could have done / Should have done	9
Unit 10: All things high tech / Noun phrases / Possessives / Reflexive pronouns and each other	10
Unit 11: Seeing is believing / Present and past / Modals of probability /Looks like / looks /Expressing disbelief	11
Unit 12: Telling it how it is / Reported Speech / Reported thoughts /Reported questions	12
Listening and Reading	13
Listening and Reading	14
Listening and Reading	15

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الثالث / التصميم المعماري(6)

Course Title: Architectural design 6
Course Number/Type: ARC 341/Core
Credit Hours: 5 (1 theory 8 practical)
Level/Term: 3rd Level/ Spring
Prerequisties: architectural design 5

Course Description:

The course initially introduces the basics of architectural design for a building within community or sector centre level .

Objectives:

To introduce concepts of function, structure in design process through projects (secondary school, shopping center and clcture center) and to learn how to a apply design methodology for those complicated projects
Understanding of the basic architectural principles in the design of buildings, interior spaces, and sites. Understanding of the fundamentals of visual perception and the principles and systems of order that inform two- and three-dimensional design
Understanding of the natural and built site characteristics in the development of a program and the design of a project. Understanding of the basic principles and appropriate application and performance of building functions and construction

Refernces:

1. Joseph De Chiara, Julius Panero, Time-Saver Standards for Housing and Residential Development
2. Polservice , 1982 Housing Technical Standards & Codes of Practice

Course Details:

	Week
Introduction buildings within community or sector centre	1
Analysis of similar examples	2
Site analysis	3
Design concept and primary idea formulation	4
Discussion	5
Discussion	6
First submission	7
Details of plans	8
Elevations and visual aspect	9
Details	10
Pre- Final submission	11
Discussion	12

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الثالث / تاريخ العمارة (2)

Course Title: History of Architecture (2)
Course Number/Type: ARC348/Core
Credit Hours: 2 (2 theory hours lecture /week)

Course Description:

- Inform students about the development of European Architecture from pre-Roman age until Renaissance and Baroque.
- Enhance the concept of architectural interactions between European civilizations and others, specially with Arabic-Islamic civilizations.
- Analysing historical examples according to architectural theories of Design.
- Free-hand architectural drawings analysis

Refernces:

Fletcher, Banister, *A History of Architecture on the Comparative Method*, R.I.B.A. London
Mansbridge, John, *Graphic History of Architecture*, B.T. Bastsofrd Ltd., London, 1967.

Course Details:

Subject	Week
Introduction to the history of European Architecture	1
Greek Architecture: Architectural characters & Orders	2
Greek Architecture: Temples	3
Roman Architecture: Architectural characters	4
Roman Architecture: Temples & Pantheon	5
Roman Architecture: Other Building types	6
Interaction between Roman and Eastern Architecture	7
Early Christian Architecture	8
Byzantine Architecture	9
Romanesque Architecture:	10
Mid Term Exam	11
Gothic Architecture:	12
Early Renaissance Architecture	13
High Renaissance Architecture	14
Baroque Architecture	15

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الثالث / الخرسانة المسلحة (2)

Course Title: Reinforced Concrete (2)
Course Number/Type: ARC 349/Core
Credit Hours: 2 (1 lecture and 2 laboratory hours/week)
Level/Term: 3rd level / Spring

Course Description:

An introduction to the reinforced concrete structure, Characteristics of reinforced concrete elements, concrete and reinforcing steel Grades, Loading types and load combinations. Analysis and design of different structural elements subjected to flexure and shear using load and resistance factor design method (LRFD). Analysis and design of continuous one-way slabs and beams using the ACI coefficients method. Analysis and design of two-way slabs using coefficients method. Analysis and design of wall and spread footings. The above topics will be covered according to the American Building Code Requirements.

Refernces:

No textbook is required for this course. The given lectures will cover the required subjects. In addition to the lectures, the student can make use of the following references:

Design of Concrete Structures by Nilson, Darwin, and Dolan.

1. Reinforced concrete Mechanics and Design 6th Edition by Wight and MacGregor.
2. Design of Reinforced Concrete, Jack McCormac and Russell Brown.
3. ACI-318-14M, Building Code Requirements 2014, American Concrete Institute.
4. ASCE 7-10, Minimum Design Loads for Buildings and Other Structures.

Course Details:

Subject	Week
Introduction to concrete structures.	1
Loads on structures and design methodology.	2
Introduction to ASCE 7-10	3
Introduction to ACI 318	4
Introduction to ACI coefficient method for analysis of continuous one-way slabs and beams.	5
Analysis and design of continuous one-way slabs.	6
Analysis and design of continuous one-way slabs-Cont.	7
Analysis and design of continuous beams.	8
Analysis and design of continuous beams-Cont.	9
Introduction to analysis and design of two-way slabs using the ACI coefficient method.	10
Analysis and design of two-way slabs.	11
Analysis and design of two-way slabs-Cont.	12

Introduction to footings.	13
Analysis and design of wall footing.	14
Analysis and design of spread footing.	15

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الثالث / خدمات المباني(2)

Course Title: Building services 2
Course Number/Type: ARC 350/Core
Credit Hours: theoretical: 2 huors weekly
Level/Term: 3rd level / Spring

Course Description:

Introduction to engineering services and why does the architects should learn and understand the engineering services .
Basic information about electricity power and how its generate , supply and distribution .
Describes the electricity energy consumption calculations , electrical installations systems and types . presents types of various electrical systems in buildings .
Interior lighting design calculations concentrated on (lumen method) , lighting fixtures , types and their affects on interior design , other lighting characteristics like types of Glare and method to avoid it , color temperature of lamps and its biological effects on humans and space , color rendering of lamps .
Describes some of light fixture types according to light direction and distribution.
Covers some of the remaining building services which in major touch with architectural design (fire detection and alarm system , conveying systems including elevators , escalators and their types and design requirements).

Refernces:

1 - التأسيسات الكهربائية ، د. مظفر النعمة ، د. سنان عطار باشي 1982
2 - هندسة الخدمات الكهربائية المعمارية ، د. مظفر النعمة 2012
3 - تصميم الانارة العربي ، عزت بارودي 2008
4- Environment and Services By Peter Burberry Dip Arch,Msc,RIBA,FCIOB, London,Basford Limited,1986.
5- Architectural Lighting Design, a practical guide ,
Admire Jukanovic 2018
6- Building Control Systems , Vaughn Bradshaw

Course Details:

Subject	Week
Introduction to Building services	1
Electricity energy consumption calculation	2
Electricity load distribution in buildings + Electricity installation systems	3
Lighting design (lumen method)	4
Interior lighting design (1)	5
Interior lighting design (2)	6
Interior lighting design (3)	7
Exterior lighting design and Media architecture	8
Fire detection and Alarm system	9

Firefighting and suppression	10
Conveying systems (Elevators)	11
Conveying systems (Escalators)	12
Project of small house design (working drawings of electricity installations)	13
Building systems integration	14
General preview and discussion	15

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الثالث / الرسوم التنفيذية (2)

Course Title: working drawing 2
Course Number/Type: ARC 351/Core
Credit Hours: 4
laboratory hours/week)
Level/Term: 3rd level / Spring
Prerequisites:

Course Description:

Introducing iron designs and how to deal with Steel sections of various types and shapes, in addition to teaching students how to form and shape Steel structures with relatively large areas and dealing with details related to the details, as well as identifying the features of different architectural spaces designed from Steel sections.

Refernces:

1. - building construction vol. 3
2. - building construction vol. 5
3. - structure and fabric
4. - working drawing handbook
5. - Steel Structures Design
6. - introduction to structural engineering
7. - Design of Steel Structures

Course Details:

Subject	Week
Structural comparison between the traditional structure and the unconventional structure in terms of the structural system of steel structures.	1
Explain the types of structural systems for steel structures.	2
Structural Steel system (a type of iron truss) with structural details specific to this type.	3
Steel structural system (type of cable or wire drawn) with structural details of this type.	4
Explanation of iron systems in general.	5
The first presentation: a detailed presentation of the general planning and at the level of the departments (plans, facades, and sections), and with architectural details.	6
Explanation of electrical plans in detail and for architectural horizontal plans.	7
practical test .	8
Modern methods of construction (shell building systems and suspended structural systems).	9
Discussions	10

Discussions	11
The second presentation: a detailed presentation of the method of prefabricated construction and the various construction systems (steel systems with their details).	12
Discussions	13
Discussions	14
Final presentation	15

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الثالث / المنطق ومنهجية التصميم

Course Title: Logic & Methodology of design
Course Number/Type: ARC 352 /Core
Credit Hours: 1 (1 lecture hours/week)
Level/Term: 3rd level / semester 2
Prerequisties:

Course Description:

A core course through which the student learns the logic and methodology of design processes. Introducing the importance of logic and methodology in design in general is one of the topics that play an important role in the design process, clarifying the basic design principles, processes and factors involved in making the design, and their practical application in the design. In addition to in-depth information on design and thinking processes, inference and analysis, depending on the results to employ the correct methodology of design depending on the inputs and outputs of the project.

Refernces:

1- Methodology of architectural design
2- The psychological language of architecture
3- Rethinking Design and Interiors: Human Beings in the Built Environment

Course Details:

Subject	Week
Introduction to the course and its definition and some of its terms	1
What is design as a mental and logical process	2
What is thinking and how to apply it in design	3
The principle and mechanism of logical thinking	4
The design process	5
The needs and design	6
The Design process theories	7
Factors affecting the design process	8
The design methodology and method of thinking	9
Types of design methodologies	10
Logic and logical thinking	11
logic elements	12
Evaluation and development process	13
Analytics	14
Integrated steps of the design process	15

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الثالث / تطبيقات التخطيط والاسكان

Course Title: Logic & Methodology of design
Course Number/Type: ARC 352 /Core
Credit Hours: 1 **(**1 **lecture hours / week)**
Level/Term: 3rd level / semester 2
Prerequisties:

Course Description:

A core course through which the student learns the logic and methodology of design processes. Introducing the importance of logic and methodology in design in general is one of the topics that play an important role in the design process, clarifying the basic design principles, processes and factors involved in making the design, and their practical application in the design. In addition to in-depth information on design and thinking processes, inference and analysis, depending on the results to employ the correct methodology of design depending on the inputs and outputs of the project.

