



Co-funded by the
Erasmus+ Programme
of the European Union



Traditional Craft Heritage Training , Design & Marketing in Jordan and Syria
(HANDS)

Project Number: 610238-EPP-1-2019-1-JO-EPPKA2-CBHE-JP

Conservation of the Architectural Heritage

Course Offered by: ZUJ, UJ, HU, JUST, MU, ABU, TU

Module 3

Responsible partner(s):

Training and Technical Group (TTG)

Scientific and Supervising Committee (SC)

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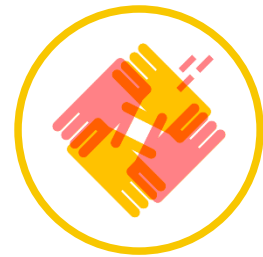
CONTENTS

- **HANDS LOS**
- **Project Description**
- **Project Requirements**
- **Project Schedules**
- **Students Work**

HANDS LOS

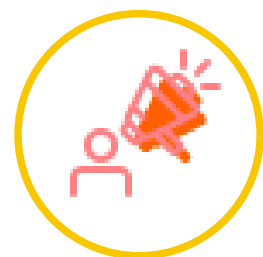
- **BASED ON HANDS LEARNING OUTCOMES 2022, THE FOLLOWING LEARNING OUTCOME ARE USED:**

- LO1: Demonstrate an understanding of the historical significance and cultural heritage associated with traditional crafts.
- LO8: Collaborate effectively with artisans, communities, and stakeholders to support the preservation and revitalization of traditional craft industries.
- LO16: Collaborate with artisans, practitioners, and communities involved in traditional crafts. This can foster mutual learning, cultural exchange, and the preservation of traditional craft practices.
- LO20: Understand the importance of conserving and preserving traditional craft techniques and materials for future generations. This may involve learning about methods for documentation, restoration, and maintenance of traditional craft objects and practices.



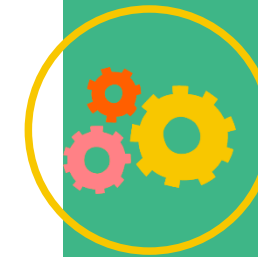
OBJECTIVE

Three-dimensional modeling and visualization are used in the digital preservation of the appearance and structure of historic buildings. Virtual reality technologies facilitate the creation and visualization of this model.



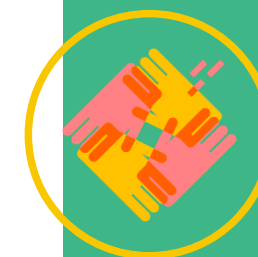
VIRTUAL REALITY (VR)

How to preserve historic buildings using virtual reality technologies.

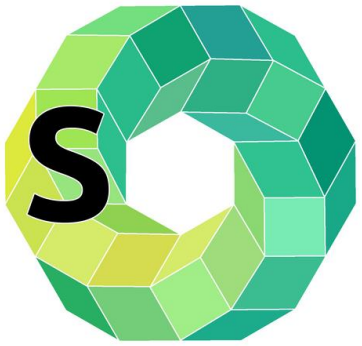


THEORY OF historic buildings

Use a 3D scanner to speed up the process of data collection and modeling. Use of 3D displays to improve visual perception 3D printing can be used to create physical models.



CRAFT



Conservation of the Architectural Heritage

TEAM

Students will be followed directly from teachers, doctoral researchers and postgraduate teachers.

CONTENTS

This course consists of studying the principles of heritage conservation. The most important principles of preservation with exercises (preservation - restoration - treatment - maintenance).

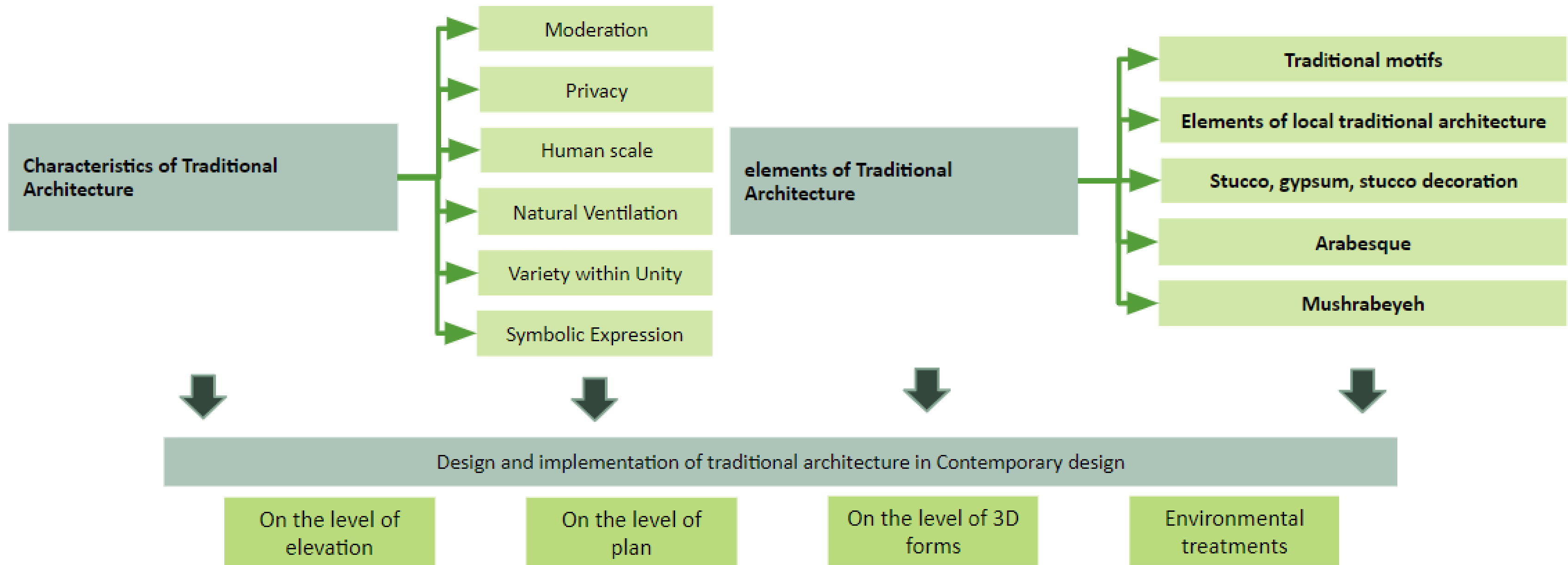
OBJECTIVE

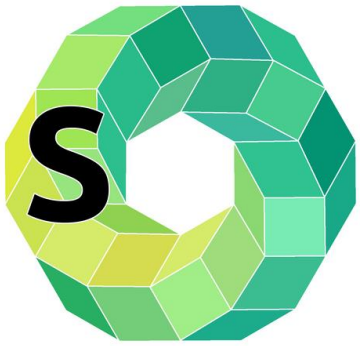
The objectives of this course are to help students:

1. Introduce basic knowledge of theory and history of preservation movement at the international and national levels.
2. Develop student's solid understanding of how strategies can be utilized in conservation through developing a practical framework based on theoretical lectures combined with practical project and homework assignments.
3. Offer to students' application for Conservation, with emphasis on methods of documentation and physical recording of heritage objects, buildings and sites.
4. Help students to analyze the logic and the nature of heritage conservation.
5. Exercise methods of evaluation in real projects.
6. The student will be introduced to current issues in local architecture research as well as research methods and thus become more aware of the contribution of new methods to local architecture

Conservation of the Architectural Heritage

Architectural Heritage





Conservation of the Architectural Heritage

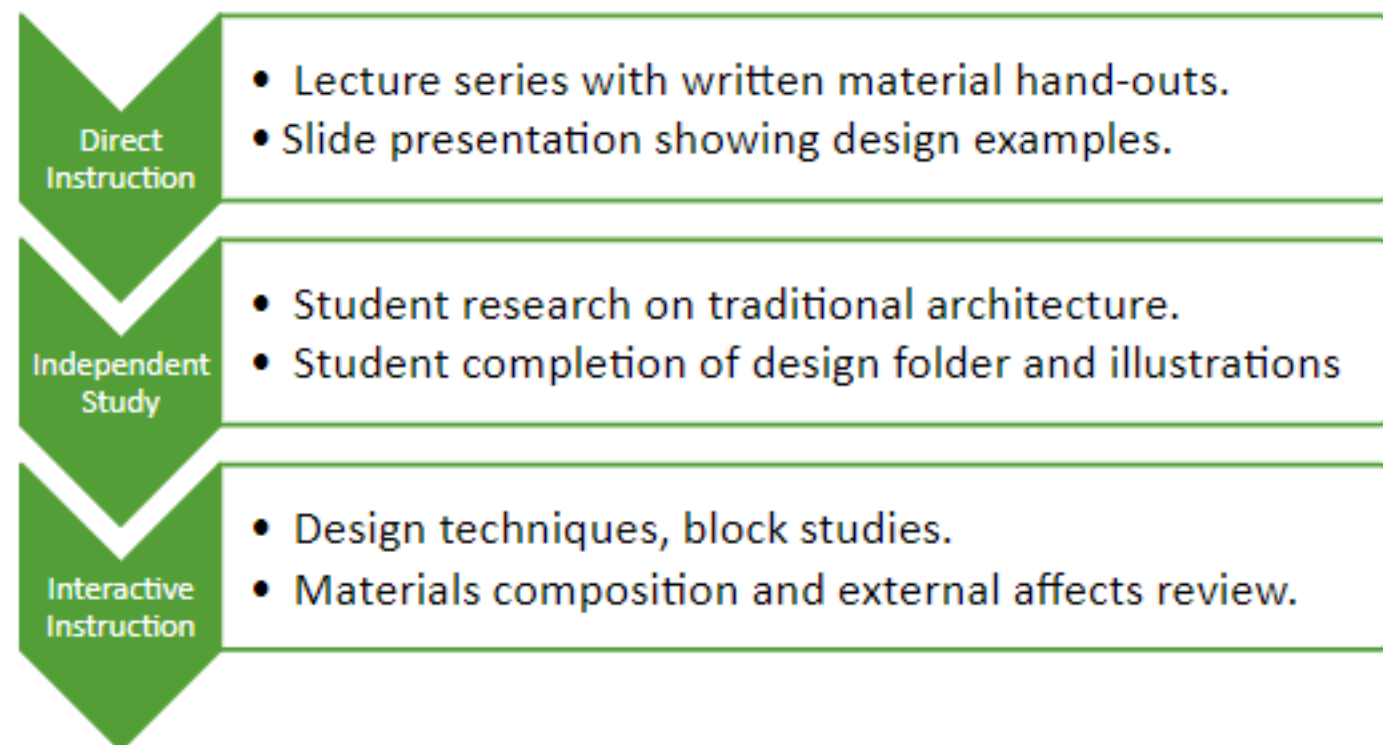
CONTENTS

This course aims to focus on the creative methodology of traditional architecture and present the most important aesthetic values and creative concepts in traditional architecture. Taking into account the possibility of investing cultural heritage to benefit from the ideas and principles of environmental design in traditional architecture. Helps and encourages students to design projects that are compatible with the surrounding environment and reflect local cultural determinations in modern contemporary forms

