Form: Course Syllabus		
	Form Number	EXC-01-02-02A
	Issue Number and Date	2/3/24/2022/2963 05/12/2022
	Number and Date of Revision or Modification	2023/10/15
	Deans Council Approval Decision Number	265/2024/24/3/2
	The Date of the Deans Council Approval Decision	2024/1/23
	Number of Pages	06

1.	**Course Title**	Conservation and Restoration of Ancient Buildings
2.	**Course Number**	2602451
3.	**Credit Hours (Theory, Practical)**	3
	Contact Hours (Theory, Practical)	3
4.	**Prerequisites/ Corequisites**	N/A
5.	**Program Title**	Cultural Resources Management and Conservation
6.	**Program Code**	02
7.	**School/ Center**	Archaeology and Tourism
8.	**Department**	Cultural Resources Management and Conservation
9.	**Course Level**	Fourth year
10.	**Year of Study and Semester (s)**	1/2025-2026
11.	**Program Degree**	BA
12.	**Other Department(s) Involved in Teaching the Course**	N/A
13.	**Learning Language**	English
14.	**Learning Types**	☐**Face to face learning** ☐Blended ☐Fully online
15.	**Online Platforms(s)**	☐Moodle ☐**Microsoft Teams**
16	**Issuing Date**	9/2024
17.	**Revision Date**	9/2025

18. Course Coordinator:

Name: Dr. Yazan Abu Alhassan	Contact hours: Sunday, Tuesday and Thursday 11:30 – 12:30 Monday and Wednesday 12:00 – 1:00
Office number:	Phone number: 25039
Email: y.abualhassan@ju.edu.jo	

19. Other Instructors:

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20. Course Description:

This course aims to introduce students to methods of analysing, studying, and evaluating historical buildings, and chemical and physical characteristics of the materials used in archaeological and historical buildings, such as various types of stone, mortar, internal and external plastering materials, roofing and decoration materials. The course deals with the agents of deterioration and weathering of the materials used in architecture, as well as methods of examination and diagnosis of the deterioration phenomena. This course aims to train students on the practical techniques and methods used in the conservation of historical and archaeological architecture, as outlined in legislation, charters, and international institutions concerned with preserving architectural heritage. This practical training is conducted in the laboratory and the field. These applications include the collection of information and documentation techniques, the treatment of structural and architectural problems such as cracks, the treatment of bulging and bowing, swellings, moisture, microorganisms, and the methods to remove salts and cleaning methods, restoration, replacement, consolidation, treating structural problems and repoint and strengthen the stone

21. 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)

PILO's	*National Qualifications Framework Descriptors*		
	Competency (C)	**Skills (B)**	**Knowledge (A)**
Distinguish different types of stones used in archaeological and historical buildings.	☐	☐	☒
Recognize the locations of geological sources of building stones in Jordan.	☐	☐	☒
Recognize the internal and external factors that cause deterioration to building materials.	☐	☐	☒
Determine the types of mortar and plastering materials and methods of their manufacture.	☐	☒	☐
Determine methods of treatment for the deteriorated building materials.	☐	☒	☐
Examine buildings and prepare a condition report.	☐	☒	☐
Recognize deterioration forms of building materials and methods of their examination.	☒	☐	☐
Design and prepare a suitable mortar for the use in restoration of archaeological buildings	☒	☐	☐

* Choose only one descriptor for each learning outcome of the program, whether knowledge, skill, or competency.

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

Course ILOs #	The learning levels to be achieved						Competencies
	Remember	Understand	Apply	Analyse	Evaluate	Create	
K1.Distinguish different types of stones used in archaeological and historical buildings.	**K1**	**K1**					Knowledge
K2.Recognize the locations of geological sources of building stones in Jordan.		**K2**					Knowledge
K3 Recognize the internal and external factors that cause deterioration to building materials		**K3**					Knowledge
S1 Determine the types of mortar and plastering materials and methods of their manufacture			S1			S1	Skills

S2. Determine methods of treatment for the deteriorated building materials			S2				Skills
S3 Examine buildings and prepare a condition report.			S3				Skills
C1 Recognize deterioration forms of building materials and methods of their examination.		C1					Competence
C2 Design and prepare a suitable mortar for the use in restoration of archaeological buildings.					C2	C2	Competence