Refernces:

1- Methodology of architectural design
2- The psychological language of architecture
3- Rethinking Design and Interiors: Human Beings in the Built Environment

Course Details:

Subject	Week
Introduction to the course and its definition and some of its terms	1
What is design as a mental and logical process	2
What is thinking and how to apply it in design	3
The principle and mechanism of logical thinking	4
The design process	5
The needs and design	6
The Design process theories	7
Factors affecting the design process	8
The design methodology and method of thinking	9
Types of design methodologies	10
Logic and logical thinking	11
logic elements	12
Evaluation and development process	13
Analytics	14
Integrated steps of the design process	15

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الثالث / نظم التحكم البيئي

Course Title: Planning Application and Housing
Course Number/Type: ARC361/Elective
Credit Hours: 2 (1 lecture and 2 laboratory hours/week)
Level/Term: 3rd level / Spring

Course Description:

The housing subject in the second semester aims at introducing the student to the concept of housing from the psychological, social, urban, economic and urban aspects, and looking at (the house or housing) as an urban unit within the urban fabric of the city as a whole, as well as looking at the housing sector as an economic sector that constitutes an essential and important part of the country's economies Its role is to address the housing deficit and its problems, and to raise its reality to the highest level in terms of construction and civilization.

Refernces:

1. Barker Review of Land Use Planning: Final Report – Recommendations, Norwich,
2. Brimly,'Housing market models and planning', Town Planning Review
3.Chapin, F. Stewart, Urban Land use Planning, University of Illinois
4. Mortada, Hisham, ,Traditional Islamic Principles of Built Environment, Routledge Curzon .

Course Details:

Subject	Week
Housing Basics: Definitions of Important Terms	1
Housing need and housing demand	2
Housing balance and housing deficit-	3
Types of housing standards and their descriptions	4
Population Densities: Definitions	5
Housing densities and their relationship to degrees of urbanization and urban environments.	6
Methods of controlling population densities	7
Housing policies and programs	8
The housing market and the factors of active market forces in it	9
The importance of the financing policy in the field of housing	10
Components of the residential urban fabric: characterization & analysis.	11
Movement networks and urban spaces network.	12
The Master Plans	13

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الثالث / التشريعات العمرانية

Course Title: Environmental Control Systems
Course Number/Type: ARC 362/ Elective
Credit Hours: 2 (2 lecture hours/week)
Level/Term: 3rd level /Fall
Prerequisties:

Course Description:

Course is concerned with studying the environmental aspects in terms of climate, the use of new and renewable energy sources such as the sun and wind, in addition to the use of plants and environmentally friendly building materials, the optimal exploitation of the surrounding environment, and identification of strategies for environmental control systems, Passive Control System, in terms of cooling, heating, ventilation, thermal mass and evaporative cooling, which provide the maximum Thermal comfort and safety for designing buildings in a manner that respects the environment, in addition to demonstrating the role of environmental control in rationalizing energy consumption, minimizing negative environmental impacts, and providing an environmentally friendly indoor environment, through which it is possible to achieve sustainable, environmentally friendly buildings.
The climate consultant program will also be used for the purpose of understanding the local climate of the area in which any project is located when analyzing the site, identifying climatic analyzes for different regions, and identifying the most important strategies and environmental control systems that can be relied upon in designing buildings in different climatic zones.

Refernces:

1- The green studio handbook, Environmental Strateries for Schematic Design. By Alison G. Kwok and Walter Grondzik, 2018.
2- Heating, Cooling, Lighting Sustainable Design Mwthods for Architects by Norbert Lechner, 2009.

Course Details:

Subject	Week
An introduction to environmental control systems and the most important determinants that must be studied when designing buildings, starting with the the site design strategies.	1
Learn about the international green building rating systems.	2
Environmental analysis by using Climate consultant program.	3
Insulating materials as environmental control system.	4
Green walls/ Facades as environmental control system.	5
Green roofs as environmental control system.	6
Double skin walls and dynamic facades as environmental control system.	7
Glazing technology as environmental control system.	8

Ministry of Higher Education
& Scientific Research
University of Mosul
College of Engineering
Architectural Engineering
Department

وزارة التعليم العالي والبحث العلمي
جامعة الموصل
كلية الهندسة
قسم هندسة العمارة

University of Mosul

جامعة الموصل

First Cycle – bachelor's degree (B.Sc.) – Architectural Engineering

بكالوريوس – هندسة العمارة

البرنامج الاكاديمي (نظام المقررات / المستوى الرابع)

2024 – 2023

المستوى الدراسي الرابع (الفصل الاول)									
اسم المتطلب	اسم المقرر		نوع المتطلب	عدد الساعات النظرية	عدد الساعات العملية	عدد الوحدات	المهد ان وجد	رمز المقرر	الملاحظات
	باللغة العربية	باللغة الانكليزية							
متطلبات الجامعة	اخلاقيات المهنة	Professional Ethics	اجباري	2		2		UOMC404	
	اللغة الانكليزية- فوق المتوسط	English Language –Upper Intermediate	اجباري	2		2			
متطلبات القسم	التصميم المعماري (7)	Architectural Design (7)	اجباري	1	8	5	التصميم المعماري(6)	ARC 441	
	تصميم الفضاءات الداخلية	Interior Design	اجباري	1	2	2		ARC 442	
	نظريات التصميم الحضري	Theories of Urban Design	اجباري	2		2		ARC 443	
	العمارة والاستدامة البيئية	Architecture and Environmental Sustainability	اجباري	2		2		ARC 444	
	تصميم المنشات الفولاذية	Design of Steel Structures	اجباري	1	2	2		ARC 445	
	العمارة المحلية	Local Architecture	اختياري	2		2		ARC 461	يختار الطالب مقرر واحد ، عدد الوحدات المطلوبة= 2 وحدة
	اساسيات الحفاظ المعماري	Fundamentals of Architectural Conservation		1	2	2	التوثيق المعماري	ARC 462	
	علم النفس المعماري	Architectural Psychology		2		2		ARC 463	
مجموع ساعات و وحدات الفصل الاول للمستوي الرابع				13	12	19			

المستوى الدراسي الرابع (الفصل الثاني)									
اسم المتطلب	اسم المقرر		اسم المقرر	نوع المتطلب	عدد الساعات النظرية	عدد الساعات العملية	عدد الوحدات	رمز المقرر	الملاحظات
	باللغة العربية	باللغة الانكليزية							
متطلبات الكلية	تكامل المنظومات الهندسية	Engineering systems integration	اختياري	2		2		ENGE438	اجباري لطلبة القسم
متطلبات القسم	التصميم المعماري (8)	Architectural Design (8)	اجباري	1	8	5	التصميم المعماري (7)	ARC 446	
	عمارة الفضاءات الخارجية	Landscape Architecture	اجباري	1	2	2		ARC 447	
	برمجة الفضاءات المعمارية	Architectural Spaces Programming	اجباري	2		2		ARC 448	
	نظرية العمارة	Theory of Architecture	اجباري	3		3		ARC 449	
	العمارة الاسلامية	Islamic Architecture	اجباري	2		2		ARC 450	
	تقنيات البناء المتقدم	Advanced Construction Techniques	اختياري	2		2		ARC 464	يختار الطالب مقرر واحد عدد الوحدات المطلوبة= 2 وحدة
	العمارة المستدامة	Sustainable Architecture		2		2		ARC 465	
	ادارة المشاريع الانشائية	Construction Projects Management		2		2		ARC 466	
	التصميم النباتي	Planting Design		1	2	2		ARC 467	
مجموع ساعات و وحدات الفصل الثاني للمستوي الرابع				13	10	18			

اهداف البرنامج الاكاديمي	
المؤسسة التعليمية	**كلية الهندسة / جامعة الموصل**
القسم الجامعي / المركز	**قسم هندسة العمارة**
برنامج الاعتماد	**مسار بولونيا Bologna Process**

- إعداد كوادر مؤهلة علمياً ومهنياً وتربوياً في مختلف المجالات المعرفية وفقاً لمعايير جودة عالية.
- تعزيز البحث العلمي في العلوم النظرية والتطبيقية، مع تشجيع المبادرات المرتبطة ببرامج التنمية، والحرص على مواكبة التطورات العلمية العالمية والتخطيط للمستقبل.
- التطوير المستمر للمناهج الدراسية في المرحلتين الجامعية والدراسات العليا، بما يتناسب مع المستجدات العلمية والمنهجية والتقنية الحديثة.
- المشاركة في خدمة المجتمع من خلال التفاعل المستمر مع مؤسسات الدولة وتقديم الاستشارات العلمية، وتعزيز برامج التعليم المستمر.
- ربط العمارة بالتخصصات الهندسية الأخرى وتنمية العلاقات معها، باعتبارها جزءاً أساسياً من نهضة المجتمع.
- التأكيد على دور هندسة العمارة في بناء المجتمع وتحسين البيئة التي يعيش فيها الناس.
- إعداد خريجين معماريين وفق قواعد علمية تمكنهم من ممارسة المهنة بكفاءة في التصميم المعماري والحضري وتخطيط المدن والفضاءات الداخلية والخارجية، إلى جانب الحفاظ على التراث والآثار وفق الأساليب العلمية.
- تنفيذ برامج عملية واضحة تهتم بتكنولوجيا الاستدامة ومعايير الجمال المعماري، مع مواكبة التطور في الدول المتقدمة من خلال توفير برنامج تعليمي معماري يعتمد على التقنيات الحديثة في المجالات الهندسية والفنية.
- التركيز على جودة العملية التعليمية في العمارة من خلال اختيار مناهج دراسية متخصصة وحديثة باستمرار، وإنجاز تقارير التقييم الذاتي بهدف الحصول على الاعتماد الأكاديمي.
- تمكين الكوادر التدريسية في قسم هندسة العمارة من خلال زيادة نسبة حملة شهادات الدكتوراه مقارنة بحملة الماجستير.
- الاهتمام بالبحوث العلمية التطبيقية وتصميم المشاريع التطبيقية لتعزيز الشراكات والعلاقات مع المؤسسات والجامعات المرموقة.
- تطوير مهارات الخريجين من خلال توفير دورات التعليم المستمر التخصصية والحفاظ على التواصل معهم بما يعزز تحقيق رسالة القسم.

مخرجات التعلم المتوقعة للبرنامج

المعرفة

1أ. تشمل مبادئ العلوم الأساسية والتطبيقية والهندسية الضرورية لتقديم تخصص هندسة العمارة، مثل الرياضيات والهندسة المجسمة والفيزياء والرسم الهندسي والإحصاء والتقنيات الحاسوبية والأتمتة.