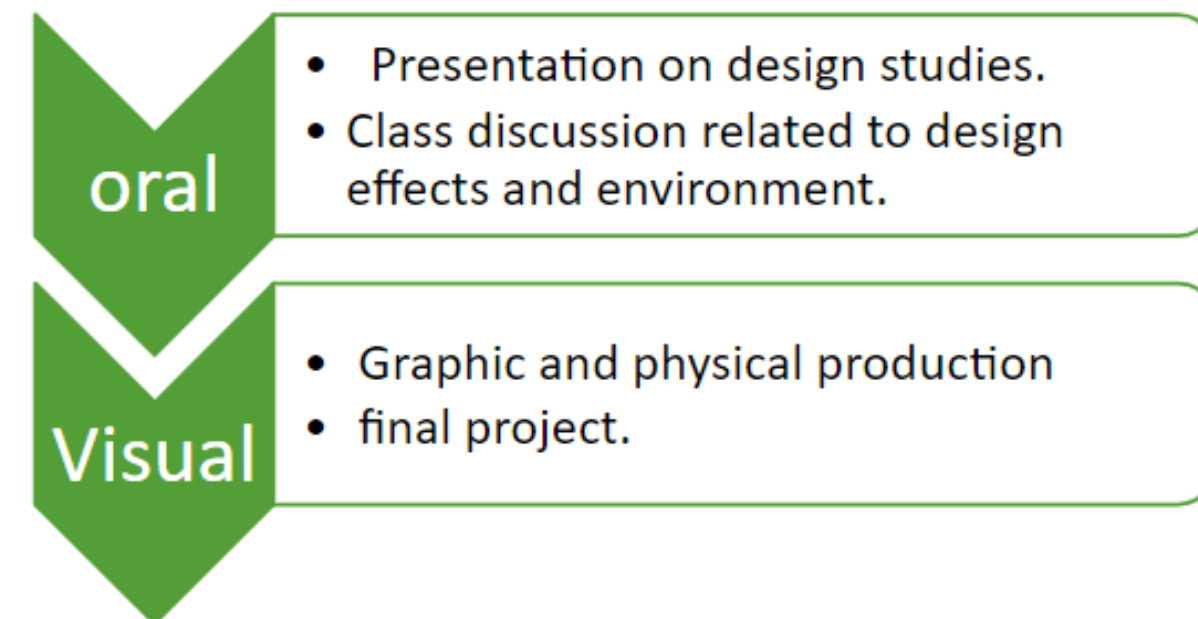
Conservation of the Architectural Heritage

CONTENTS

INSTRUCTIONAL STRATEGY



STUDENT ACTIVITIES



Conservation of the Architectural Heritage

CONTENTS

COMMON ESSENTIAL LEARNINGS

Communication

New terms and
definitions

Enhance non-verbal
communication
skills.

Creative and Critical Thinking

Integrate knowledge of
contemporary and historical art,
design theories, historical principles
and practices into the conception
and development of studio work.

Understand the analysis and
evaluation of design solutions.

Independent Learning

Research, graphic
assignment,
community studies.

Independent study of
established design
concepts and
applications.

Conservation of the Architectural Heritage

CONTENTS

COMMON ESSENTIAL LEARNINGS

Design Experiences

Train students to research the architectural elements that characterize traditional architecture and fit into the social environment.

Technological Literacy

Redesign and implement these heritage architectural elements and use them according to the requirements of modern architecture.

Personal Social Values and Skills

An enhanced knowledge base for the built environment.

Environmental and context awareness in relation to design solutions.

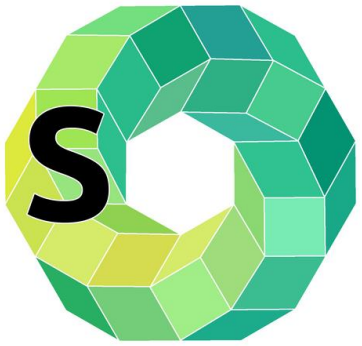
Understand cultural influences related to architectural design.

Conservation of the Architectural Heritage

CONTENTS

- **Course Description:**

Review the definition of vernacular architecture and heritage and the history of its conservation and its evolution. Analysis of the planning process for the protection of historic areas and sites within the urban form of cities as part of its management. The importance of including historic areas and sites within the master plan of the city as sustainable development approach. Interpretation of the correlation of historic events and the value of historic sites. The integration between historic sites and their local communities. Interpretation and presentation of historic areas in terms of traditional building craft elements for the public as a socio-economic development issue. Discover the value of local peoples' traditional built environments and craft technology, find inspiration in these buildings, and learn how to conserve them for future generations. Handcrafts is an important issue that the course consider strongly by including workshops and seminars related to the adoption of handcrafts introduction to the modern local architecture. The coordination with local expertise in the field of handcraft making is also strongly considered. Different local building materials will be considered such as: wood and stone carving and geometrical patterns inspired from the local, Arab as well as Islamic architecture



Conservation of the Architectural Heritage

CONTENTS

- **Course Goals & Objectives:**

Integrate knowledge of contemporary and historical art, design theories, historical principles and practices into the conception and development of studio work.

Train students to research the architectural elements that characterize local architecture and fit into the social environment.

Redesign and implement these heritage architectural elements and use them according to the requirements of modern architecture.

CONTENTS

- **Course Description**
- **Chapter 1: Cultural Heritage and its Classifications**
- **Chapter 2: Local and international laws and conventions for the preservation of heritage.**
- **Chapter 3: Methods of Heritage Conservation.**
- **Chapter 4: Stages of the restoration process.**
- **Chapter 5: Practical Training - Documentation and Modeling .**

PROJECT DESCRIPTION

This course introduces the student to the importance of the cultural heritage of nations in general and Syria in particular, especially architectural and urban heritage. It deals with the classification of antiquities, their types and levels of conservation. The student is also introduced to local laws and international conventions that determine the method of dealing with antiquities and preserving them, and explain the methodology for proper handling of buildings or archaeological sites. The course focuses on the practical part of the restoration process where students learn a shovel for documentation and engineering lifting work to obtain accurate plans for the archaeological building. They will learn how to leverage plans in manufacturing models that help reimagine a building at the time of its construction and visualize modifications that have occurred over time..

CHAPTER 1: CULTURAL HERITAGE AND ITS CLASSIFICATIONS

In this semester students will learn:

The concept and classification of cultural heritage.

The importance of preserving monuments and architectural heritage and the risks to which it is exposed

This topic is covered by two lectures as follows:

The first lecture: deals with the following points:

The importance of cultural heritage.

Definition of cultural heritage.

Category : Fixed and moving heritage.

Types of historic buildings.



CHAPTER 1: CULTURAL HERITAGE AND ITS CLASSIFICATIONS

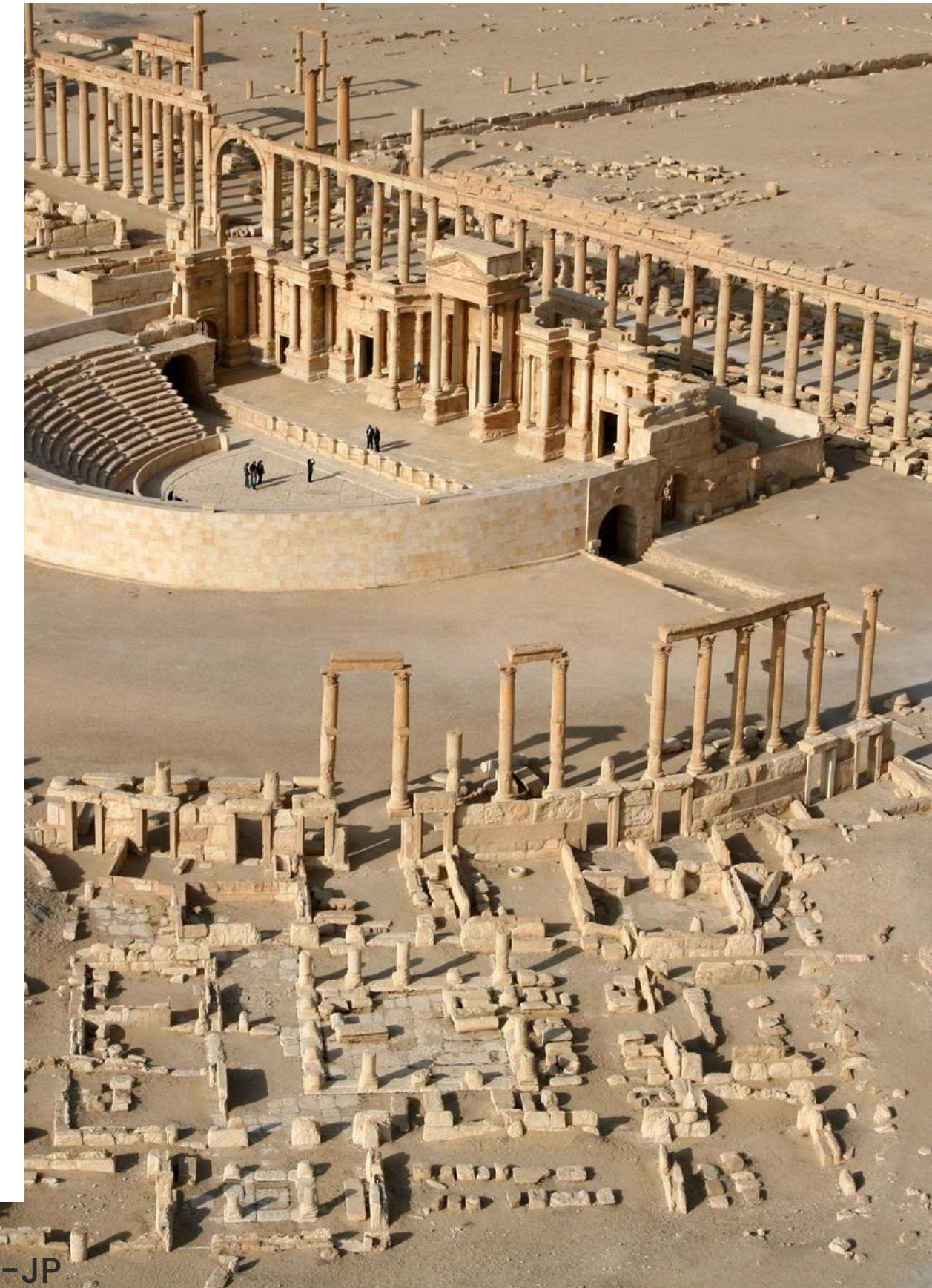
The second lecture contains the following topics:

