The University of Jordan

الجامعة الاردنية

Form: Course Syllabus	Form Number	EXC-01-02-02A
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1.	Course Title	Architectural Design (6)
2.	Course Number	0902424
3.	Credit Hours (Theory, Practical)	4
	Contact Hours (Theory, Practical)	8
4.	Prerequisites/ Corequisites	0942423
5.	Program Title	Bachelor of Architectural Engineering
6.	Program Code	02
7.	School/ Center	Engineering
8.	Department	Architecture
9.	Course Level	fourth
10.	Year of Study and Semester (s)	Spring 2025
11.	Other Department(s) Involved in Teaching the Course	-
12.	Main Learning Language	English
13.	Learning Types	☒ Face to face learning ☐Blended ☐Fully online
14.	Online Platforms(s)	☒ Moodle ☒Microsoft Teams
15.	Issuing Date	Spring 2025
16.	Revision Date	Spring 2025

17. Course Coordinator:

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19. Course Description:

As stated in the approved study plan.

Course Overview

This advanced design studio represents the culmination of undergraduate architectural education, challenging fourth-year students to synthesize their accumulated knowledge into sophisticated design responses for sites of exceptional complexity. The course deliberately positions students at the intersection of preservation and innovation, requiring them to navigate the rich tensions between honoring existing architectural heritage and introducing contemporary interventions that address pressing social, economic, and environmental challenges.

Complexity as Pedagogical Framework

The studio embraces complexity as its core pedagogical framework, recognizing that the most valuable architectural education occurs when students engage with the messy, layered, and often contradictory conditions that characterize real-world sites. Students will confront sites featuring multiple overlapping systems:

- **Historical layering**: Buildings and urban fabrics that have evolved through multiple periods, each leaving distinct physical and cultural imprints that must be read, interpreted, and responded to with sensitivity.
- **Social complexity**: Sites embedded within diverse communities with competing needs, values, and relationships to place that must be understood through careful ethnographic research and community engagement.
- **Environmental challenges**: Locations confronting climate vulnerabilities, contamination legacies, or ecological degradation that demand regenerative approaches.
- **Infrastructural systems**: The visible and invisible networks of utilities, transportation, and public services that support the built environment and present both constraints and opportunities.

- **Regulatory frameworks**: The overlapping jurisdictions, preservation guidelines, zoning requirements, and building codes that establish the parameters for intervention.

Adaptive Reuse as Design Philosophy

The studio positions adaptive reuse not merely as a technical strategy but as a philosophical approach to architecture that values embedded cultural memory, material conservation, and continuity while embracing necessary transformation. Students will develop sophisticated theoretical frameworks for intervention that might include:

- Dialogic approaches that create meaningful conversations between old and new elements
- Palimpsestic strategies that reveal and celebrate historical layering
- Parasitic or symbiotic interventions that establish mutually beneficial relationships with existing structures
- Surgical insertions that precisely address functional or performative deficiencies
- Narrative-driven transformations that communicate compelling stories about past, present, and future

Throughout the design process, students will be challenged to articulate clear conceptual positions regarding preservation, adaptation, and insertion that move beyond simplistic binaries of old/new or preservation/development.

Comprehensive Sustainability as Design Imperative

The studio adopts a holistic understanding of sustainability that transcends conventional green building approaches to encompass:

- **Environmental sustainability**: Beyond energy efficiency to include climate resilience, biodiversity support, and regenerative approaches to site and building systems. Students will employ advanced environmental modeling to optimize passive performance while developing integrated active systems.
- **Social sustainability**: Creating inclusive environments that foster community connections, support diverse users, and respond to local cultural contexts. Students will engage directly with community stakeholders and develop programming that addresses identified social needs.
- **Economic sustainability**: Ensuring long-term viability through appropriate programming, phasing strategies, and value creation that supports ongoing operation and maintenance. Students will develop basic pro forma analyses to demonstrate the economic feasibility of their proposals.
- **Cultural sustainability**: Preserving and evolving significant architectural, historical, and community heritage through thoughtful intervention. Students will document existing cultural values and demonstrate how their proposals maintain or enhance these qualities.