2أ. تغطي علوم هندسة العمارة التخصصية جوانب متنوعة من التصميم المعماري والتنفيذ والإنشاء والرسوم التنفيذية والرسم المعماري والحر، بالإضافة إلى التصميم الداخلي وتصميم الفضاءات الخارجية والتصميم الحضري وتخطيط المدن. تهتم هندسة العمارة بالعديد من الجوانب وتتفاعل مع العديد من العلوم وتساهم في تطبيقات مهمة في الحياة اليومية.

3أ . الأهداف المهنية والأسس المساندة: تشمل المهارات الداعمة للتطبيق ضمن أطر نظرية، مثل كتابة التقارير والبحوث، بالإضافة إلى المعرفة بالمحددات الاقتصادية والقانونية والصحية والاجتماعية والأمنية.

المهارات

1ب . مهارات التصميم: اكتساب القدرة على إنشاء تصاميم معمارية مبتكرة ومستدامة، بما في ذلك التصميم الداخلي وتصميم الفضاءات الخارجية والحضرية.

2ب. مهارات البحث والتحليل: تطوير مهارات البحث وجمع المعلومات وتحليلها لتطبيقها في مشاريع التصميم، بما في ذلك الاعتبارات البيئية والاقتصادية والاجتماعية.

3.ب. مهارات التواصل والتعاون: تعزيز مهارات التواصل الفعّال والعمل الجماعي مع زملاء الدراسة والمتخصصين في مجالات متعددة، بما في ذلك كتابة التقارير وعرض الأفكار بشكل واضح ومقنع.

القيم

ج1 الإبداع والابتكار: تعزيز قيم الإبداع والابتكار في عملية التصميم والبحث، مما يسهم في تطوير حلول معمارية مبتكرة ومستدامة.

ج2 المسؤولية الاجتماعية والبيئية: تعزيز الوعي بالمسؤولية الاجتماعية والبيئية للمهندس المعماري، وضمان تطبيق مبادئ التنمية المستدامة في مشاريع التصميم والبناء.

Academic Program Objectives	
Faculty/Institute	**University of Mosul / College of Engineering**
Scientific Department	**Architecture Engineering Department**
Academic System	**Bologna Process**

- Preparing qualified cadres in various fields of knowledge in accordance with high quality standards.
- - Promoting scientific research in theoretical and applied sciences, encouraging initiatives related to development programmed and ensuring that global scientific developments are kept abreast and planning.
- - Continuous development of the curriculum at the undergraduate and postgraduate levels, commensurate with recent scientific, methodological, and technical developments.
- - Participation in the service of the community through continuous interaction with state institutions and the provision of scientific consultations and the promotion of continuing education programmed.
- - Linking architecture to other engineering disciplines and developing relations with them, as an essential part of society's renaissance.
- - Emphasizing the role of architecture in building society and improving people's environment.
- - Preparation of architectural graduates in accordance with scientific rules to enable them to practice the profession efficiently in architectural and urban design and planning of cities and indoor and outdoor spaces, as well as preservation of heritage and monuments according to scientific methods.
- - Implementation of clear practical programmed on sustainability technology and standards of architectural beauty, while keeping pace with the development in the developed countries by providing an architectural educational programmed based on modern techniques in the engineering and technical fields.
- - Focus on the quality of the architecture's educational process through the selection of specialized and continuously modern curricula and the completion of self-assessment reports with a view to obtaining academic accreditation.
- - Empowering teaching staff in the Department of Architecture Engineering by increasing the proportion of doctoral holders compared to the master's campaign.
- - Interest in applied scientific research and design of applied projects to strengthen partnerships and relationships with prestigious institutions and universities.
- - Developing graduate skills by providing specialized continuing education courses and maintaining communication with them to enhance the achievement of the department's

mission.

Expected learning outcomes of the program

Knowledge

A1- The basic, applied and engineering science principles necessary to provide architecture specialization, such as mathematics, stereotyping, physics, engineering drawing, statistics, computer techniques and automation.
A2. Specialized architecture sciences cover various aspects of architectural design, implementation, construction, executive drawings, architectural and free drawing, as well as interior design, outdoor space design, urban design, and city planning. Architecture is concerned with many aspects and interacts with many sciences and contributes to important applications in everyday life.
A3. Professional objectives and supporting foundations: Supporting skills include application within theoretical frameworks, such as reporting and research, as well as knowledge of economic, legal, health, social and security determinants.

Skills

1b. Design skills: Capability to create innovative and sustainable architectural designs, including interior design and design of outdoor and urban spaces.
2b. Research and analysis skills: developing research and information collection and analysis skills for application in design projects, including environmental, economic, and social considerations.
3.b. Communication and collaboration skills: Enhance effective communication and teamwork skills with classmates and specialists in multiple areas, including writing reports and presenting ideas clearly and convincingly.

Ethics

C1 Creativity and Innovation: Enhancing the values of creativity and innovation in the design and research process, contributing to the development of innovative and sustainable architectural solutions.
C2 Social and environmental responsibility: Promote awareness of the architect's social and environmental responsibility and ensure the application of sustainable development principles in design and construction projects.

مخرجات التعليم المطلوبة من البرنامج

رمز المقرر	اسم المقرر	اساسي ام اختياري	الساعات المعتمدة	الساعات المعتمدة	مخرجات التعليم المطلوبة من البرنامج							
			نظري	عملي	المعرفة			المهارات			القيم	
UOMC404	اخلاقيات المهنة	اجباري	**2**		√	√	√	√	√	√	√	√
	اللغة الانكليزية -فوق المتوسط	اجباري	**2**		√	√	√	√	√	√	√	√
ARC441	التصميم المعماري (7)	اجباري	**1**	**8**	√	√	√	√	√	√	√	√
ARC442	تصميم الفضاءات الداخلية	اجباري	**1**	**2**	√	√	√	√	√	√	√	√
ARC443	نظريات التصميم الحضري	اجباري	**2**		√	√	√	√	√	√	√	√
ARC444	العمارة والاستدامة البيئية	اجباري	**2**		√	√	√	√	√	√	√	√
ARC445	تصميم المنشات الفولاذية	اجباري	**1**	**2**	√	√	√	√	√	√	√	√
ARC461	العمارة المحلية	اختياري	**2**		√	√	√	√	√	√	√	√
ARC462	أساسيات الحفاظ المعماري	اختياري	**1**	**2**	√	√	√	√	√	√	√	√
ARC463	علم النفس المعماري	اختياري	**2**		√	√	√	√	√	√	√	√
ENGE438	تكامل المنظومات الهندسية	اجباري	**2**		√	√	√	√	√	√	√	√
ARC446	التصميم المعماري (8)	اجباري	**1**	**8**	√	√	√	√	√	√	√	√
ARC447	عمارة الفضاءات الخارجية	اجباري	**1**	**2**	√	√	√	√	√	√	√	√
ARC448	برمجة الفضاءات المعمارية	اجباري	**2**		√	√	√	√	√	√	√	√
ARC449	نظرية العمارة	اجباري	**3**		√	√	√	√	√	√	√	√
ARC450	العمارة الاسلامية	اجباري	2		√	√	√	√	√	√	√	√
ARC464	تقنيات البناء المتقدم	اختياري	**2**		√	√	√	√	√	√	√	√
ARC465	العمارة المستدامة	اختياري	**2**		√	√	√	√	√	√	√	√
ARC466	ادارة المشاريع الانشائية	اختياري	**2**		√	√	√	√	√	√	√	√
ARC467	التصميم النباتي	اختياري	**1**	**2**	√	√	√	√	√	√	√	√

نموذج وصف المادة الدراسية MODULE DESCRIPTION FORM
المستوى الرابع / اخلاقيات المهنة

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الرابع / اللغة الانكليزية – فوق المتوسط

Academic Year	:	2023-2024
Credit hours	:	2
Course type	:	Required (R)
E-Class (Code)	:	Google Classroom (yjccufs)
Instructor	:	MSc. Rawia Marwan Dabdoob
Instructor E-mail	:	rawia.dabdoob@uomosul.edu.iq
Pre-requisites	:	-----

Catalog Description:

First of all, Headway's trusted methodology combines solid grammar and practice, vocabulary development, and integrated skills with communicative role-plays and personalization. The curriculum followed an integrative approach that provides linguistic information, grammatical and vocabulary. The curriculum integrates a balanced syllabus that supports the four skills of listening, reading, writing, and speaking. The New Headway book's curriculum includes a range of topics and up-to-date material with global appeal. It builds student confidence and enhances fluency in speaking. Authentic material from a variety of sources enables students to see new language in context, and a range of comprehension tasks, language and vocabulary exercises, and extension activities practice the four skills that support the four skills of language learning. The curriculum provides two important parts of learning the English language: the first is the 'Everyday English' and the second part is 'Spoken grammar' sections practice real-world speaking skills. The curriculum also provides detailed information about the grammar of the language and how to write it, which is mentioned in each unit in the book units mentioned independently at the end of the book to provide models for students to analyze and imitate. Accordingly, the curriculum focused on formal linguistic rules, methods of writing and formulating them, tenses of verbs and their uses, auxiliary verbs, compound sentences, interrogative sentences, tools for affirmation, affirmation and negation sentences. The curriculum also focused on the daily language spoken by the general public in daily life, which included talking about general information, personal preferences, expressing opinion, advice, support and rejection...ect. Besides, the curriculunm emphyzises on the way the sentences are pronounced in the English Music tone. In addition, the curriculum included articles to develop reading skills by understanding the general context with related questions about articles.

Reference Books:

- Liz and John Soars (2016) New Headway Upper-Intermediate Student's Book New Edition. OXFORD University Press.