Levels of conservation:

- 1. Single building level**
- 2. Band level**
- 3. Track level**
- 4. The level of the archaeological site**
- 5. Historic City Level**
- 6. Regional level**
- 7. International level**

UNESCO World Heritage

Tangible heritage





CHAPTER 2:
LOCAL AND
INTERNATIONAL
LAWS AND
CHARTERS OF
HERITAGE
CONSERVATION.

In this semester students will learn:
Syrian Domestic Law and the Venice Charter Governing Heritage Preservation

This topic is covered by two lectures as follows:

The first lecture: Syrian Antiquities Law

- Definitions
- Static heritage
- Movable heritage.
- Excavation of archaeological Sites
- Penalties

Second Lecture: The Venice Charter

- Definitions and aim
- Conservation
- Restoration
- Excavation

CHAPTER 3: METHODS OF HERITAGE PRESERVATION.

In this semester students will learn:

Methods and techniques used to preserve heritage

What are the advantages and disadvantages of each method.

How to choose the right method according to the type of building, condition, age, etc..

This topic is covered by two lectures as following:

First lecture

- Maintenance: definitions – methods.
- Anastailus: definitions – conditions – methods – examples.
- Transportation: definitions – conditions – methods – defects – examples. Copying – True Copy: Definitions – Terms – Advantages – Examples.

Second lecture

- Reconstruction: definitions – conditions – methods – defects – examples.
- Alternative construction: conditions – methods – examples.
- Digital reconstruction: definitions – methods – advantages – examples.
- The considered examples are divided into international and regional projects. Each example is analyzed and then discussed with students in terms of project advantages and disadvantages .

CHAPTER 4: RESTORATION PROCESS PHASES

In this chapter students will learn:

- What are the stages of construction or restoration of the project

This topic is covered by three lectures as following:

First lecture

- **Definition**
- **Restoration conditions**
- **Preparatory phases of restoration project (part 1):**
 - For historical, structural and documentation analyses
 - Photographic documentation
 - Architectural documents: plans, heights, sections and details
 - Analyses of construction stages and modifications.



CHAPTER 4: RESTORATION PROCESS PHASES

Second lecture

Preparatory stages of the restoration project (Part 1):

Analyses of the construction stages and modifications thereto.

Document all important elements.

Documenting the material condition and determining the damages and their causes Documenting previous restoration work.

Third lecture

Examples of a restoration project (regional and international) in which all previous stages are analyzed.



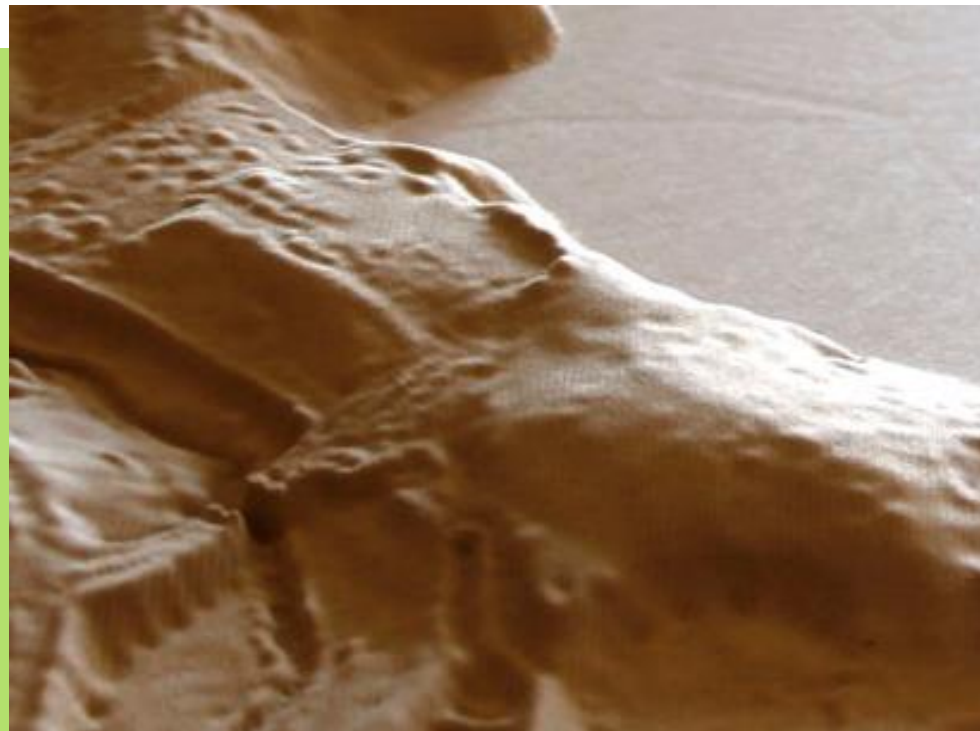
PHASES OF RESTORATION PROJECT:

1. The proposed function of the building.
2. Determine the necessary renovations.
3. Funding.
4. Submit a restoration file and obtain a restoration license
5. Develop a periodic maintenance plan

CHAPTER FIVE: PRACTICAL TRAINING – DOCUMENTATION AND MODELLING.

The aim of these training is:

1. Building prototypes using CNC machine.... One of the realistic historical monuments.
2. Hold a permanent exhibition of models made by students that show important local historical architecture. It will connect these students to their heritage and encourage them to build models.
3. Give students experience in building models using new technology that will enrich their opportunities





In this chapter students will conduct a practical project over 3 sessions (6 hours) in the following steps:

- 1. Students are divided into groups, each group consists of 3 to 5 students.**
- 2. Explain the method of the architectural documentation stage (taking manual measurements of a historical building and then drawing plans, heights, sections and details).**
- 3. Each group will choose a local historical example for documentation.**
- 4. Several field trips, taking measurements and photographic documentation.**
- 5. The data obtained is converted into plans and corrected by the supervisors.**
- 6. The final drawings are pre-formed using the necessary CAD software as the data of the wood cutting machine – to convert the data into a realistic model.**



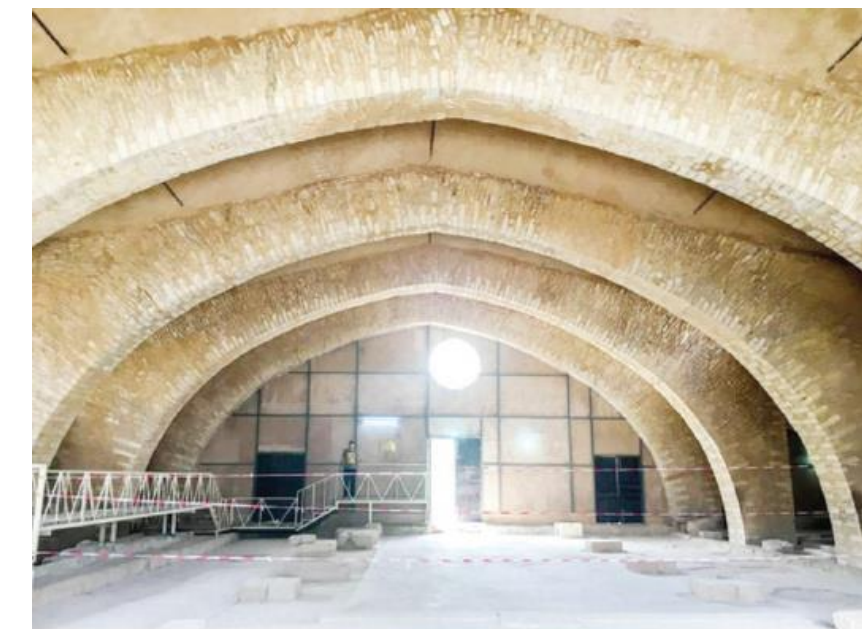
For the final presentation students will deliver the following components:

- Final plans of the historic building.
- Heights, sections and details of the historic building.
- A realistic three-dimensional model of the small size of the building.

PROJECT DESCRIPTION

Historical sites will be selected to familiarize students with, namely Umm al-Rasas and Madaba

Both sites contain historical remains from the Roman, Byzantine and Islamic periods. They were chosen because they represent two types of structural and structural techniques: the vaulted roof system (as documented in Madaba) and the flat roof system using limestone material (as found in Umm al-Rasas).