23. The matrix linking the intended learning outcomes of the course -CLO's with the intended learning outcomes of the program -PILOs:

PILO's * / CLO's	1	2	3	4	5	6	7	8	9	10	11	12	13	Descriptors**		
														A	B	C
K1	X	X	X					X						X		
K2			X											X		
K3			X						X					X		
K4		X												X		
S1							X								X	
S2				X		X									X	
S3							X	X							X	
C1									X							X
C2			X													X

***Linking each course learning outcome (CLO) to only one program outcome (PLO) as specified in the course matrix.**

****Descriptors are determined according to the program learning outcome (PLO) that was chosen and according to what was specified in the program learning outcomes matrix in clause (21).**

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 Lectures	Evaluation Methods	Learning Resources
1 General introduction, History of architecture in Jordan,	1.1	General introduction to architecture	K1, k2	Face to face			• Interactive lectures • Presentations • Group-Based Learning • Discussion	

Archaeological and Heritage building	1.2	History of architecture in Jordan	S1	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
	1.3	Archaeological and heritage buildings	K1,k2,S1	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
2 The main components of architectural building	2.1	The main components of architectural buildings	S1	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
	2.2	Structure and materials of historical buildings	K1, K2, K3	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
	2.3	Functional behavior of traditional building systems	K3, S3, C1	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
3 Types of Rocks Used in Construction	3.1	Mortars and plasters	K3, S2, C1	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
	3.2	Lime-based materials	C2,C1	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
	3.3	Additives and modifiers in historical mortars	S1	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
4 Mortars and Plasters	4.1	Mortars and plasters	K1,k2,S1	Face to face			• Interactive lectures • Presentations • Group-Based	

							• Learning Discussion	
	4.2	Lime-based materials	S1	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
	4.3	Additives and modifiers in historical mortars	K1, K2, K3	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
5 Decoration Materials	5.1	Decoration materials in heritage buildings	K3, S3, C1	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
	5.2	Pigments and binders	K3, S2, C1	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
	5.3	Deterioration factors affecting decorative elements	C2,C1	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
6 Deterioration of Stone Materials	6.1	Deterioration of stone materials – physical weathering	S1	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
	6.2	Chemical deterioration of stone	K1,k2,S1	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
	6.3	Biological deterioration of stone	S1	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	

7Deterioration of Stone Materials	7.1	Deterioration mechanisms (case examples)	K1, K2, K3	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
	7.2	Mapping deterioration forms	S1	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
	7.3	Laboratory indicators of stone decay	K1,k2,S1	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
8 Assessment of the Heritage building condition	8.1	Assessment of heritage building condition	S1	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
	8.2	Field observation methods	S3, C2	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
	8.3	Condition survey forms & diagnostic tools	S2, S3, C1, C2	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
9 Documentation	9.1	Documentation of materials and structures	S2, S3, C3,	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
	9.2	Photography & digital documentation	K2,k3, C2,C2,S3	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
	9.3	Sketching, mapping & descriptive reporting	K1,K2,S1,S2,S3, C1,C2	Face to face			• Interactive lectures • Presentations • Group-Based	

							• Learning Discussion	
10 Examination of heritage building	10.1	Examination of heritage buildings	S3, C2	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
	10.2	Non-destructive testing methods	S2, S3, C1, C2	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
	10.3	Sampling and sample preparation	S2, S3, C3,	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
11 Cleaning Consolidation	11.1	Cleaning techniques for heritage materials	K2,k3, C2,C2,S3	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
	11.2	Chemical cleaning agents	K1,K2,S1,S2,S3, C1,C2	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
	11.3	Mechanical / laser cleaning considerations	S3, C2	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
12 Mixtures used in conservation of Heritage building	12.1	Consolidation of heritage materials	S2, S3, C1, C2	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
	12.2	Evaluation of consolidants	S2, S3, C3,	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	