Technical Integration as Professional Preparation

The studio demands professional-level technical resolution that demonstrates students' readiness to enter architectural practice. This includes:

- **Material selections**: Thoughtful specification of materials that respond to existing conditions, performance requirements, and sustainability objectives. Students will develop detailed material palettes with full consideration of lifecycle impacts.
- **Structural solutions**: Sophisticated understanding of existing structural systems and appropriate interventions or additions. Students will collaborate with structural engineering consultants to develop technically sound proposals.
- **Building systems integration**: Comprehensive integration of mechanical, electrical, plumbing, and other building systems in ways that respect historic fabric while meeting contemporary performance standards. Students will produce detailed sections and diagrams that demonstrate this integration.
- **Detail development**: Professional-level architectural detailing that resolves the critical junctures between new and existing elements. Students will produce construction details at multiple scales.

Programmatic Innovation as Catalyst

The studio challenges students to develop programmatic proposals that respond to identified community needs while creating economically viable and environmentally sustainable operations. This requires:

- Thorough analysis of local contexts to identify programmatic opportunities and gaps
- Creative mixing of uses to create synergistic relationships
- Flexibility strategies that allow spaces to evolve over time
- Phasing approaches that enable incremental implementation
- Operational considerations that ensure long-term functionality

Through this comprehensive approach to design, students will develop the intellectual frameworks, methodological approaches, and technical skills necessary to address the complex architectural challenges they will face as professionals in a rapidly evolving field.

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

1. Develop an intellectual base of knowledge in architecture's historical, theoretical, practical, and technological aspects and understand the interaction with allied disciplines such as engineering, mathematics, and arts.

2. Identify and analyze architectural problems using critical thinking skills, and synthesize innovative, sustainable, and contextually appropriate architectural solutions that incorporate skills developed from core to advanced design coursework.

3. Design sustainable and user-centered solutions to meet specified public health, safety, and welfare requirements, while considering and responding to cultural, social, environmental, and technological factors across various scales and complexity levels.

4. Demonstrate proficiency in applying and developing architectural skills, techniques, tools, and technological advancements necessary for effective and innovative architectural practice.

5. Communicate and collaborate effectively with a wide range of audiences to carefully receive and eloquently deliver ideas through various communication methods.

6. Adhere to ethical, legal, and professional standards and responsibilities in architectural practice, and demonstrate an understanding of the architect's role in society.

7. Employ architectural research methods and critical thinking skills to assess and propose sustainable built environment solutions, and demonstrate commitment to lifelong learning and continuous development.

21. Course Intended Learning Outcomes: (Upon completion of the course, the student will be able to achieve the following intended learning outcomes)
1. Analyze and interpret complex sites with multiple contextual layers (historical, cultural, physical, environmental)
2. Develop adaptive reuse strategies that consider existing structures while introducing contemporary programs
3. Apply holistic sustainability principles encompassing social, economic, and environmental dimensions
4. Make informed decisions regarding building systems, materials, and structural approaches
5. Create comprehensive architectural proposals that address identified problems within complex contexts
6. Demonstrate professional-level integration of technical and conceptual aspects of architecture

Course ILOs	The learning levels to be achieved					
	Remembering	Understanding	Applying	Analysing	evaluating	Creating
1				✓		
2						✓
3			✓			
4					✓	
5						✓
6		✓	✓			✓

22. The matrix linking the intended learning outcomes of the course with the intended learning outcomes of the program:

Program ILOs / Course ILOs	ILO (1)	ILO (2)	ILO (3)	ILO (4)	ILO (5)	ILO (6)	ILO (7)
1	✓	✓					✓
2		✓	✓				
3			✓				✓
4	✓		✓	✓			✓
5		✓	✓	✓			
6	✓			✓	✓	✓	

23. NAAB Student Performance Criteria (SPC)
This course contributes to the following NAAB learnings outcomes:

Realm A: Critical Thinking and Representation

A.1 Professional Communication Skills: *Ability* to write and speak effectively and use appropriate representational media for both, within the profession and with the public.

A.2 Design Thinking Skills: *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.

A.3 Investigative Skills: *Ability* to gather, assess, record, and comparatively evaluate relevant information and performance in order to support conclusions related to a specific project or assignment.

A.4 Architectural Design Skills: *Ability* to effectively use basic formal, organizational and environmental principles and the capacity of each to inform two- and three-dimensional design.

A.5 Ordering Systems: *Ability* to apply the fundamentals of both natural and formal ordering systems and the capacity of each to inform two- and three- dimensional design.

A.6 Use of Precedents: *Ability* to examine and comprehend the fundamental principles present in relevant precedents and to make informed choices about the incorporation of such principles into architecture and urban design projects.