Graduate outcomes (GOs) addressed by the course:

i	ii	iii	iv	v	vi	vii
			√			

Course Learning Outcomes (CLOs)

On successful completion of this course, students will be able to:

17. Remember the words of English language and recall their meanings. (iv)
18. Understand others' ideas. (iv)
19. Improve skills of communication with others: listening, reading, writing, and speaking. (iv)

Weekly Teaching Plan:

Subject	Credit hours	No. of Weeks
Unit 1: No place like home	2	1
Unit 2: Been there, done that!	2	1
Unit 3: What a story!	2	1
Unit 4: Nothing but truth	2	1
Unit 5: An eye to the future	2	1
Unit 6: Making it big	2	1
Unit 7: Getting on together	2	1
Unit 8: Going to extremes	2	1
Unit 9: Forever friends	2	1
Unit 10: Risking life and limb	2	1
Unit 11: In your dreams	2	1
Unit 12: It's never too late	2	1
Listening and Reading	6	3
Total	**30**	**15**

Grading Policy:

7 H.W. Assignments	27 pts
Term Exam	10 pts
Attendance and Participation	3 pts
Final Exam	60pts
Total	100pts

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الرابع / التصميم المعماري 7

Title of Subject	**Architectural Design 7**	Theoretic Hour/week	Practical Hour/week
		2	10
		Credits:	14
Code No.	ENAR-401		
Offering Semester	First semester □	Second semester □	Yearly ■
Course Objective	At the end of the year, the student has to know how to design complex buildings with complex systems regarding function, services, occupants and users, and how to relate the system's buildings to their direct and indirect urban context.		
Course Description			
Textbook			
References	References with the subjects of certain selected building types such as Hospitals, Court Houses, Libraries, and mixed use mega- structures complexes.		
Course Assessments	Yearly work	Final Exam	
	%100	%0	

Week	Topics Covered	Notes
1	Project Assignments/ Introduction	
2	Functional Programs & Site Selection Groups	
3	Analysis of Functional Programs Groups	
4	Analysis of Precedents and similar examples Individual	
5	Initial Ideas & Concepts/ Discussions Individual	
6	Development of Concept	
7	Initial Presentation+ Ground Floors	

8	Criticism & Development	
9	Criticism & Development	
10	Initial Presentation+ Elevations	
11	Criticism & Development	
12	Criticism & Development	
13	Pre- final Presentation	
14	Development	
15	Final Submission	
16		

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الرابع / تصميم الفضاءات الداخلية

Title of Subject	**Interior Design**	Theoretic Hour/week	Practical Hour/week
		1	3
		Credits:	2
Code No.	ENAR-402		
Offering Semester	First semester ■	Second semester □	Yearly □
Course Objective	To provide a comprehensive understanding of the major aspects of Interior Architecture, And encourage student to use creative methods to solve Interior design challenge		
Course Description	Design studio allows students to create creative interiors with spatial qualities that are habitable for people on all levels of experience: aesthetically, functionally, and psychologically. With comfort and efficiencyInterior , architecture study of the relationships within the building enclosures; architectural planes, aspects of layout, furnishing, vertical and horizontal circulation among interior spaces, properties of interior materials, space lighting and acoustics.		
Textbook			
References	Interior Design Illustration ,Van Nostrand Reinhold Co.,1987. Francis D.K. Ching, - -Joseph DeChiara, Time-Saver Standards for Interior Design and Space Planning, 2nd Edition ,McGraw Hill, 2001		
Course Assessments	Course work	Final Exam	
	70 %	30 %	

Week	Topics Covered	Notes
1	Introduction ,definitions , references	Start 1st project.
2	Review of previous years students projects	

3	Review of international interior design projects	
4	How to start interior Design	
5	Interior Space Analysis &Requirement	Start 2nd project
6	A Design Vocabulary ,Form ,Shape	
7	Texture ,Light, ,Color	
8	Interior Design Principles,	
9	Interior Design Elements, ceilings ,walls	
10	,floors, Doors, Windows ,Staircases	
11	Furniture ,Accessories	
12	Integration of HVAC . Systems with interior Design	
13	Interior Design Materials	
14	Visual Design, Attentions ,Illusions	
15	Students reports discussion	
16	Interior Design Project final discussion	

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الرابع / نظريات التصميم الحضري

Title of Subject	**Landscape Design**	Theoretic Hour/week	Practical Hour/week
		1	3
		Credits:	2
Code No.	ENAR-403		
Offering Semester	First semester □	Second semester ■	Yearly □
Course Objective	To provide a comprehensive understanding of the major aspects of Landscape Architecture, And encourage student to use creative methods to solve landscape design challenges.		
Course Description	Comprehensive application of landscape design skills. Design studio allow students to apply theories and principles of landscape architecture to their own projects. These projects are developed according to certain scale requirements cover areas such as urban open spaces,.introducing theories, principles and examples of contemporary landscape architecture with emphasis on landscapes for hot arid environments; site analysis and landscape evaluation; , site design; ; theory, process, materials, features and design elements; appropriate plant materials, structures, pavements and street furniture, grading, drainage and irrigation.		
Textbook			
References	1-MUTLOCH, J.L., Introduction to Landscape Design, John Wiley & Sons, 2001 2-Theodore D., Site Design and Construction Detailing, John Wiley & Sons, 1991		
Course Assessments	Course work	Final Exam	
	70 %	30 %	

Half-Year Break		
1	Introduction ,definitions , references	Start 1st project.
2	Review of pervious years students projects	
3	Review of international landscape design projects	
4	How to start landscape Design	
5	History of garden design,	Start 2nd project

6	Site analysis	
7	Site furniture and fixture	
8	Plant material	
9	Planting design	
10	Water in Landscape design	
11	Gardens types	
12	Energy conservation through landscape design	
13	Information technology in landscape architecture	
14	Landscape detailing	
15	Students reports discussion	
16	Landscape Design Project final discussion	

نموذج وصف المادة الدراسية MODULE DESCRIPTION FORM
المستوى الرابع / العمارة والاستدامة البيئية

نموذج وصف المادة الدراسية MODULE DESCRIPTION FORM
المستوى الرابع / تصميم المنشآت الفولاذية

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الرابع / العمارة المحلية

Credit hours	:	2
Course type	:	Elective (E)
E-Class (Code)	:	Google Classroom (grxfkk5)
Instructor	:	Dr. Ahmed Abdulwahid Dhannoon Taha
Instructor E-mail	:	ahmadabdulwahid@uomosul.edu.iq
Pre-requisites	:	

Catalog Description:

The local architecture course is concerned with the study of local architecture in the city of Mosul,Origination and formation factors (What are the natural and cultural factors that shape the local architecture in the city of Mosul?) (Environment, Climate, and Religious Thought), A set of general characteristics of local architecture in the city of Mosul, Types of buildings according to their functions in local architecture of Mosul city such as religious buildings such as mosques and churches, service buildings such as markets, khans, , baths, , residential buildings such as traditional house of old Mosul .This course aims to teach students the basic principles of local architectural, and Identify the general characteristics of local architecture of old Mosul 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.

Reference Books:

1. العمائر السكنية في مدينة الموصل " نماذج من التوثيق العام "، اعداد مكتب الانشاءات الهندسي، ط1، الموصل، المديرية العامة لآثار ومتاحف المنطقة الشمالية، هيئة التراث، 1982.

2. العمائر الدينية في مدينة الموصل " نماذج من التوثيق العام "، اعداد مكتب الانشاءات الهندسي، ط1، الموصل، المديرية العامة لآثار ومتاحف المنطقة الشمالية، هيئة التراث، 1982.

3. العمائر الخدمية في مدينة الموصل " نماذج من التوثيق العام "، اعداد مكتب الانشاءات الهندسي، ط1، الموصل، المديرية العامة لآثار ومتاحف المنطقة الشمالية، هيئة التراث، 1982.

4. Thanoon, A.A. (2007), "Popular architecture of old city of Mosul the architecture of the traditional house", International Conference for Asian and North African Studies (ICANS 38),

5.Abeer Abdullah, Ahmed Dhannoon, " Pre-Fabrication of Marble Window Frames In Mosul's Traditional Houses", Al-Rafidain Engineering Journal (AREJ), Vol.26, No.2, October 2021.

6.Y. Thanoun, A. Sherif, and A. Al Sayegh " Residential buildings in the city of Mosul - models of general documentation ", prepared by the Engineering Construction Office, 1st edition, Mosul, General Directorate of Antiquities and Museums of the Northern Region, Heritage Authority, 1982.

Graduate outcomes (GOs) addressed by the course:

i	ii	iii	iv	v	vi	vii
√			√			

Course Outcomes (CLOs)

On successful completion of this course students will be able to:

- Recognize the most important characteristics of local architecture in Old Mosul (i).
- ….Describing and Identifying the most important functional types in local architecture in old Mosul, such as the mosque, the church, the khan, the, and the bathroom. (i).
- Recognize the detailed components of each functional type in local architecture in old Mosul .(i)
- Analyzing the important characteristics in most functional types of local architecture in old Mosul (iv)
- Analyzing of contemporary design projects that include characteristics of local architecture (iv)
- report of the data about the contemporary design projects that include characteristics of local architecture in old Mosul (iv)

Weekly Teaching Plan:

Subject	Credit hours	No. of Weeks
Introduction to The local architecture What is the local architecture in the city of Mosul	2	1
Genesis and formation factors The natural and cultural factors that shape the local architecture in the city of Mosul?)	2	1
A set of general characteristics of local architecture in the city of Mosul Compatibility with the principles of the Islamic religion and the cultural heritage of other religions	4	2
Compatibility with the climatic environment	2	1
Sustainability in local architecture	2	1
Prefabrication technology in local architecture	2	1
Types of buildings according to their function in local architecture Residential Buildings (The Heritage Mosul House)	4	2
Religious buildings (mosque buildings, churches buildings)	4	2
Service buildings (markets,khans, bathrooms)	4	2
reports	2	1
Term Exam	2	1
Total		**15**

Grading Policy:

quizzes	10 pts
reports	10 pts
Term Exam	20 pts
Final Exam	60 pts
Total	100pts

نموذج وصف المادة الدراسية MODULE DESCRIPTION FORM
المستوى الرابع / اساسيات الحفاظ المعماري

نموذج وصف المادة الدراسية MODULE DESCRIPTION FORM
المستوى الرابع / علم النفس المعماري

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الرابع / تكامل المنظومات الهندسية

Credit hours	:	1
Course type	:	Elective, (Required for Architectural Dept.)
E-Class (Code)	:	https://classroom.google.com/c/NTg0NTI5OTYyOTcx
Instructor	:	Assist. Prof. Miqdam Ameen Al-Kurukchi
Instructor E-mail	:	miqdamameen@uomosul.edu.iq
Pre-requisites	:	None

Catalog Description:

The subject is interested in teaching BIM by studying Revit program.
The course aims to provide students with the skills of conceptualizing, designing and documenting engineering projects using this software.

Reference Books:

1- Mastering Autodesk Revit 2018, Copyright © 2017 by John Wiley & Sons, Inc., Indianapolis, Indiana, Lance Kirby & others.
2- Revit 2019 Architecture, 2019, Munir M. Hamad, Publisher: David Pallai Mercury Learning and Information, 22841 Quicksilver Drive.