PROJECT REQUIREMENTS

The project is divided into three phases:

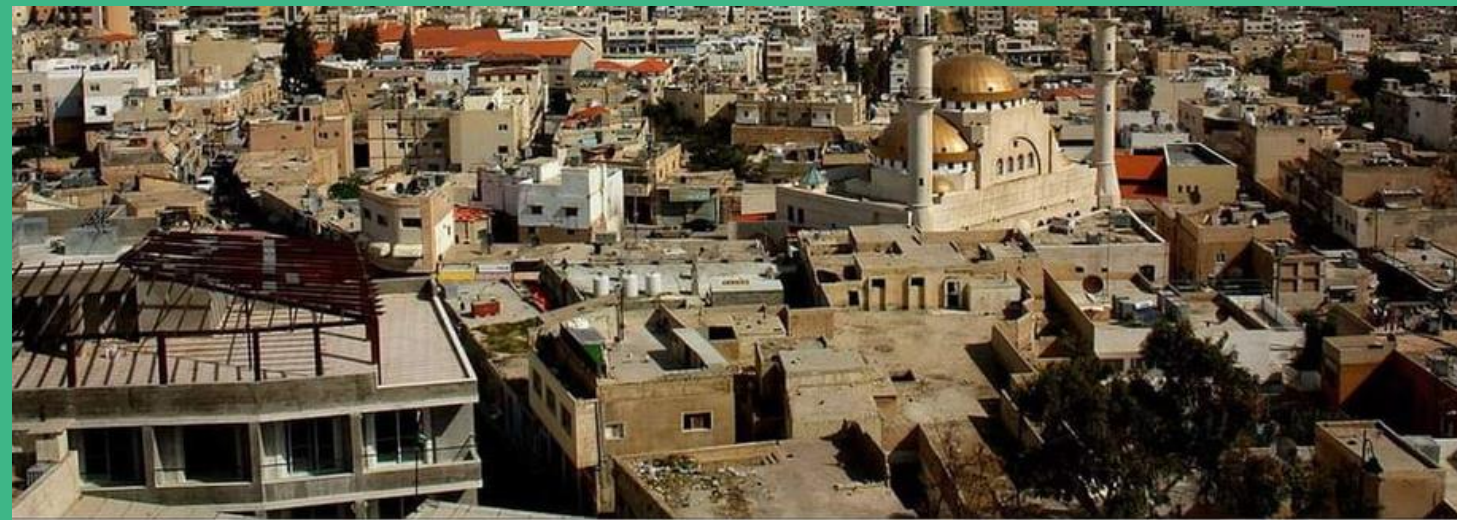
Stage 1: Site visit, inventory and data collection.

Students will visit both sites accompanied by their teachers. They are asked to collect data in the form of triangular measurements (taking manual measurements), photos and notes. All side walls (interior and exterior) must be measured and documented along with the ceiling (inside and outside).





Stage 2: Data processing and laboratory work
Where three-dimensional designs are produced using engineering programs
To clarify the internal and external configuration of the building



Stage 3: Data Presentation

Final documentation work for each module must be submitted on a standard form provided by trainers. All drawings must be expanded according to the instructions.

PROJECT DESCRIPTION

Students will be introduced to two historical sites located within the scope of the capital Amman, including um Al-Rasas and Al-Qastal. Both sites include historical remains from the Roman, Byzantine and Islamic periods. They are chosen because they represent two types of structural and structural techniques: a vaulted roofing system (mainly a cylindrical vault as shown in the qastal) and a flat arch system using limestone material (as found in um al-Rasas).



PROJECT REQUIREMENTS

Stage 1: Site visit, inventory and data collection.

Students will visit both sites accompanied by their teachers. They are asked to collect data in the form of triangular measurements (taking manual measurements), photos and notes. All side walls (interior and exterior) must be measured and documented along with the ceiling (inside and outside).

Stage 2: Data processing and laboratory work

**Where three-dimensional designs are produced using engineering programs
To clarify the internal and external configuration of the building**

Stage 3: Data Presentation

**Final documentation work for each module must be submitted on a standard form provided by trainers.
All drawings must be expanded according to the instructions.**

METHOD OF TEACHING/DELIVERY

- Studio presentation, education and artistic input
 - Lecture Notes
 - Practical studio work and experience
 - Group discussion / presentation / criticism
 - Self-directed studio assignment/project and course work
 - Visual search and image collection
-
- Activities
 - Students are required to submit and compile advanced drawings and drawings for future study of their progress.

TRADITIONAL ARCHITECTURAL ELEMENTS IN SYRIA

Introduction

Traditional Syrian architecture is one of the most valuable products of urban and architectural developments. Because they reflect historical social and cultural values. It is characterized by an architectural style that is unique in terms of aesthetics and distribution of use. One of the most important examples of Syrian architecture is the old house in Damascus and Aleppo. These houses enrich the city aesthetically and consist of many active factors in social, economic and environmental aspects. They had valuable properties in comfort and tranquility. In this topic, we explain well the elements of traditional architecture in Syrian homes. Which are divided into two types:

General design elements: Salamlak, Haramlak, Khadamlak.

Interior design elements: entrance, patio, iwaam, bottom, kitchen, bathroom, toilets, bedrooms



TRADITIONAL ARCHITECTURAL ELEMENTS IN SYRIA

Salamlek

- Halls (Qa'a)
Courtyard

Haramlek

- Iwan
- courtyard
- Bedrooms

Khadamlek

- Kitchen
- Toilets
- Bathroom

In the past, homes were designed to secure privacy for home residents. The houses were very simple on the outside, while they were luxurious and rich in decorations, plants and gardens on the inside.

We explore well the most important features of the traditional Syrian house which that is clearly visible in the courtyard, the design of doors, windows and ornaments.

TRADITIONAL ARCHITECTURAL ELEMENTS IN SYRIA

The courtyard:

The courtyard is the main part of the traditional Syrian house, it represents the family paradise at all times (summer to winter). In addition to its social role, it has an environmental role by allowing air, light and heat to flow throughout the halls and rooms.

The decoration of the courtyard is about how rich the family is. In each perimeter, the courtyard is decorated with bespoke furniture, and the decorative balustrade leads to a special entourage.

The patio leading directly to the Ewan Witch is the open space living area in summer due to its orientation to the north side away from the sun.



TRADITIONAL ARCHITECTURAL ELEMENTS IN SYRIA

- The design of the ceiling, walls and floors in the courtyard is often neglected because the patio takes center stage. The walls are made of stone, and they were laid in layers using an architectural technique called ablaq. Dark and light stone will be alternated.
- Interior decorations are based on the following four types of styles:
- Calligraphy based on verses from the Holy Quran or verses from poetry.
- floral patterns derived from the stems and leaves of various plants;
- patterns derived from animal forms such as birds;
- Geometric patterns derived from a combination of circles, squares, rectangles, and triangles.



CHARACTERISTICS OF ARABIC ARCHITECTURE

Privacy

Privacy is one of the most important features of Arab architecture by controlling social communication and behavior with others, both individually and collectively. The privacy is clear in the use of the inner courtyard in the planning of Arab housing to open windows for the purpose of ventilation and lighting and avoid opening windows for neighbors, and the use of mashrabiya to achieve street visibility from the back and not allow anyone on the street to see the interior spaces, and the design of private reception halls, as they are located on the ground floor away from living rooms and bedrooms, where they were placed on the upper floors, as well as dividing the dwelling into two main parts: Salamlek for men, and haremlik which was intended for women.



CHARACTERISTICS OF ARABIC ARCHITECTURE

Human scale

The scale is the size in relation to ourselves and the world around us. The human scale is that scale that feels comfortable for a human being. We naturally measure things against ourselves.

There is a relationship between experience, materiality and every space we inhabit. Arab architecture is based on the organic relationship between people's needs, social and climatic environments, and beliefs. Human peace in Arab architecture was consistent with the environment and traditions of the inhabitants and the spirit of Islamic civilization.



CHARACTERISTICS OF ARABIC ARCHITECTURE

Natural Ventilation

- Ventilation of the building is necessary to provide acceptable indoor air quality. Natural ventilation is one of the most important principles of sustainability in charming traditional Arab architecture, which is based on the use of different treatments and elements to avoid overheating and adapt to climatic environments.
- Some practical ways to provide natural ventilation in Syrian traditional architecture are:
 - using internal yards and a seastrum skylight to achieve cross-ventilation,
 - Using the "padger" (Badger), this tower captures the outside air that flows through it into the rooms of the building
 - The use of fountains in squares and gardens
 - Mashrabiya provides shade inside the residence without a complete closure of the window and allows air to move which helps to lower the temperature in the summer. Control heat transfer between the external environment and the interior spaces of the building according to the type of building materials.
 - The use of light colors in the external façade and the use of high-density building materials such as brick, clay and stone.

CHARACTERISTICS OF ARABIC ARCHITECTURE

Variety within Unity

The diversity of Arabic styles is a testament to the role of creativity in enriching architectural design.

This diversity is the result of encouraging the Arabic language to come into contact with other cultures.

The large variety of ornaments and calligraphy patterns testifies to the boundless creative talents of the Arab artist..



CHARACTERISTICS OF ARABIC ARCHITECTURE

Symbolic Expression

Arabic architecture is based on the use of many functional elements in symbolic form.

For example, traditional light and color complexes, the gradual complexity of the color scheme and light structures are associated with the culture of this region that has become more complex due to the development of Islamic philosophy and specific symbolism as well as the development of production that helped to modify the light flux and obtain more color nuances of building materials.

Another example of the dome which reflects the image of the sky when viewed from the inside.