A.8 Cultural Diversity and Social Equity*: Understanding* of the diverse needs, values, behavioral norms, physical abilities, and social and spatial patterns that characterize different cultures and individuals and the responsibility of the architect to ensure equity of access to sites, buildings, and structures.

Realm B: Integrated Building Practices, Technical Skills, and Knowledge:

B.1 Pre-Design: *Ability* to prepare a comprehensive program for an architecture project that includes an assessment of client and user needs; an inventory of spaces and their requirements; an analysis of site conditions (including existing buildings); a review of the relevant building codes and standards, including relevant sustainability requirements, and an assessment of their implications for the project; and a definition of site selection and design assessment criteria.

B.2 Site Design: *Ability* to respond to site characteristics, including urban context and developmental patterning, historical fabric, soil, topography, ecology, climate, and building orientation, in the development of a project design.

B.3. Codes and Regulations: *Ability* to design sites, facilities, and systems that are responsive to relevant codes and regulations, and include the principles of local life-safety and accessibility standards.

B.5 Structural Systems: *Ability* to demonstrate the basic principles of structural systems and their ability to withstand gravitational, seismic, and lateral forces, as well as the selection and application of the appropriate structural system.

B.6 Environmental Systems: *Ability* to demonstrate the principles of environmental systems' design, how design criteria can vary by geographic region, and the tools used for performance assessment. This demonstration must include active and passive heating and cooling, solar geometry, daylighting, natural ventilation, indoor air quality, solar systems, lighting systems, and acoustics.

Realm C: Integrated Architectural Solutions.

C.1 Research: *Understanding* of the theoretical and applied research methodologies and practices used during the design process.

C.2 Integrated Evaluations and Decision-Making Design Process: *Ability* to demonstrate the skills associated with making integrated decisions across multiple systems and variables in the completion of a design project. This demonstration includes problem identification, setting evaluative criteria, analyzing solutions, and predicting the effectiveness of implementation.

C.3 Integrative Design: *Ability* to make design decisions within a complex architecture project while demonstrating broad integration and consideration of environmental stewardship, technical documentation, accessibility, site conditions, life safety, environmental systems, structural systems, and building envelope systems and assemblies.

24. Topic Outline and Schedule:

Week	Lecture	Topic	ILO/s Linked to the Topic	Learning Types (Face to Face/ Blended/ Fully Online)	Platform Used	Synchronous / Asynchronous Lecturing	Evaluation Methods	Learning Resources
1 (23/2)	2.1	Course introduction Project 1: **Introduction** & Data Collection, Overview of project scope and initial data gathering	1-6	Face to face			1	
	2.2	Project 1: **Concept Development** Review design goals; define studio culture and department identity.	1-6	Face to face			1	
2 (2/3)	3.1	Project 1: **Space Planning** Develop detailed layouts for studio spaces, the department library, and informal areas.	1-6	Face to face			1	
	3.2	Project 1: **Space Planning** Develop detailed layouts for studio spaces, the department library, and informal areas.	1-6	Face to face			1	
3 (9/3)	4.1	Project 1: **Design Development & Refinement**, Focus on refining overall spatial configuration and details. Discuss material options, furniture arrangements, and tech integration.	1-6	Face to face			1	
	4.2	Project 1: **Design Development & Refinement,** Focus on refining overall spatial configuration and	1-6	Face to face			1	

		details. Discuss material options, furniture arrangements, and tech integration.						
4 (16/3)	5.1	Project 1: **Final Design Refinement** Polish design details and prepare final presentation materials.	1-6	Face to face			1	
	5.2	Project 1: **Final Design Refinement** Polish design details and prepare final presentation materials.	1-6	Face to face			1	
5 (23/3)	6.1	Project 1: **Final Submission (19/3)**	1-6	Face to face			1	
	6.2	Project 2: **Design Research**: Site Analysis, Precedent Study, Program Development, Standards	1-6	Face to face			2	
6 (30/3)	7.1	**Eid Al-Fitr**						
	7.2	**Eid Al-Fitr**						
7 (6/4)	8.1	Project 2: **Final review and Submission of the Design Research Phase**	1-6	Face to face			2	
	8.2	Project 2: **Concept Development & Programming**: Conceptual Frameworks, volumetric program, Conceptual diagramming and massing studies, Cultural and community engagement strategies	1-6	Face to face			2	
8 (13/4)	9.1	Project 2: **Concept Development & Programming**: Conceptual Frameworks, volumetric program, Conceptual diagramming and massing studies, Cultural and community engagement strategies * Conceptual diagrams	1-6	Face to face			2	