Graduate outcomes (GOs) addressed by the course:

i	ii	iii	iv	v	vi	vii
✓	✓					

Course Outcomes (CLOs)

On successful completion of this course students will be able to:

- Qualifying students to acquire skills in employing the program to conceptualize architectural projects….(**i)**
- Qualifying students to acquire skills in employing the program to design architectural projects….(**ii)**
- Qualifying students to acquire skills in employing the program to document architectural projects….(**ii)**
- Providing students with the skill of enriching the program library by designing additional elements and adding them to the program library….(**ii)**
- Enabling students to invest the capabilities of the program in estimating and preparing tables of material's quantities. As well as using the potentials of the program in environmental analysis…..(**ii)**

Weekly Teaching Plan:

Subject	Credit hours	No. of Weeks
Introduction to BIM concept. It's definition and potentials… Explaining the details of Revit User Interface.	4	2
Methods of constructing projects in revit. Building components 1 (walls)…	2	1
Building components 2: (Doors, Windows, Floors, Roofs, ceilings)…	4	2
Datum components & views (Elevations, sections, grid, levels, reference planes).	2	1
Building component 3: (stairs & ramps, curtain walls).	4	2
Constructing complex-shaped buildings using massing tools.	2	1
Course Examination1(practical)…	2	1
Annotations (text, tags, dimensions, keynotes).	2	1
Details & quantity schedules.	2	1
Creating drawing sheets & plotting.	2	1
Adding site features (topography & contour lines, building pads, entourage).	2	1
Rendering, materials, lighting.	2	1
Total	**30**	**15**

Grading Policy:

quizzes	0 pts
Homework	15 pts
Visits reports	0 pts
Multidisciplinary design project	15 pts
Term Exam	30 pts
Final Exam	40 pts
Total	100pts

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الرابع / التصميم المعماري 8

Credit hours	:	9
Course type	:	Required (R)
E-Class (Code)	:	Google Classroom
Instructors	:	Dr. Dhuha Abdulgani Al-kazzaz Ghada Mohammed Younis Miqdam Ameen Majeed Baydaa Hanna Saffo Farhan Awad Jasim Amer Abdullah Alazzawi
Instructor E-mail	:	dhuha.kazzaz@uomosul.edu.iq
Pre-requisites	:	Architectural Design (7)

Catalog Description:

This course, in the design studio sequence, continues the development of a comprehensive building design process with problems of complex scope. The studio focuses on building types that exhibit complexity and challenge such as university academic buildings. Project of university college explored in this studio includes the synthesis of spatial, functional, and contextual concerns, as directly linked to the understanding and employment of building systems. In addition, emphasis is placed on building envelope in terms of form, massing, articulation and fenestration. The use of computer-aided drafting is a part of the design exploration and presentation.

Reference Books:

1- Joseph De Chiara, "Time-Saver Standards for Building Types".
2- Ernst Neufert ,"Neufert Architects' Data".
3- Sibylle Kramer, "colleges & universities – Educational Spaces".
4- Katy Lee, "University Architecture".

Graduate outcomes (GOs) addressed by the course:

i	ii	iii	iv	v	vi	vii
√	√	√	√	√	√	√

Course Outcomes (CLOs)

On successful completion of this course students will be able to:

- Ability to gather, analyze, assess, record, apply, and comparatively evaluate relevant information within architectural coursework and design processes.
- Using creativity, conceptual skills, and judgment to identify human and environmental needs and to meet or express them in space and form.

- Demonstrate an understanding of principles and practices and integrate and apply that knowledge within architectural coursework and design processes.
- 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.
- Critical understanding of the theory and practice of environment and energy issues in the cultural context of society as a whole
- Ability to develop imaginative and creative thinking within architectural coursework and design processes.

Weekly Teaching Plan:

Subject	Credit hours	No. of Weeks
Introduction to College designs: types, functions, and characteristics. 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.	9	1
Data collection of Design standards and criteria of educational building designs.	9	1
Site analysis	5	0.5
Day Sketch-1	4	0.5
Discussion of proposals of design concept	18	2
First submission of Design concept	4	0.5
Design concept development	9	1
Development of plans (zoning & circulation)	18	2
Development of plans (building structure)	9	1
Second submission: plans and physical model	5	0.5
Development of elevations & sections	18	2
Day Sketch-2	4	0.5
Pre-final submission	5	0.5
Solving minor problems: functional, formal & structural	18	2
Final submission	9	1
Total	135	15

Grading Policy:

Day sketch	30 pts	
Precedent analysis reports	4 pts	
Functional analysis reports	4 pts	
Site analysis reports	2 pts	
Design project – concept submission	8 pts	
Design project – plan submission	15 pts	

Design project – prefinal submission	15 pts	
Design project – final submission	22 pts	
Total	100pts	

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الرابع / عمارة الفضاءات الخارجية

Credit hours	:	2
Course type	:	Required (R)
E-Class (Code)	:	Google Classroom (wrzbxi5)
Instructor	:	Dr. Ahmed Alomary
Instructor E-mail	:	ahmed.alomary@uomosul.edu.iq
Pre-requisites	:	-----

Catalog Description:

Comprehensive application of landscape design skills. Design studio allow students to apply theories and principles of landscape architecture to their own projects. These projects are developed according to certain scale requirements cover areas such as urban open spaces, introducing theories, principles and examples of contemporary landscape architecture with emphasis on landscapes for hot arid environments; site analysis and landscape evaluation; , site design; ; theory, process, materials, features and design elements; appropriate plant materials, structures, pavements and street furniture, grading, drainage and irrigation.

Reference Books:

- MUTLOCH, J.L., Introduction to Landscape Design, John Wiley & Sons, 2001
- Illustrated history of landscape design / by Elizabeth Boult's and Chip Sullivan.
- Foundations of landscape architecture : integrating form and space using the language of site design , Norman Booth.2009
- Timesaver Standards for Landscape Architecture, Charles W. Harris and Nicholas D. Dines,1998

Graduate outcomes (GOs) addressed by the course:

i	ii	iii	iv	v	vi	vii
✔	✔	√	√	√	√	√

Course Learning Outcomes (CLOs)

On successful completion of this course, students will be able to:

1. To provide a comprehensive understanding of the major aspects of Landscape Architecture (i)
2. Encourage student to use creative methods to solve landscape design challenges.(i i)
3. Understanding the principles and theories of landscape architecture design. **(iii)**
4. Developing skills in site analysis, planning, and design. **(iv)**
5. Utilizing technology and software tools for landscape design.(**v)**

6. Developing effective communication skills for presenting and discussing design ideas. **(vi)**
7. Understanding the environmental impact of landscape design and incorporating sustainable practices into designs. **(vii)**

Weekly Teaching Plan:

Subject	Credit hours	No. of Weeks
Introduction ,definitions , references, History of landscape design	2	1
Review of international landscape design projects	2	1
Review of pervious years students projects	2	1
Site analysis	2	1
How to start landscape Design	2	1
Landscape Design Project ,parks, plazas ,riverfronts ,urban open spaces ,public squares, pedestrians streets,	4	2
Submitted first phase presentation (assessment), Landscape Design Project	2	1
Improve , developed design concept. Landscape Design Project	10	5
Pre-final submission (assessment), Landscape Design Project	2	1
Final submission (assessment)Landscape Design Project	2	1
Total	**30**	**15**

Grading Policy:

Weekly activity	5 pts	
report	5 pts	
1 day sketches	10 pts	
first phase submission	10 pts	
Pre-final submission	10 pts	
Final submission	30 pts	
Final Exam	30 pts	
Total	100pts	

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الرابع / برمجة الفضاءات المعمارية

Credit hours	:	2
Course type	:	Theoretical lessons(2 hours)
E-Class (Code)	:	Google Classroom (…….)
Instructor	:	Ghada Mohammed Younis , Bayda Hanna Saffo
Instructor E-mail	:	ghadayounis@uomosul.edu.iq
Pre-requisites	:	

Catalog Description:

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 .

Reference Books:

1. Duerk, DP "Architectural Programming: Information Management for Design, *New York: van nostrand Reinhold*, 1993.
2. Nujaidi, d. Hazim Rashid, "architectural design methodology," a brief translation of selected writings, Department of Architecture,University of Technology. 1992,
3. Jenks, Dr.Mike, , "The briefing process: the critical examination", Oxford architectural research paper, OARP2, Dept.of architecture-Oxford polytechnic-Oxford. 1975
4. Pena, William*, "problem seeking"* Chanters Books international. 1977.
5. Hershberger. "Architectural Programming and preceding manager," McGraw-Hill.1999

Graduate outcomes (GOs) addressed by the course:

i	ii	iii	iv	v	vi	vii
i		**iii**	**iv**		**vi**	

Course Outcomes (CLOs)

On successful completion of this course students will be able to:

- Understanding the theoretical frameworks of the architectural programming process and the most important intellectual trends established (6)
- Analysis of the stages and steps required for the architectural programming process according to their sequence. (3)
- Extracting the tools required in the analysis process of the amount of information obtained on the project (1)

- Use the mathematical equations required to perform the area calculation in building the functional program (4)
- Understanding the mechanisms of analyzing the reality of the situation and the site, as well as the mechanisms of building new conclusions, solutions and aspirations (6)
- Comparison between the established design approaches and the role and sequence of the programming process in each of them (6)….

Weekly Teaching Plan:

Subject	Credit hours	No. of Weeks
Introduction , definition ,considerations of programming .	2	1
Working fields of architectural programming , Generation of design problem.	4	2
Steps of design process , design constrains	2	1
Methodology of design process .	2	1
Concept of architectural programming , Pena model.	2	1
Formation of concept in programming & design ,Durek framework of programming	2	1
Steps of functional program /activities ,relationships ,zoning .	4	2
Architectural programming representations ,diagrams ,matrix .	4	2
Steps of site analysis ,alternatives evaluation	2	1
Method of thinking in architectural programming ,in related with types of design process .	**2**	**1**
Case study of programming and design concept formation .	**2**	**1**
Course examination	**2**	**1**

Grading Policy:

2 exams	10 pts	
1 report	5 pts	
Visits reports	5 pts	
Term Exam	20 pts	
Final Exam	60pts	
Total	100pts	
2 exams	10 pts	

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الرابع / نظرية العمارة

Credit hours	:	3
Course type	:	Required (R)
E-Class (Code)	:	Google Classroom (bbmcgi6)
Instructor	:	Dr. Asma Al-Dabbagh
Instructor E-mail	:	asma.dabbagh@uomosul.edu.iq
Pre-requisites	:	-----

Catalog Description:

The course includes a presentation of the theoretical framework of the main architectural movements and their secondary sub-divisions, over their change within the nineteenth and twentieth centuries, to contemporary architecture today. This framework includes the presentation of the thoughts 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 architectural movement distinguishes them from others. Clarify the theoretical aspect of each architectural movement by enhancing it with examples.