SEQUENCE OF EXERCISES



ELEMENTS OF TRADITIONAL ARCHITECTURE

- **TRADITIONAL MOTIFS**
- **Elements of local traditional architecture**
- **Stucco, gypsum, stucco decoration**
- **Arabesque**
- **Mushrabeyeh**

TRADITIONAL MOTIFS

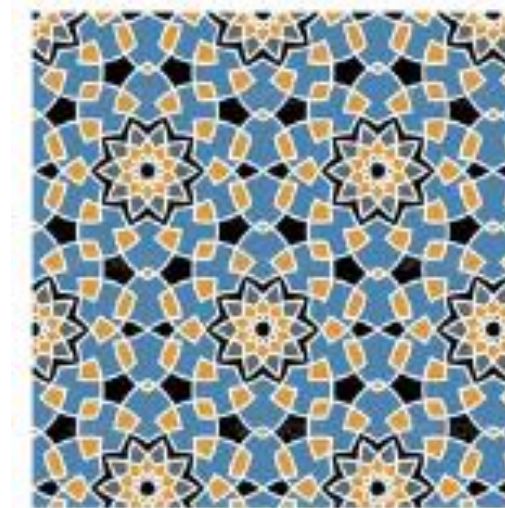
DECORATIVE DEFINITIONS:

Perforation: unloading wood to form signs, landscapes, birds, animals, etc. If the ornaments of ornamental plants, on wood or stone, if they are linear or inscription, they are lace.

Gilding: Adding gold to another material.

Flowering: decoration with floral patterns.

Overlap:(, netting) overlapping
Geometric or zigzag lines so that it becomes difficult to distinguish between the beginning and end of the line.



TRADITIONAL MOTIFS

DECORATIVE DEFINITIONS:

Afforestation: Decorating with tree shapes and branches.

Inlay: Carving shapes or drawings into the wood of furniture or upholstery, such as doors, cabinets, or boxes, then cutting the same shapes from shell, bone, silver, tin, or copper and fixing them in their carved positions.

Dress or clothing: Covering a metal with another metal that is more valuable than it, such as plating silver with gold, or copper with silver.

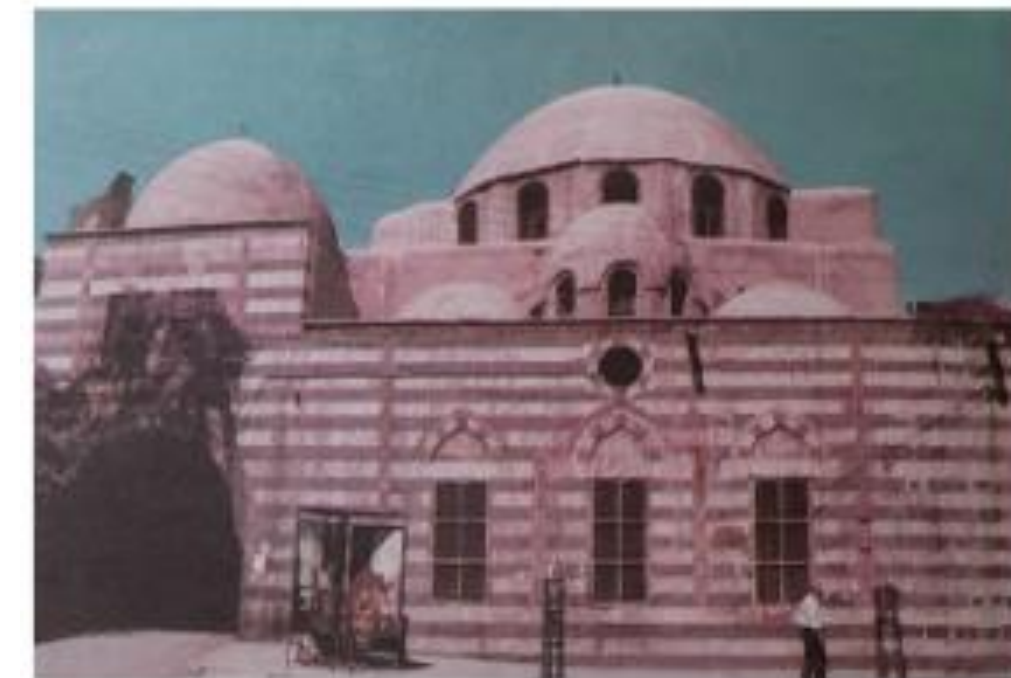
Leaves: decorations derived from leaf and plant shapes.



ELEMENTS OF LOCAL TRADITIONAL ARCHITECTURE

Ablaq: (alternating color cycles) are horizontal stone rows in which colors alternate, such as black and white, red and white, black and yellow, red and earthy, or brown and earthy, etc.

The use of ablaq in buildings spread in Syria and Egypt, especially in Cairo, which was the first capital of the Mamluk state, which was famous for its planned stone construction



مجموعة درويش باشا العمرانية في العهد العثماني
في شارع الدرويشية في دمشق

ELEMENTS OF LOCAL TRADITIONAL ARCHITECTURE

Door: The entrance to a building, or city.

Bokeh door (gap in door):

It is a form of door that was widespread in a number of Damascus structures and was known as "Khoja Gate", which is a small low door inside the large main door, which does not accommodate the passage of more than one person at a time, and this may have to bend due to its depression.

Gate (Roertal):

The gate is a name usually given to the gates of important structures that are characterized by the magnitude of their construction, the splendor of their decorations and the breadth of their area, such as mosques, nursing homes, corners, schools, bamistan, palaces, castles, walls, cities, and others.



باب بمصرع واحد من الخشب
المدعم بالأشرطة النحاسية، يعلوه عقد
حدودي مديب من العهد الأتابكي في
البيمارستان النوري.

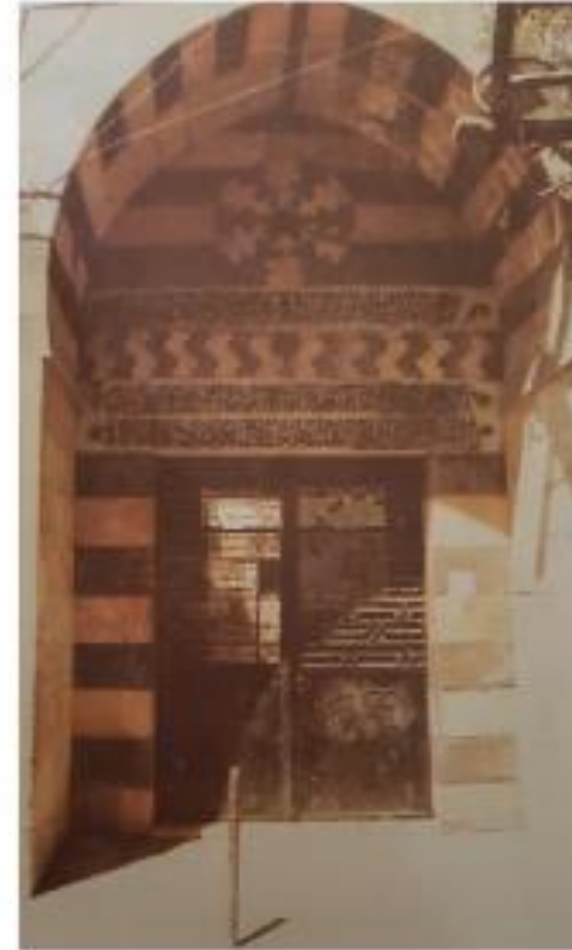


باب خوخة في بواية زقاق
البرغل داخل باب الجابية

ELEMENTS OF LOCAL TRADITIONAL ARCHITECTURE



بوابة دار القرآن الصابونية من العهد المملوكي
المترقب بالرخارف



بوابة الجامع الجديد من العهد المملوكي
تزخرفها أشرطة كتابية ومزورات، وفي
أعلىها عقد حدودي مديب



بوابة المدرسة العادلية الكبرى من العهد
الأيوبي، معقودة بقوسين ثلاثي القصوص و
ينهما دلالة

ELEMENTS OF LOCAL TRADITIONAL ARCHITECTURE

COLUMN CROWN (CAPITAL):

Column Crown (large):

The head of the column or the part that crowns the upper part, which is either simple or ornate, and its decoration varies according to the urban character of each people.

Arches decorated with acanthus decoration in mosaics, Great Mosque of Damascus, photo: Judith McKenzie/Manar al-Ather, CC BY-NC-SA 2.0



ELEMENTS OF LOCAL TRADITIONAL ARCHITECTURE

PANAL:

Framed decorative space, hollow decorative structure, framed panel of stone, plaster, wood, metal, etc. Engraved with floral, geometric, written or, in rare cases, these sculptures are usually either carved, sunk or buttoned. It takes the shape of a square, rectangle, round or semicircular, it may be in the shape of a rhombus, triangle, star, ellipse or crescent.

Islamic art. Calligraphy. A painting on the walls of the Great Mosque of Damascus. Syria.



ELEMENTS OF LOCAL TRADITIONAL ARCHITECTURE

Arabic CALLIGRAPHY:

Arabic calligraphy is one of the main elements of Arabic decoration, and the inscription of Arabic calligraphy in Islamic architecture had two goals:

Qur'anic writings, hadiths, poetry, tales, history of construction, and the name of the ruler, supervisor, or person who spent on construction.

Decoration of portals, facades, walls, windows and doors to break the monotony of other repetitive decorations, both leafy and geometric.



Islamic art. Arabic calligraphy. Panel on a building in Damascus. Syria Stock Photo

STUCCO, GYPSUM, STUCCO DECORATION

A style of decoration based on engraving the stucco block in floral, geometric or clerical shapes, and using it as a decorative element on the walls of structures, or piercing it for use in windows and crescents, or in running glass



ARABESQUE

A name given by the West to Arabic decoration of all kinds, and the truth is that this name is more comprehensive than it is intended, as it includes all Islamic motifs in architecture and art, such as the Arab veil, plant leaves, and Arabic calligraphy without specifying a specific form of it.

A number of researchers divided Arabesque into two parts:
Underline: The geometric shape of Islamic decoration, such as straight lines, angles, polygons, stars, and Kufic calligraphy.
Securitization, afforestation or flowering: the vegetative form such as curved, twisted or rounded lines as well as animal and bird shapes and the soft, flexible copier line.