			1-6	Face to face			2	
	9.2	Project 2: **Schematic Design**: formal system, Sustainable strategies integration, Material palette development, Integration of passive design strategies, Water management systems, Renewable energy integration, * Schematic plans, sections and elevations. 3d studies	1-6	Face to face			2	
9 (20/4)	10.1	Project 2: **Schematic Design**: formal system, Sustainable strategies integration, Material palette development, Integration of passive design strategies, Water management systems, Renewable energy integration, schematic plans, sections and elevations * Schematic plans, sections and elevations. 3d studies	1-6	Face to face			2	
	10.2	Project 2: **Schematic Design**: formal system, Sustainable strategies integration, Material palette development, Integration of passive design strategies, Water management systems, Renewable energy integration, schematic plans, sections and elevations * Schematic plans, sections and elevations. 3d studies	1-6	Face to face			2	
10 (27/4)	11.1	Project 2: **Design Development**: Spatial Experience & Interior Development, Guest experience journey mapping, Interior-exterior relationships, Landscape design strategies * full architectural drawings (plans, sections, elevations), interior and exterior views	1-6	Face to face			2	

			1-6	Face to face			2	
	11.2	Project 2: **Design Development**: Spatial Experience & Interior Development, Guest experience journey mapping, Interior-exterior relationships, Landscape design strategies * full architectural drawings (plans, sections, elevations), interior and exterior views						
11 (4/5)	12.1	Project 2: **Design Development**: Spatial Experience & Interior Development, Guest experience journey mapping, Interior-exterior relationships, Landscape design strategies * full architectural drawings (plans, sections, elevations), interior and exterior views	1-6	Face to face			2	
	12.2	Project 2: **Technical Resolution**: Architectural drawing development, Building systems integration, Construction details for key architectural elements	1-6	Face to face			2	
12 (11/5)	13.1	Project 2: **Pre-Final Submission**	1-6	Face to face			2	
	13.2	Project 2 : **Refinement**: Project narrative refinement, Presentation strategy and layout , Drawing and model completion, Critical areas resolution	1-6	Face to face			2	
13 (18/5)	14.1	Project 2: **Final Submission**: * Refined and complete architectural drawings (site plan, floor plans, sections, elevations) , Detailed wall sections and construction details , Interior and exterior perspective renderings , Sustainable systems	1-6	Face to face			2	

		integration diagrams, Physical model(s) , Project narrative and design process documentation, morphological diagrams					
	14.2	**Final Exams**					
14 (25/5)	15.1	**Final Exams**					

25. Evaluation Methods:

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

Evaluation Activity	Mark	Topic(s)	ILO/s Linked to the Evaluation activity	Period (Week)	Platform
Design Project 1	20%	Redesign the Department of Architecture	1-6	1-4	Face-face
Design Project 2	60%	Boutique Hotel – Iraq Al-Amir	1-6	5-14	Face-face
Final Exam	20%	Exam	3-6	15	Face-face

26. Course Requirements:

Hardware & Internet: Computer **(**High-performance PC with at least 16GB RAM, a multi-core processor, and a dedicated graphics card). Internet **(**Reliable high-speed connection). Cloud Storage**:** Minimum 100GB (OneDrive, Google Drive, or Dropbox). External Storage: Recommended 1TB drive for local backups.

Software: 3D Modeling (Rhino 7 or newer with Grasshopper). BIM (Revit 2023 or newer). Visualization (V-Ray or Enscape). Post-Production & Diagramming (Adobe Creative Suite: Photoshop, Illustrator, InDesign). *Note: Many of these applications offer educational licenses, so be sure to take advantage of them.*

Digital Communication & Collaboration: Email (University account, checked daily). Virtual Meetings (Microsoft Teams). Learning Platform (University e-learning). Collaboration Tools (Miro).

Optional Enhancements: Drawing Tablet (For digital sketching). Secondary Monitor (For improved workflow). Printing Capability (Access to quality printing for physical submissions). Smartphone with Camera (For site documentation and process photography).

27. Course Policies:

A- Attendance policies:

Regular attendance is essential for active participation and success in this course. In accordance with university regulations, students are allowed a specific percentage of absences. Exceeding the permitted absence limit may result in students being ineligible to take the final exam. It is the responsibility of students to monitor their attendance and ensure compliance with the stipulated limit. If an absence is unavoidable, students must communicate in advance and make arrangements to catch up on missed material. This policy underscores the importance of consistent attendance throughout the course.