Reference Books:

- Changing Ideals in Modern Architecture/ Peter Collins, 1965
- Modern Architecture since 1900/ William Curtis, 1982
- Architecture Today/ Charles Jencks, 1988
- The Modern Architectural Movements- International Style in Architecture/ Sherine Sherzad, 1999

Graduate outcomes (GOs) addressed by the course:

i	ii	iii	iv	v	vi	vii
✔			✔			

Course Learning Outcomes (CLOs)

On successful completion of this course, students will be able to:

- Recognize the main movements in architecture through the last three decades. (i)
- Describing and identifying the characteristic concerning the main movements and secondary approaches in Architecture. (i)
- Comparing the deferent architectural approaches in conceptual and formal characteristics. (i)
- Report the data obtained from the visit to implemented projects. (iv)

- Analyzing the modern projects considering the main topics in course. (iv)

Weekly Teaching Plan:

Subject	Credit hours	No. of Weeks
Backgrounds of Modern Architecture, Revivalism, Eclecticism	3	1
The Beginning of Modern Architecture, Art Nouveau, De Stijl & Futurism	3	1
Constructivism, Expressionism, Organic Architecture/ Frank Lloyd Wright, The Chicago School of Architecture	6	2
Functionalism, Purism, New Objectivism & The Bauhaus School,	6	2
International Style, The Architecture of Le- Corbusier, The Architecture of Ludwig Mies	6	2
The deficiencies of Modern Architecture, Crises of Modern Architecture	3	1
The Architecture of Brutalism, Archigram & Metabolism	3	1
Late-Modern Movement	6	2
Post-Modern Movement	6	2
Late-Modern & Post-Modern spaces, Deconstruction	3	1
Total	**45**	**15**

Grading Policy:

2 quizzes	10 pts
1 report	5 pts
Visits reports	5 pts
Term Exam	20 pts
Final Exam	60pts
Total	100pts

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الرابع / العمارة الاسلامية

Credit hours	:	2
Course type	:	Required (R)
E-Class (Code)	:	Google Classroom (kqpll5n)
Instructor	:	Dr. Ahmed Abdulwahid Dhannoon Taha
Instructor E-mail	:	ahmadabdulwahid@uomosul.edu.iq
Pre-requisites	:	

Catalog Description:

This course aims to teach students the basic principles of Islamic architectural, and Identify 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. This course also aims to introduce students to 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.

Reference Books:

1. Islamic Architecture , John . D. Hoag
2. Islamic Architecture , Form, Function, and Meaning, Robert Hillenbrand.
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.

Graduate outcomes (GOs) addressed by the course:

i	ii	iii	iv	v	vi	vii
√			√			

Course Outcomes (CLOs)

On successful completion of this course students will be able to:

- Recognize the most important characteristics of Islamic architecture (i).
- ….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. (i).
- Recognize the detailed components of each functional type in Islamic architecture.(i) Comparing the characteristics of Islamic architecture and Western architecture
- Analyzing the important characteristics in most functional types of Islamic architecture(iv)

- Analyzing of contemporary design projects that include characteristics of Islamic architecture (iv)
- report of the data about the contemporary design projects that include characteristics of Islamic architecture (iv)

Weekly Teaching Plan:

Subject	**Credit hours**	**No. of Weeks**
Definition of Islamic architecture , factors of origin and composition (natural and Cultural factors)	2	1
First Religious buildings (Mosque, School) The main components of the mosque building؛ (Al-Musalla (Prayer House), mihrab, alminbar,The Courtyard, The wall, minaret).The minor components of the mosque The main types of mosques: Arabic type mosques, Iwan mosques,Ottoman type mosques	6	3
Schools, Architectural features of the school Famous examples of Islamic schools؛	2	1
Second: Service buildings (markets, khans, the Crown Saray, bathrooms, and bimaristans) -Markets, markets definition, markets location -Alkanat, the definition of the khan, its architectural characteristics -Al-Crown Saray ,its definition, , its architectural characteristics -Bathrooms , its definition, , its architectural characteristics -Bimaristans, its definition, , its architectural characteristics	4	2
Third Residential buildings (traditional Islamic House), The Islamic Places	4	2
Fourthly , The buildings of Sufism (Al-Khanqah, Rabat, Zawiya, Al-Takiya)	4	2
Fifthly, funeral buildings(Mausoleum, Shrine, almshhd)	4	2
Sixth: Water facilities buildings (Al Sabil Building , Bridges, Water gauges)		
reports	2	1
Term Exam	2	1
Total		**15**

Grading Policy:

quizzes	10 pts
Reports	10 pts
Term Exam	20 pts
Final Exam	60 pts
Total	100pts

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الرابع / تقنيات البناء المتقدم

Title of Subject	**Advanced Building Techniques**	Theoretic Hour/week	Practical Hour/week
		2	
		Credits:	2
Code No.	ENAR- 405		
Offering Semester	First semester ■	Second semester □	Yearly □
Course Objective	Discuss and provides the basic concepts of: building construction, building structures, building materials, new technologies in Architectural design.		
Course Description	This course aims at understanding advanced building Techniques; prefabrication and modular structures. Advanced building construction systems, new materials and responsive technologies ,sky scrapers (structural & climatically) analysis.		
Textbook			
References	- The Sky Scrapers, by/ Ken Yeang – 1996/1999 Understanding Structures, by Fuller Moore – 1999- Structural Design In Architecture, by James Waly - 1996 -		
Course Assessments	Yearly work	Final Exam	
	% 40	% 60	

Week	Topics Covered	Notes
1	Technology concept & Technology in Architecture	
2	Building Techniques	
3	Building structures	
4	Techtonic & Atechtonic in Architecture	
5	The sky scrapers (history & environment)	

6	The sky scrapers (structure& construction)	
7	Pre-cast & pre-stress beams	
8	Shell structure	
9	Space frame structure	
10	Tent & Cable structure	
11	Folding Architecture	
12	Sustainable Architecture	
13	Intelligent Architecture	
14	Engineering services technology	
15	Fire safety in buildings	
16	Green Architecture	
Half-Year Break		

نموذج وصف المادة الدراسية MODULE DESCRIPTION FORM
المستوى الرابع / العمارة المستدامة

نموذج وصف المادة الدراسية MODULE DESCRIPTION FORM
المستوى الرابع / إدارة المشاريع الانشائية

نموذج وصف المادة الدراسية MODULE DESCRIPTION FORM
المستوى الرابع / التصميم النباتي

Ministry of Higher Education
& Scientific Research
University of Mosul
College of Engineering
Architectural Engineering
Department

وزارة التعليم العالي والبحث العلمي
جامعة الموصل
كلية الهندسة
قسم هندسة العمارة

University of Mosul

جامعة الموصل

First Cycle – bachelor's degree (B.Sc.) – Architectural Engineering

بكالوريوس – هندسة العمارة

البرنامج الاكاديمي (نظام المقررات / المستوى الخامس)

2024 – 2023

المستوى الدراسي الخامس (الفصل الاول)									
اسم المتطلب	اسم المقرر		نوع المتطلب	عدد الساعات النظرية	عدد الساعات العملية	عدد الوحدات	الممهد ان وجد	رمز المقرر	الملاحظات
	باللغة العربية	باللغة الانكليزية							
متطلبات الكلية	الادارة الهندسية	Engineering Management	اجباري	2		2		ENGC525	
	الاقتصاد الهندسي	Engineering Economy	اجباري	2		2		ENGC526	
متطلبات القسم	مشروع التخرج(1)	Graduation Project (1)	اجباري	2	6	5	التصميم المعماري(7)	ARC 541	
	التصميم الحضري	Urban Design	اجباري	2	6	5	نظريات التصميم الحضري	ARC 542	
	التخمين والمواصفات	Estimation and Specifications	اجباري	2		2		ARC 543	
	التصميم بمساعدة الحاسوب	Computer Aided Design	اجباري	1	2	2		ARC 544	
	متطلبات السلامة في المباني	Building Safety Requirements	اختياري	2		2		ARC 561	يختار الطالب مقرر واحد عدد الوحدات المطلوبة = 2 وحدة
	تطبيقات حاسوبية	Computer Applications		1	2	2		ARC 562	
	التفاصيل المعمارية	Architectural Details		1	2	2		ARC 563	
	نظريات النقد المعماري	Theories of Architecture Criticism		2		2		ARC 564	
مجموع ساعات و وحدات الفصل الاول للمستوي الخامس				11	18	20			

المستوى الدراسي الخامس (الفصل الثاني)									
اسم المتطلب	اسم المقرر		نوع المتطلب	عدد الساعات النظرية	عدد الساعات العملية	عدد الوحدات	الممهد ان وجد	رمز المقرر	الملاحظات
	باللغة العربية	باللغة الانكليزية							
متطلبات الكلية	هندسة البيئة و الاستدامة	Environmental Engineering and Sustainability	اختياري	3		3		ENGE536	اجباري لطلبة القسم
	انظمة البناء الذكي	Smart Building Systems	اختياري	3		3		ENGE539	اجباري لطلبة القسم
متطلبات القسم	مشروع التخرج(2)	Graduation project (2)	اجباري	1	14	8	مشروع التخرج(1)	ARC 545	
	السلوك وممارسة المهنة	Professional Practice	اجباري	2		2		ARC 546	
مجموع ساعات و وحدات الفصل الثاني للمستوي الخامس				9	14	16			

اهداف البرنامج الاكاديمي	
المؤسسة التعليمية	**كلية الهندسة / جامعة الموصل**
القسم الجامعي / المركز	**قسم هندسة العمارة**
برنامج الاعتماد	**مسار بولونيا Bologna Process**