MUSHRABIYA

Mashrabiya is the prominent window that overlooks the street or courtyard of traditional Arab houses.

It consists of a lattice screen made of wooden balustrades with a circular section. This screen was entirely handmade and varied the design of the balustrades in different artistic ways, for example, geometric and floral decorative shapes or Arabic inscriptions.

It is designed to respond to people's physical, environmental, social, physiological and religious requirements.

The spread of Mashrabiya was not limited to Egypt, but included Syria. Both countries had highly skilled wood workers, especially in the use of finely cast wood, filled with Arabic and Islamic letters, and this quickly spread to other countries.

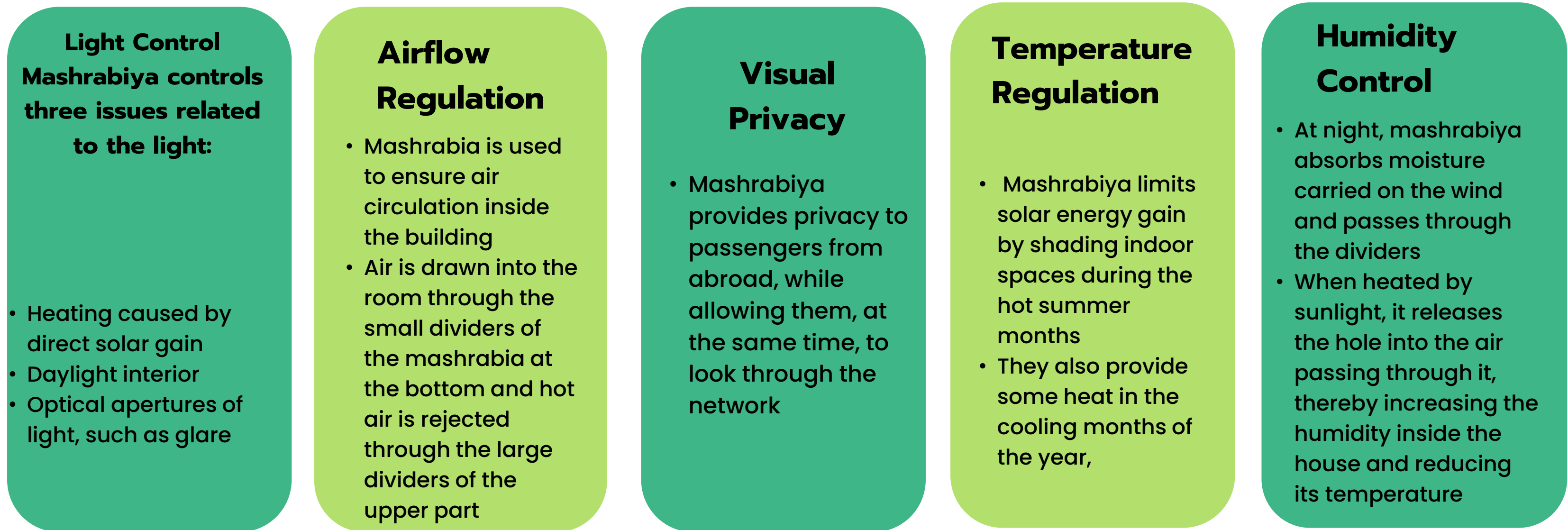


MUSHRABIYA

Functions, patterns and parameters of Mashrabiya

It has an inherent history, but this does not mean that it is just a cultural decorative element. It also has many important functions that have helped to find solutions to contemporary changes and has become an important environmental element with its own specific design parameters and parameters.

FUNCTIONS OF MASHRABIYA



PATTERNS OF MASHRABIYA

Mashrabiya styles were made up of simple geometric shapes due to the simplicity of their construction by hand.

The principles of building mashrabiya as a regular climatic element influence the decision:

- Distance between commas
- The size and size of the balusters

The witch affects the glare and temperature, as well as the level of humidity and air flow inside the room.

We can name these types of patterns:

Gun

Church: The design consists of long and narrow balustrades

Maimoni style

Cross Pattern

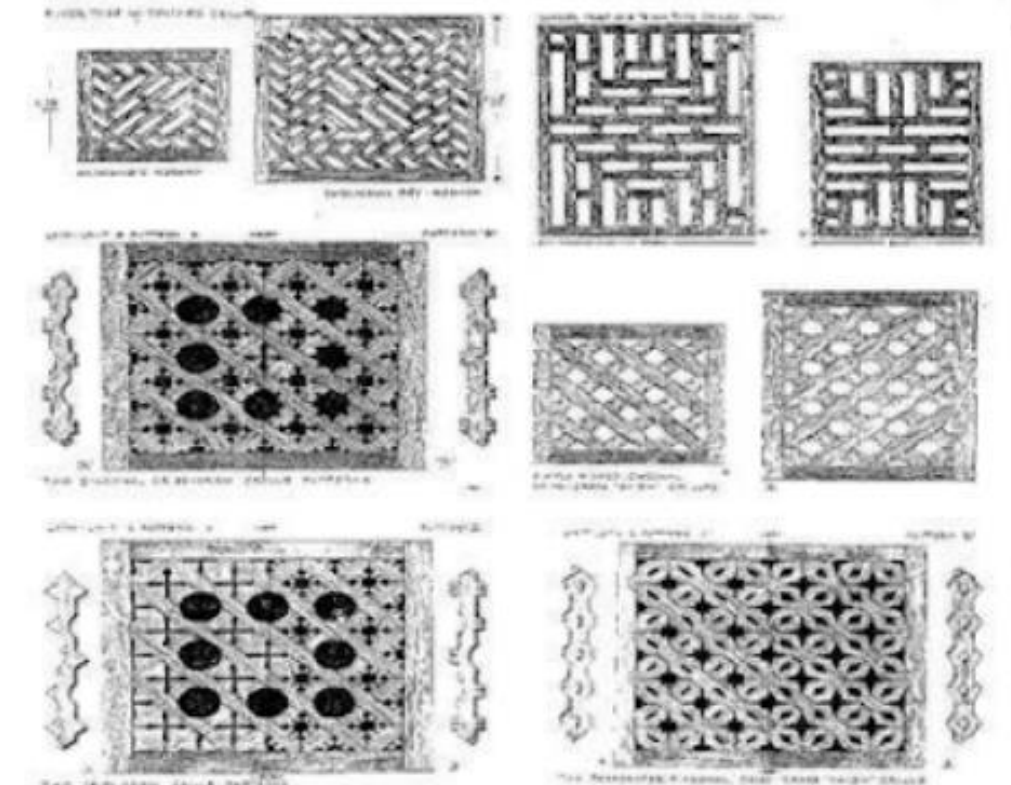


Figure 3.26: Some styles of screens (Jean, 1976)

TRADITIONAL ARCHITECTURE IN CONTEMPORARY DESIGN

It is our responsibility to bring crafts back to storytelling, support artisans and give an identity to the regional flavors of our country. When architects and craftsmen meet, they develop a unique vocabulary, focused on the material, and the charming says what the solution is.

Nowadays, sustainable design is an important factor in contemporary architecture. By integrating traditional techniques into modern architecture, we respect elements of sustainability.

These techniques can be divided into the following:

- Open courtyard
- Traditional art
- Traditional furniture
- Carved doors
- Stone or wooden slabs

TRADITIONAL ARCHITECTURE IN CONTEMPORARY DESIGN

- **Open Courtyard**

Today, we can witness different contemporary interpretations of traditional open spaces due to their useful features. These open courtyards form an indoor garden for the dwelling, where the lighted space in the sky eventually intertwines with the interior space to provide better lighting and ventilation of the indoor space.



TRADITIONAL ARCHITECTURE IN CONTEMPORARY DESIGN

Traditional art

One of the most important ways to involve local artisans in design is by incorporating the dynamic and complex patterns of traditional artwork on walls, tiles or charming furniture that bring life to the space.

Traditional art is characterized by the expertise of skilled craftsmen who will complement the modern look of the interior space.



TRADITIONAL ARCHITECTURE IN CONTEMPORARY DESIGN

Traditional furniture

Pre-modern houses are known to feature spectacular pieces of ornate carved wooden furniture. Diwans, wooden chairs, hammocks, woven reed benches and stools are the most popular. They are often left without upholstery and instead covered with decorative brass elements.

Such distinctive pieces of furniture, when properly arranged, can lead to a spectacular interior look.



TRADITIONAL ARCHITECTURE IN CONTEMPORARY DESIGN

Carved Doors

The main entrance to housing in previous eras was considered an important element because it sets the tone for what is to come. The beautifully carved custom double door not only gives your modern home a stunning traditional look, but also helps create an excellent first impression.



TRADITIONAL ARCHITECTURE IN CONTEMPORARY DESIGN

Stone or wooden Panels

Nothing screams more traditional than a beautifully carved stone or wooden column. A simple space can be transformed into a rich one by placing some beautiful columns around the house.

They can be an excellent alternative to a simple and uninteresting brick or cement column. They not only provide stronger support for the ceiling, but also give a calm charm to the space.



TRADITIONAL VERSUS CONTEMPORARY ELEMENTS IN ARCHITECTURE

- On the level of elevation
- On the level of plan
- On the level of 3D forms
- Environmental treatments
- Can Traditional and Modern Architecture Coexist

TRADITIONAL VERSUS CONTEMPORARY ELEMENTS IN ARCHITECTURE

The relationship between traditional and contemporary is very important. We can consider an architectural solution traditional if it represents a repetition of forms that have evolved in the past and that have been accepted by previous generations as a universal way of solving architectural needs.

Traditional architecture can be divided into two parts:

1. The first is physical, includes the climate and materials available in the region;
2. The second is cultural, encompassing religious, individual and social attitudes.

The development of traditional architecture has been passed on to the present generations in an indisputable way. The methods of construction and the use of materials in this way have become the unwritten institutions of the society that practices this architecture.

The "traditional form" is easily recognizable by the architectural observer .