B- Absences from exams and submitting assignments on time:

Timely submission of assignments is imperative. In the event of unforeseen circumstances resulting in an absence from exams or challenges in meeting assignment deadlines, students must promptly notify the instructor and provide appropriate documentation. Please note that <u>alternate submissions arrangements will not be considered under any circumstances</u>. It is crucial for students to communicate proactively and adhere to the specified deadlines outlined in the course syllabus.

C- Health and safety procedures:

The health and safety of all participants are paramount. Students must adhere to university guidelines and any additional safety protocols outlined by the instructor, whether engaging in on-campus or virtual activities. Any health concerns affecting participation should be communicated promptly.

D- Honesty policy regarding cheating, plagiarism, misbehavior:

Academic integrity is strictly enforced. Any form of cheating, plagiarism, or misbehavior is unacceptable and will result in severe consequences, including but not limited to academic penalties. Students are expected to familiarize themselves with the university's academic honesty policies.

E- AI Policy in Design Studio:

Encouraged AI Applications:

- Brainstorming & Research: Use AI to generate initial concepts, explore architectural theories, and efficiently gather research materials
- Technical Analysis: Employ AI tools for building performance simulations, energy modeling, and structural analysis to enhance design decisions
- Visualization Support: Utilize AI rendering tools to enhance presentations of your own 3D models
- Parametric Design: Explore AI-powered form-finding and optimization within parameters you define
- Process Documentation: Maintain logs of your AI interactions as part of your design process documentation

Not Permitted:

- Direct Submission of AI Content: Never submit AI-generated designs, drawings, or text as your own work without substantial modification
- Uncited AI Assistance: All AI tools and resources must be properly acknowledged in your submissions
- Overreliance on AI: Your work must demonstrate your personal design voice and critical thinking skills
- Misrepresentation: Don't claim AI-generated work as manually created or hide the extent of AI assistance

Key Requirements:

1. Document all AI tools used in your process
2. Be prepared to explain how AI inputs influenced your design decisions
3. Ensure all final technical drawings and models are your original work
4. Maintain regular check-ins with instructors regarding your AI usage
5. Remember that you are ultimately responsible for the originality, accuracy, and integrity of your designs

Important Note: Failure to follow these guidelines will be considered **academic misconduct** in the form of cheating or plagiarism and will be subject to disciplinary action according to university policy.

F- Grading policy:
The grading criteria, encompassing assignments, exams, and participation, are clearly outlined in the course syllabus.

A	A-	B+	B	B-	C+
100-88	87-84	83-79	78-75	74-71	70-66
C	**C-**	**D+**	**D**	**D-**	**F**
65-62	61-58	57-55	54-50	49-36	35-0

G- Available university services that support achievement in the course:
The university library is a valuable resource that students are encouraged to utilize for research and academic support. With a wealth of materials, online databases, and expert assistance, the library provides essential resources to enhance learning and academic success in the course. Students are advised to familiarize themselves with the library's offerings and leverage these services to strengthen their understanding of course content and improve overall achievement.

28. References:

A- Required book(s), assigned reading and audio-visuals: Wong, L., & Berger, M. (Eds.). (2021). *Interventions and Adaptive Reuse: A Decade of Responsible Practice*. De Gruyter. Wong, L. (2023). *Adaptive reuse in architecture: A typological index*. Birkhäuser. Plevoets, B., & Van Cleempoel, K. (2019). *Adaptive reuse of the built heritage: Concepts and cases of an emerging discipline*. Routledge. **B- Recommended books, materials, and media:** Wong, L. (2024). *Adaptive reuse: extending the lives of buildings*. Birkhäuser.

29. Additional information:

Name of the Instructor or the Course Coordinator: ………… **Dr. Nancy Al-Assaf** ………	Signature: …………….…..……………	Date: …….……………
Name of the Head of Quality Assurance Committee/ Department ………………………………………………	Signature: …………….…..……………	Date: …….……………
Name of the Head of Department ………………………………………………	Signature: …………….…..……………	Date: …….……………
Name of the Head of Quality Assurance Committee/ School or Center ………………………………………………	Signature: …………….…..……………	Date: …….……………
Name of the Dean or the Director ………………………………………………	Signature: …………….…..……………	Date: …….……………