	12.3	Field performance of consolidation treatments	K2,k3, C2,C2,S3	Face to face			• Interactive lectures • Presentations • Group-Based • Learning Discussion	
13 Practical works	13.1	Practical works	K1,K2,S1,S2,S3, C1,C2	Face to face			• Report • Team work • Skills	
	13.2		K2,k3, C2,C2,S3	Face to face			• Report • Team work Skills	
	13.3		K1,K2,S1,S2,S3, C1,C2	Face to face			• Report • Team work Skills	
14	14.1	Practical works	K2,k3, C2,C2,S3	Face to face			• Report • Team work Skills	
	14.2		K1,K2,S1,S2,S3, C1,C2	Face to face			• Report • Team work Skills	
	14.3		K2,k3, C2,C2,S3	Face to face			• Report • Team work Skills	
15	15.1	Practical works	K1,K2,S1,S2,S3, C1,C2	Face to face			• Report • Team work Skills	
	15.2		K2,k3, C2,C2,S3	Face to face			• Report • Team work Skills	
	15.3		K1,K2,S1,S2,S3, C1,C2	Face to face			• Report • Team work Skills	

25. Evaluation Methods:

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

Evaluation Activity	*Mark wt.	CILO's							
		K1	K2	K3	S1	S2	S3	C1	C2
First Exam (Mid)	30	x	x			x			
Second Exam –If any									
Final Exam	50	x	x	x	X	x	x	x	x
**Class work		x	x	x	X	x	x		

Projects/reports	10	x	x	x	X	x	x	x	x
Research working papers	5	x	x			x			
Field visits									
Practical and clinical									
Performance Completion file									
Presentation/ exhibition	5	x	x	x	x	x	x	x	X
Any other approved works									
Total 100%									

*** According to the instructions for granting a Bachelor's degree.**

****According to the principles of organizing semester work, tests, examinations, and grades for the bachelor's degree.**

Mid-term exam specifications table*

No. of questions/ cognitive level						No. of questions per CLO	Total exam mark	Total no. of questions	CILO/ Weight	CILO no.
Create **%10**	Evaluate **%10**	analyse **%10**	Apply %20	Understand **%20**	Remember %30					
1	1	1	4	2	1	10	100	100	10%	K1
										K2
					X	1	30	1	10%	K3
										S1
			X			1	30	1	10%	S2
										S3
										C1
	X	X					30	1	10%	C2

Final exam specifications table

No. of questions/ cognitive level						No. of questions per CLO	Total exam mark	Total no. of questions	CILO Weight	CILO no.
Create **%10**	Evaluate **%10**	analyse **%10**	Apply %20	Understand **%20**	Remember %30					
				X	X	2	50	1		K1
	X				X	2		1		K2
	X	X				1		1		K3
			X		X	1		2		S1
						3		2		S2
X	X		X			2		1		S3
		X				1		1		C1
		X				1		3		C2

26. Course Requirements:

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

27. Course Policies:

A- Attendance policies:

B- Absences from exams and submitting assignments on time:

C- Health and safety procedures:

D- Honesty policy regarding cheating, plagiarism, misbehavior:

E- Grading policy:

F- Available university services that support achievement in the course:

28. References:

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

Historic Construction and Conservation: Materials, Systems and Damage

B- Recommended books, materials, and media:

- Feilden, B. M. (2003). Conservation of Historic Buildings (3rd ed.). Routledge — A classic foundational text covering principles, causes of decay, and practical conservation approaches for historic structures.
- Jokilehto, J. (2018). A History of Architectural Conservation (2nd ed.). Routledge — A thorough historical and theoretical overview of architectural conservation from early practices to modern international principles.
- Orbasli, A. (2007). Architectural Conservation: Principles and Practice. Wiley-VCH — A detailed introduction to conservation theory, materials, and case studies relevant to historic buildings.
- Bokan Bosiljkov, V., Padovnik, A., & Turk, T. (Eds.). (2023). Conservation and Restoration of Historic Mortars and Masonry Structures. Springer Nature — Collection of international research on masonry conservation techniques, materials characterization, and restoration case studies.
- Versaci, A., Bougdah, H., Akagawa, N., & Cavalagli, N. (Eds.). (2022). Conservation of Architectural Heritage. Springer Cham — An extensive multidisciplinary resource addressing heritage conservation practice, policies, and technical strategies.

29. Additional information:

Name of the Instructor or the Course Coordinator: ……	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: ……..……