- إعداد كوادر مؤهلة علمياً ومهنياً وتربوياً في مختلف المجالات المعرفية وفقاً لمعايير جودة عالية.
- تعزيز البحث العلمي في العلوم النظرية والتطبيقية، مع تشجيع المبادرات المرتبطة ببرامج التنمية، والحرص على مواكبة التطورات العلمية العالمية والتخطيط للمستقبل.
- التطوير المستمر للمناهج الدراسية في المرحلتين الجامعية والدراسات العليا، بما يتناسب مع المستجدات العلمية والمنهجية والتقنية الحديثة.
- المشاركة في خدمة المجتمع من خلال التفاعل المستمر مع مؤسسات الدولة وتقديم الاستشارات العلمية، وتعزيز برامج التعليم المستمر.
- ربط العمارة بالتخصصات الهندسية الأخرى وتنمية العلاقات معها، باعتبارها جزءاً أساسياً من نهضة المجتمع.
- التأكيد على دور هندسة العمارة في بناء المجتمع وتحسين البيئة التي يعيش فيها الناس.
- إعداد خريجين معماريين وفق قواعد علمية تمكنهم من ممارسة المهنة بكفاءة في التصميم المعماري والحضري وتخطيط المدن والفضاءات الداخلية والخارجية، إلى جانب الحفاظ على التراث والآثار وفق الأساليب العلمية.
- تنفيذ برامج عملية واضحة تهتم بتكنولوجيا الاستدامة ومعايير الجمال المعماري، مع مواكبة التطور في الدول المتقدمة من خلال توفير برنامج تعليمي معماري يعتمد على التقنيات الحديثة في المجالات الهندسية والفنية.
- التركيز على جودة العملية التعليمية في العمارة من خلال اختيار مناهج دراسية متخصصة وحديثة باستمرار، وإنجاز تقارير التقييم الذاتي بهدف الحصول على الاعتماد الأكاديمي.
- تمكين الكوادر التدريسية في قسم هندسة العمارة من خلال زيادة نسبة حملة شهادات الدكتوراه مقارنة بحملة الماجستير.
- الاهتمام بالبحوث العلمية التطبيقية وتصميم المشاريع التطبيقية لتعزيز الشراكات والعلاقات مع المؤسسات والجامعات المرموقة.
- تطوير مهارات الخريجين من خلال توفير دورات التعليم المستمر التخصصية والحفاظ على التواصل معهم بما يعزز تحقيق رسالة القسم.

مخرجات التعلم المتوقعة للبرنامج

المعرفة

1أ. تشمل مبادئ العلوم الأساسية والتطبيقية والهندسية الضرورية لتقديم تخصص هندسة العمارة، مثل الرياضيات والهندسة المجسمة والفيزياء والرسم الهندسي والإحصاء والتقنيات الحاسوبية والأتمتة.

2أ. تغطي علوم هندسة العمارة التخصصية جوانب متنوعة من التصميم المعماري والتنفيذ والإنشاء والرسوم التنفيذية والرسم المعماري والحر، بالإضافة إلى التصميم الداخلي وتصميم الفضاءات الخارجية والتصميم الحضري وتخطيط المدن. تهتم هندسة العمارة بالعديد من الجوانب وتتفاعل مع العديد من العلوم وتساهم في تطبيقات مهمة في الحياة اليومية.

3أ . الأهداف المهنية والأسس المساندة: تشمل المهارات الداعمة للتطبيق ضمن أطر نظرية، مثل كتابة التقارير والبحوث، بالإضافة إلى المعرفة بالمحددات الاقتصادية والقانونية والصحية والاجتماعية والأمنية.

المهارات

1ب . مهارات التصميم: اكتساب القدرة على إنشاء تصاميم معمارية مبتكرة ومستدامة، بما في ذلك التصميم الداخلي وتصميم الفضاءات الخارجية والحضرية.

2ب. مهارات البحث والتحليل: تطوير مهارات البحث وجمع المعلومات وتحليلها لتطبيقها في مشاريع التصميم، بما في ذلك الاعتبارات البيئية والاقتصادية والاجتماعية.

3.ب. مهارات التواصل والتعاون: تعزيز مهارات التواصل الفعّال والعمل الجماعي مع زملاء الدراسة والمتخصصين في مجالات متعددة، بما في ذلك كتابة التقارير وعرض الأفكار بشكل واضح ومقنع.

القيم

ج1 الإبداع والابتكار: تعزيز قيم الإبداع والابتكار في عملية التصميم والبحث، مما يسهم في تطوير حلول معمارية مبتكرة ومستدامة.

ج2 المسؤولية الاجتماعية والبيئية: تعزيز الوعي بالمسؤولية الاجتماعية والبيئية للمهندس المعماري، وضمان تطبيق مبادئ التنمية المستدامة في مشاريع التصميم والبناء.

Academic Program Objectives	
Faculty/Institute	**University of Mosul / College of Engineering**
Scientific Department	**Architecture Engineering Department**
Academic System	**Bologna Process**

- Preparing qualified cadres in various fields of knowledge in accordance with high quality standards.
- - Promoting scientific research in theoretical and applied sciences, encouraging initiatives related to development programmed and ensuring that global scientific developments are kept abreast and planning.
- - Continuous development of the curriculum at the undergraduate and postgraduate levels, commensurate with recent scientific, methodological, and technical developments.
- - Participation in the service of the community through continuous interaction with state institutions and the provision of scientific consultations and the promotion of continuing education programmed.
- - Linking architecture to other engineering disciplines and developing relations with them, as an essential part of society's renaissance.
- - Emphasizing the role of architecture in building society and improving people's environment.
- - Preparation of architectural graduates in accordance with scientific rules to enable them to practice the profession efficiently in architectural and urban design and planning of cities and indoor and outdoor spaces, as well as preservation of heritage and monuments according to scientific methods.
- - Implementation of clear practical programmed on sustainability technology and standards of architectural beauty, while keeping pace with the development in the developed countries by providing an architectural educational programmed based on modern techniques in the engineering and technical fields.
- - Focus on the quality of the architecture's educational process through the selection of specialized and continuously modern curricula and the completion of self-assessment reports with a view to obtaining academic accreditation.
- - Empowering teaching staff in the Department of Architecture Engineering by increasing the proportion of doctoral holders compared to the master's campaign.
- - Interest in applied scientific research and design of applied projects to strengthen partnerships and relationships with prestigious institutions and universities.
- - Developing graduate skills by providing specialized continuing education courses and maintaining communication with them to enhance the achievement of the department's

mission.

Expected learning outcomes of the program

Knowledge

A1- The basic, applied and engineering science principles necessary to provide architecture specialization, such as mathematics, stereotyping, physics, engineering drawing, statistics, computer techniques and automation.
A2. Specialized architecture sciences cover various aspects of architectural design, implementation, construction, executive drawings, architectural and free drawing, as well as interior design, outdoor space design, urban design, and city planning. Architecture is concerned with many aspects and interacts with many sciences and contributes to important applications in everyday life.
A3. Professional objectives and supporting foundations: Supporting skills include application within theoretical frameworks, such as reporting and research, as well as knowledge of economic, legal, health, social and security determinants.

Skills

1b. Design skills: Capability to create innovative and sustainable architectural designs, including interior design and design of outdoor and urban spaces.
2b. Research and analysis skills: developing research and information collection and analysis skills for application in design projects, including environmental, economic, and social considerations.
3.b. Communication and collaboration skills: Enhance effective communication and teamwork skills with classmates and specialists in multiple areas, including writing reports and presenting ideas clearly and convincingly.

Ethics

C1 Creativity and Innovation: Enhancing the values of creativity and innovation in the design and research process, contributing to the development of innovative and sustainable architectural solutions.
C2 Social and environmental responsibility: Promote awareness of the architect's social and environmental responsibility and ensure the application of sustainable development principles in design and construction projects.

مخرجات التعليم المطلوبة من البرنامج

رمز المقرر	اسم المقرر	اساسي ام اختياري	الساعات المعتمدة	الساعات المعتمدة	مخرجات التعليم المطلوبة من البرنامج							
			نظري	عملي	المعرفة			المهارات			القيم	
ENGE525	الادارة الهندسية	اجباري	**2**		√	√	√	√	√	√	√	√
ENGE526	الاقتصاد الهندسي	اجباري	**2**		√	√	√	√	√	√	√	√
ARC541	مشروع التخرج (1)	اجباري	**2**	**6**	√	√	√	√	√	√	√	√
ARC542	التصميم الحضري	اجباري	**2**	**6**	√	√	√	√	√	√	√	√
ARC543	التخمين والمواصفات	اجباري	**2**		√	√	√	√	√	√	√	√
ARC544	التصميم بمساعدة الحاسوب	اجباري	**1**	**2**	√	√	√	√	√	√	√	√
ARC445	متطلبات السلامة في المباني	اختياري	**2**		√	√	√	√	√	√	√	√
ARC561	تطبيقات حاسوبية	اختياري	**1**	**2**	√	√	√	√	√	√	√	√
ARC562	التفاصيل المعمارية	اختياري	**1**	**2**	√	√	√	√	√	√	√	√
ARC563	نظريات النقد المعماري	اختياري	**2**		√	√	√	√	√	√	√	√
ENGE536	هندسة البيئة و االستدامة	اختياري	**3**		√	√	√	√	√	√	√	√
ENGE539	انظمة البناء الذكي	اختياري	**3**		√	√	√	√	√	√	√	√
ARC545	مشروع التخرج (2)	اجباري	**1**	**14**	√	√	√	√	√	√	√	√
ARC546	السلوك وممارسة المهنة	اجباري	**2**		√	√	√	√	√	√	√	√

نموذج وصف المادة الدراسية MODULE DESCRIPTION FORM
المستوى الخامس / الادارة الهندسية

نموذج وصف المادة الدراسية MODULE DESCRIPTION FORM
المستوى الخامس / الاقتصاد الهندسي

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الخامس / مشروع التخرج (1)

Title of Subject	**Graduation Project (1)**	Theoretic Hour/week	Practical Hour/week
		2	6
		Credits:	5
Code No.	ENAR-503		
Offering Semester	First semester ■	Second semester □	Yearly □
Course Objective	This course aim to develop student's ability to conduct studies that precedes the design processes as; information collection, information analysis ,then conclusions relating to building design problem which will use later as basis for creating ideas, design decisions on the thesis project (2).		
Course Description	This course interested in the process of preparing thesis (design project) report .it focus at this stage on research aspect, so that the thesis in fifth class is more inclusive and deeper than in previous classes compared to project design standard, which will include detailed studies on, planning and design of the project in all its aspects, as well as study of systems for services and environmental compatibility and methods of construction and installation of buildings to suit the specificity of each project.		
Textbook	Does not have a textbook, but several references(books and articles)		
References			
Course Assessments	Yearly work	Final Exam	
	%70	%30	

Course Weekly Outline

Week	Topics Covered	Notes
1 2 3	Architecture and planning analytical study of the project and information collection, maps, this include: - The importance of the project in the city, and the approximate initial size of the project in comparison with similar examples. - Site selection and give alternatives, justifications of choice. - Study of the site, dimensions, size, neighborhood, the surrounding land uses, roads and entrances, the environmental study and construction of the site; determine the objectives of solving the problems of the site Analyzing the physical elements of the site. Site Analysis/ analyzing the non-physical elements of the site. Studying the architectural Concepts related to the site contents.	

	- The initial submission of the first stage (location and size).	
4 5 6	Aanalytical study design of the project include: An analytical study of similar examples of local, Arab and international (the study of theory familiar to understand the nature of the project ,relationships of different parts to each other and recognize the problems with the design). - Study the components of the project and the relationship between these components. Analyzing the relationship between Spaces according to the movement and clustering. Analyzing the relationships between the project spaces by using Matrix. The Bubble Diagram of the project and the spatial zoning schemes. Site Analysis - Analytical Study of the platform and space required external and internal - Study of furniture and basic supplies for the project.- Presentation	
7 8	The special problem,Each student is directed to study a new trend (linked to his project) like high tech. and Sustainable Architecture	
9 10	Study systems include: - 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. - Study of environmental (impact of the environment on the project and the project's impact on the surrounding environment) Study of engineering services systems on the project (services, electrical, air conditioning, entrances and exits of safety and security). - The initial submission of the third stage (of structural systems and services).	
11 12 13	Spatial zoning on the site to offer solutions and design alternatives include: - Submission of the pre-final (with the site analysis and identification of the main entrances and traffic regulations required within the site). - An initial zoning of the components of the project on the site, finding alternatives to preliminary design ideas.	
14 15 16	Final submission of a thesis.	

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الخامس / التصميم الحضري

Detailed Description of Urban and Architectural Design

Title of Subject	Urban and Architectural Design		Theoretic Hour/week	Practical Hour/week
			2	10
			Credits:	7
Code No.	ENAR-502			
Offering Semester	First semester ■	Second semester □	Yearly □	
Course Objective	It aims to develop student's ability to conduct with the urban design problems, Application of traditional and modern urban design theories and methods constitutes the backbone of the course. Focus is on the solution of urban spatial problems and urban rehabilitation. Examination of case studies is undertaken at the 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.			
Course Description	It's a theoretical & practical course for a single semester , 12 hours weekly concentrate on the student's practice urban design problems			
Textbook				
References				
Course Assessments	Yearly work	Final Exam		
	%40	%60		

Course Weekly Outline

Week	Topics Covered	Notes
1	Data collection of project	

2	Data analysis of project	
3	Data assessment and calibration	
4	Concept generation for design proposal	
5	Mass modeling for design proposal	
6	Land use modeling for design proposal	
7	Land use modeling for design proposal	
8	Elementary presentation	
9	Elevations modeling for design proposal	
10	Elevations modeling for design proposal	
11	Sections modeling for design proposal	
12	Pre final presentation	
13	Perspective modeling for design proposal	
14	Perspective modeling for design proposal	
15	Perspective modeling for design proposal	
16	Final presentation	

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الخامس /التخمين والمواصفات

Detailed Description of Specifications & Estimation

Title of Subject	Specifications & Estimation	Theoretic Hour/week	Practical Hour/week
		2	
		Credits:	2
Code No.	ENAR-507		
Offering Semester	First semester ■	Second semester □	Yearly □
Course Objective	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		
Course Description	This subject covers the various aspects of estimating of quantities of items of works involved in buildings. This also covers the rate analysis, valuation of properties and preparation of reports for estimation of various items. At the end of this course the student shall be able to estimate the material quantities, prepare a bill of quantities, make specifications and prepare tender documents. Student should also be able to prepare value estimates		
Textbook			
References	Specifications & Cost Estimate By Nasir Al- Assady , Univ. Of Baghdad Standard Methods for Preparing Bills of Quantities in civil, Services and architectural works, By Khalid Mohamed Hadeed, Baghdad , 2003		
Course Assessments	Yearly work	Final Exam	
	%30	%70	

Course Weekly Outline

Week	Topics Covered	Notes
1	General definitions	
2	Cost Estimates Basis	
3	Types of Estimation/ actual cost	

4	Building Material & Unit Measurements/ Brick	
5	Building Material & Unit Measurements/ Plastering	
6	Building Material & Unit Measurements/ Concrete	
7	Building Material & Unit Measurements/ I Beam section	
8	Wastes in Building Materials/ Quizzes	
9	Specifications & Bills of Quantities	
10	Standard Specifications	
11	technical Specifications	
12	Semester exam	
13	Bills of Quantities & Prices	
14	Total Bills of Contract Costs	
15	Contract ors Suggested Alternatives	
16	General Preview	

نموذج وصف المادة الدراسية MODULE DESCRIPTION FORM
المستوى الخامس / التصميم بمساعدة الحاسوب

نموذج وصف المادة الدراسية MODULE DESCRIPTION FORM
المستوى الخامس / متطلبات السلامة في المباني

نموذج وصف المادة الدراسية MODULE DESCRIPTION FORM
المستوى الخامس / تطبيقات حاسوبية

نموذج وصف المادة الدراسية MODULE DESCRIPTION FORM
المستوى الخامس / التفاصيل المعماري

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الخامس / نظريات النقد المعماري

Credit hours	:	2
Course type	:	Elective (E)
E-Class (Code)	:	Google Classroom (ragg5ye)
Instructor	:	Dr. Asma Al-Dabbagh
Instructor E-mail	:	asma.dabbagh@uomosul.edu.iq
Pre-requisites	:	-----

Catalog Description:

The aims of this course are to give a theoretical conception about criticism definition, importance and classifications, as well as to understand criticism methodologies, classified as contextual and textual, so as to improve the ability to analyze the architectural written text from critical point of view, practicing architectural criticism, and improving architecture practicing depending on criticism theories, finally to express his/her hypothetical conception about design to others .

Reference Books:

- Attoe, Wayne, 1977 " **Architecture and Critical Imagination** "
- Sharp, Dennis, Dec. 2005 **"Criticism in Architecture"** Architectural Criticism and Journalism: Global Perspective, International Seminar, Kuwait.
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Graduate outcomes (GOs) addressed by the course:

i	ii	iii	Iv	v	Vi	vii
✔		✔				

Course Learning Outcomes (CLOs)

On successful completion of this course, students will be able to:

- Ability to understand and analyze critical written texts. **(i)**
- Ability to understand and analyze architectural designs. **(i)**
- Ability to synthesis a hypothetical conception about design. **(iii)**
- Ability to express his/her hypothetical conception about design to others. **(iii)**

Weekly Teaching Plan:

Subject	Credit hours	No. of Weeks
Definition of criticism, importance, and classification.	2	1
Components of critical process.	2	1
Criteria of critical process.	2	1
Secondary activities within critical process.	2	1
Paradigms of Interpretation	4	2
Contextual methodologies / Doctrine	4	2
Systemic /Typical	2	1
Psychology/ Sociological	2	1
Phenomenology	2	1
Textual methodologies/	2	1
Structuralism	2	1
Semiology	2	1
Deconstruction	2	1
Total	**30**	**15**

Grading Policy:

2 quizzes	14 pts	
1 Term Exam	26 pts	
Final Exam	60 pts	
Total	100 pts	

نموذج وصف المادة الدراسية MODULE DESCRIPTION FORM
المستوى الخامس / هندسة البيئة والاستدامة

نموذج وصف المادة الدراسية MODULE DESCRIPTION FORM
المستوى الخامس / انظمة البناء الذكي

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الخامس / مشروع التخرج (2)

<table>
<tr><td rowspan="3">Title of Subject</td><td colspan="3" rowspan="3">Graduation Project (2)</td><td>Theoretic
Hour/week</td><td>Practical
Hour/week</td></tr>
<tr><td>2</td><td>14</td></tr>
<tr><td>Credits:</td><td>9</td></tr>
<tr><td>Code No.</td><td colspan="5">ENAR-501</td></tr>
<tr><td>Offering Semester</td><td colspan="2">First semester □</td><td colspan="2">Second semester ■</td><td>Yearly □</td></tr>
<tr><td>Course Objective</td><td colspan="5">This studio begins with a presentation of the ARC-400 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. The project must exhibit a comprehensive mastery of architectural design, reflecting the knowledge and skills acquired during four years of study in architecture. It aims to develop student's ability to conduct with the building and dealing with the design problems</td></tr>
<tr><td>Course Description</td><td colspan="5">It’s a practical course for a single semester, 16 hours weekly depending on the first course and deals with the design problem as a whole from data collection up to final design</td></tr>
<tr><td>Textbook</td><td colspan="5"></td></tr>
<tr><td>References</td><td colspan="5"></td></tr>
<tr><td rowspan="2">Course Assessments</td><td colspan="3">Yearly work</td><td colspan="2">Final Exam</td></tr>
<tr><td colspan="3">%30</td><td colspan="2">%70</td></tr>
</table>

Course Weekly Outline

Week	Topics Covered	Notes
1	Concept generation for design proposal	

2 3		
4	First presentation	
5 6 7	Functional modeling for design proposal	
8	Elementary presentation	
9 10	Elevations modeling for design proposal	
11	Sections modeling for design proposal	
12	Pre final presentation	
13 14 **15**	Perspective modeling for design proposal	

MODULE DESCRIPTION FORM نموذج وصف المادة الدراسية
المستوى الخامس / السلوك وممارسة المهنة

Title of Subject	Professional Practice	Theoretic Hour/week	Practical Hour/week
		2	
		Credits:	2
Code No.	ENAR-508		
Offering Semester	First semester □	Second semester ■	Yearly □
Course Objective	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.		
Course Description	The course presents an overview contemporary context and complexities of architectural practice and the varied and evolving roles and responsibilities of the architect with an emphasis on the characteristics of best practices. the course focuses on architects, clients, and society, developing an understanding of professionalism through an examination of the development of the profession; educational preparation; internship; laws pertaining to registration; client relationships; ethics and professional judgment, diversity issues in practice; organizational and management issues including firm formation, legal organization, firm structure.		
References	Professional Practice and Code of Prof. Ethics by Nasir Majeed Al Asady The Law & the Internal System of Iraqi Engineers Union General conditions for contracting, Ministry of Local Government		
Course Assessments	Yearly work	Final Exam	
	%30	%70	

Course Weekly Outline

Week	Topics Covered	Notes
1	General definitions.	
2	The architect and his basic duties	
3	The making of the architect and his obligation	
4	Elements of the building felid	
5	Grading of architect	
6	Professional organizations	

7	Code of professional ethics	
8	The architect and his services	
9	Methods of paying the architect	
10	Selection of the architect	
11	Architectural competitions	
12	Semester exam	
13	Architectural professional services agreement	
14	Types of contracts	
15	Bidding and contracting legal document	
16	General conditions	