PRESERVING OF TRADITIONAL HERITAGE IN CONTEMPORARY ARCHITECTURE

There is a new architectural trend today in the Arab region that relies on a return to traditional roots and heritage as the main source of modern ideas and formulations, to create new architectural forms that combine the output values of contemporary architecture and the aesthetic values of traditional heritage, and this trend can be divided into three directions:

A – The direction of explicit restoration: It is based on the restoration of heritage and traditional architecture through the reuse and repetition of its old historical vocabulary and formations as they are without any modification or renewal

B- Complex trend: dealing with architectural heritage as a source of formulations, vocabulary and spatial relationships, and this trend depends on borrowing several vocabulary to form heritage and try to formulate it within contemporary architectural production

C- Analytical direction: It is based on reimagining the vocabulary of traditional heritage, whether visual, functional or social, in modern forms that correspond to the requirements of society and with the conscious application of high technology and green architecture.

APPLYING ANALYTICAL TREND IN PRESERVING THE TRADITIONAL HERITAGE

The analytical direction is the best direction in the preservation of traditional heritage because it has the ability to combine the creative methodology of Arab architecture with the high technology of architecture in innovative forms of metaphor for contemporary projects. The analytical direction of adaptation to the creative methodology of Arab architecture can be applied to contemporary projects

1-ON THE LEVEL OF ELEVATION

Develop traditional Arabic motifs, arabesques or ornament design and add contemporary abstract elements, creating unique and interesting facades.



APPLYING ANALYTICAL TREND IN PRESERVING THE TRADITIONAL HERITAGE

2- On the level of plan:

Developing the concept of schemes from abstract geometric Islamic forms, and reinterpreting Islamic styles as an architectural scheme

For example, the Aga Khan University Hospital Complex in Karachi, Pakistan, the concept of the project inspired by historic Islamic cities, and the network of "vascular" and branching streets.



APPLYING ANALYTICAL TREND IN PRESERVING THE TRADITIONAL HERITAGE

3- On the level of 3D forms:

Develop the concept of shapes and structures from abstract Islamic geometric forms to the creation of formal metaphors. For example, Shore Architects' punctured Yinchuan exhibition center reflects Islamic architecture in northwest China that has strong historical links to Islamic culture, architecture, and design.



APPLYING ANALYTICAL TREND IN PRESERVING THE TRADITIONAL HERITAGE

4- Environmental treatments:

مشاريع معاصرة تعبر عن التكيف مع مفاهيم العمارة العربية والمعالجات البيئية والحلي الإسلامية في المفاهيم المعاصرة الإبداعية باستخدام التكنولوجيا الحديثة. على سبيل المثال ، المعهد العربي في باريس للمهندس المعماري جان نوفيل الذي يمثل علاقة فرنسا الطويلة الأمد بالثقافة الإسلامية التي تتجسد في هذا المبنى المذهل ، تصميم الواجهة المستوحى من المشربية الإسلامية القديمة التي تم تصميمها كتهوية.



CAN TRADITIONAL AND MODERN ARCHITECTURE COEXIST

Can traditional and modern architecture coexist?

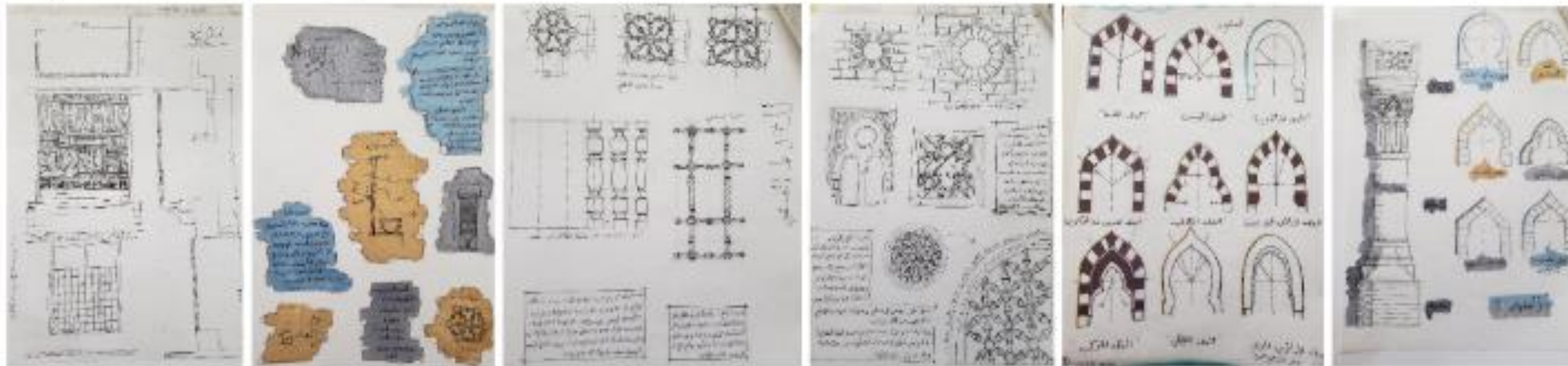
- بالمقارنة مع العمارة التقليدية ، تستخدم الهياكل الحديثة بشكل فعال مواد البناء ذات الأسعار المعقولة نسبيا والأسرع في الإنتاج. تعزز التصميمات المعاصرة الاستخدام الذكي للمساحة ، وهي أكثر عملية ، وتضفي أجواء غير رسمية ومريحة أكثر من الإعدادات التقليدية.
- من ناحية أخرى ، فإن الهياكل التقليدية متفوقة في المتانة لأن المواد التقليدية مثل الطين والحجر أكثر مرونة في مواجهة الطقس القاسي وتستمر لفترة أطول.
- هناك طرق مبتكرة للتعايش مع هذين التصميمين على الرغم من اختلافهما من خلال دمج الشكل والوظيفة ، حيث أن العمارة الحديثة والتقليدية لها فوائد كبيرة لضمان كفاءة الهيكل وطول عمره.
- إضافة التوهج الحديث إلى المباني التقليدية
- غالبا ما يخلق التباين بين القديم والجديد مظهرا يحد من السريالية. في بعض الأحيان يتم منح المهندسين المعماريين الفرصة لإضافة ملحقات حديثة إلى المباني القديمة. عندما يحدث هذا ، يمكن أن تكون النتائج أسرة وتشبه الحلم.
- دمج الحديث والتقليدي في الهياكل الجديدة
- يتيح البناء بهذه الطريقة لأصحاب المنازل والشركات إنشاء مساحات تدمج كل ما يحلو لهم في الأنماط القديمة مع الراحة الإضافية للوسائل الراحة الحديثة.

FINAL PROJECT

Students are asked to design a house for an artist. The design must reflect the merge between traditional and modern architecture, after a deep researched in the characteristic of traditional architecture and there implementation in contemporary design.

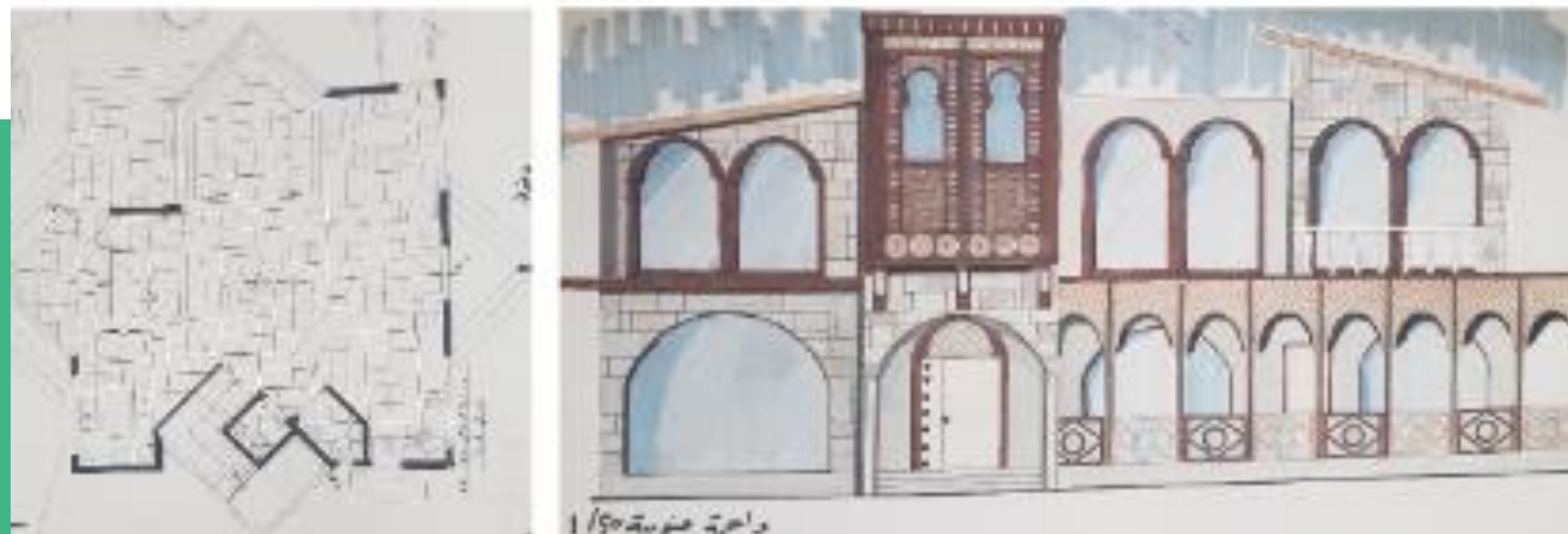
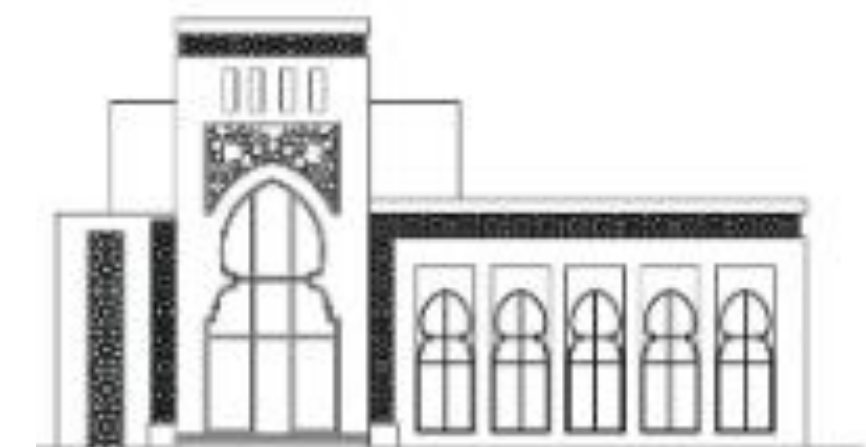
The period of this project is 14 weeks:

- 1- The theoretical studies (6 weeks)
- 2- the concept (2 weeks)
- 3- final presentation (6 weeks)



FINAL PROJECT

Students are asked to submit work there in three ways:
The sketchbook includes detailed studies on traditional elements in architecture.
Plans, sections, elevations and large-scale technical drawing
Model height using hands center equipment



EXAMPLE STUDENTS WORK

4th Year

Fall 2021

THE HASHEMITE UNIVERSITY - FACULTY OF ENGINEERING - DEPARTMENT OF ARCHITECTURE

CONSERVATION OF ARCHITECTURAL HERITAGE Amal , Dana J , Dema F , Doha , Shaden

PROJECT: ALQASTAL

Dr. R. Rabady/ Arch. H. Othman

Location

Site plan
Drawing scale 1/200

**Project Identity :
Documentation of ALQASTAL**

ALQASTAL IS A TOWN IN AMMAN GOVERNORATE OF NORTHERN JORDAN BUILT BY CALIPH YAZID BIN ABD AL-MALIK IN 8TH CENTURY. ORIGINALLY ESTABLISHED AS AN UMAYYAD SETTLEMENT

ARCHITECTURAL PATTERN : STONE - AND GLASS MOSAICS , CARVED LIMESTONE.

CONSTRUCTION MATERIAL : LIMESTONE. - RUBBLE CORE ,

- Dimensions :-

- ↳ A (Arch)
- ↳ B (wall)
- ↳ C (Roof).

→ A :- → Height → 315
→ length → 480
→ width → 437

→ width → 570
→ Height → 355

→ B (wall) :- → width → 420
→ Height → 300

→ Side wall :- → width → 77 (Exterior + Interior)
↳ Side wall (d/s) → 657

Ground Floor Plan

Reflected Ceiling Plan

HANDS PROJECT NUMBER: 610238-EPP-1-2019-1-JOEPK2-CBHE-JP

Architectural Heritage

EXAMPLE STUDENTS WORK

Ground Floor Plan

Reflected Ceiling Plan

Elevations

elevation 1 scale 1/25

elevation 2 scale 1/25

elevation 3 scale 1/25

elevation 4 scale 1/25

Sections

section a-a scale 1/25

section b-b scale 1/25

Structural Details

STRUCTURAL ANALYSIS

THE MOST IMPORTANT COMPONENT OF ANY BARREL VAULT IS THE ARCH. A BARREL VAULT VERY SIMPLE. PUT IS A ROW OF REPEATD ARCH LINED UP ONE BEHIND THE OTHER. YOU CAN SEE THE INDIVIDUAL ELEMNTS OF A ROUND STONE ARCH IN THIS DIAGRAM:

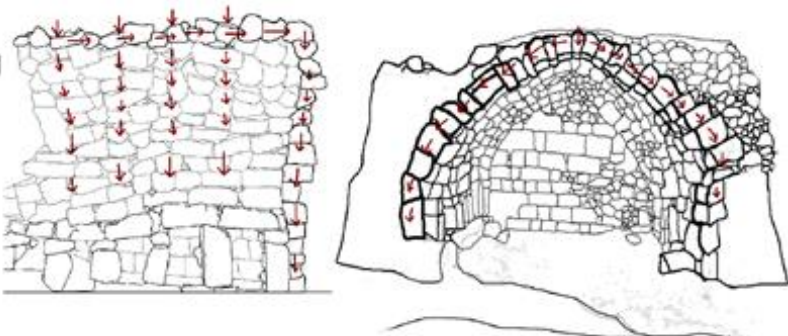
1. KEY STONE 2. VOUSOIR 3. BACK
4. IMPOST 5. INTRADOS 6. RISE
7. CLEAR SPANV 8. ABUTMENT

Sketches

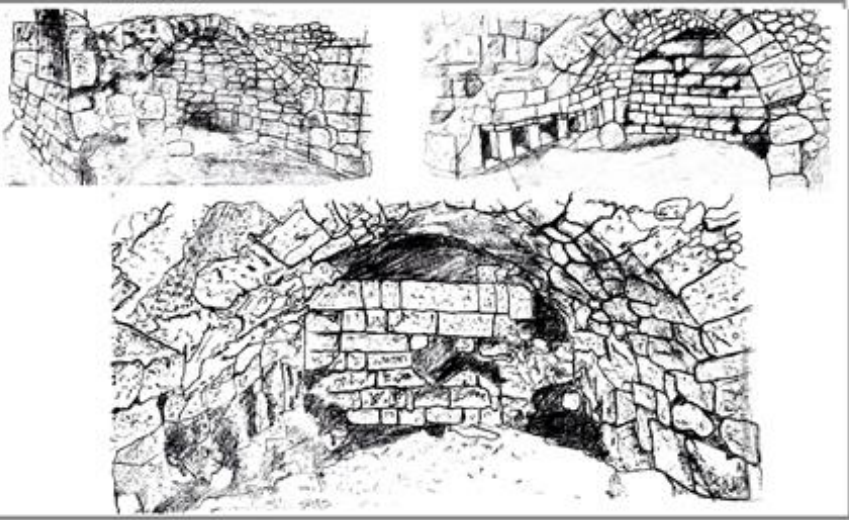
EXAMPLE STUDENTS WORK

STRUCTURAL ANALYSIS


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1.KEY STONE 2.VOUSOIR 3.BACK
4.IMPOST 5.INTRADOS 6.RISE
7.CLEAR SPANV 8.ABUTMENT



3D modeling



EXAMPLE STUDENTS WORK

4th Year

Fall 2021

THE HASHEMITE UNIVERSITY - FACULTY OF ENGINEERING - DEPARTMENT OF ARCHITECTURE

CONSERVATION OF ARCHITECTURAL HERITAGE Ahmed,Ruba,Tasneem mhamd,Hadeel,Sarah alshouli

PROJECT: Um Al - Rasas Reconstruction Dr. R. Rabady/ Arch. H. Othman

Location

Site plan
1 : 50

**Project Identity :
Documentation of Um Al - Rasas**

masterpiece of human creativity given the artistic & technical qualities

south-east of Madaba

Um-rasas

- Artifacts unearthed from the ruins of Um AL-Rasas suggest this site was inhabited since at least the Iron Age,around 800 BCE.
- The ancient Romans established a military camp here
- then the site became a religious center for early Christians in Byzantine times
- and eventually an Islamic center during the early period of Islam.

The Outstanding Universal Value of the site resides in the extensive settlement of the Byzantine/Umayyad period

Ground Floor Plan

Location : UM AL RASA

Drawing Name : GF for Umm Al Rasas

Drawing scale : 1 : 50

Reflected Ceiling Plan

Location : UM AL RASA

Drawing Name : Reflected ceiling plan

Drawing scale : 1 : 50

EXAMPLE STUDENTS WORK

Elevations

Northeast Elevation 1:50

Southeast Elevation 1:50

Southwest Elevation 1:50

Sections

Section A-A 1:50

Section B-B 1:50

Load Analysis in Sections

Structural Details

construction method that use the architectural technique of corbeling to span a space or void in a structure

Detail of corbeling system 1:20

Corbel arche require significantly thickened walls and an abutment of other stone or fill to counteract the effects of gravity

Sketches

Sketches by author

EXAMPLE STUDENTS WORK



EXAMPLE STUDENTS WORK

	<p>4th Year Fall 2021</p>	<p>THE HASHEMITE UNIVERSITY - FACULTY OF ENGINEERING - DEPARTMENT OF ARCHITECTURE CONSERVATION OF ARCHITECTURAL HERITAGE PROJECT: UMM AR-RASAS</p>	<p>Abdullah-Dima-Farah-Lujain-Moath Dr. R. Rabady/ Arch. H. Othman</p>
	<p>Location</p> <p>Site plan Drawing scale 1:300</p>	<p>Project Identity : Documentation of Umm ar-Rasas</p> <ul style="list-style-type: none"> - Umm ar-Rasas , ancient name: Kastron Mefa'a, is located 30 km southeast of Madaba in the Amman Governorate in central Jordan. - The Roman military utilized the site as a strategic garrison, but it was later converted and inhabited by Christian and Islamic communities. - In 2004, the site was inscribed as a UNESCO World Heritage Site, and is valued by archaeologists for its extensive ruins dating to the Roman, Byzantine, and early Muslim periods. <p>Construction Material</p> <ul style="list-style-type: none"> - The walls, of cyclopean size, are made of large undressed blocks of stone, without any mortar and wedged with stones of smaller size. On the inside there a second layer of stone and in the large area of interior wall the stone is covered by a clay plaster 	<p>Documentation (In site Process)</p>
<p>Ground Floor Plan</p>	<p>HU ARCHI DEPARTMENT</p> <p>Documentation of Byzantine villa</p> <p>Location : Um Ar-rasas</p> <p>Drawing Name : Ground Floor plan</p> <p>Drawing scale : 1:50</p>	<p>Reflected Ceiling Plan</p>	<p>HU ARCHI DEPARTMENT</p> <p>Documentation of Byzantine villa</p> <p>Location : Um Ar-rasas</p> <p>Drawing Name : Reflected Ceiling plan</p> <p>Drawing scale : 1:50</p>

**EXAMPLE
STUDENTS WORK**

Elevations

South East Elevation
Scale 1:50

North East Elevation
Scale 1:50

South West Elevation
Scale 1:50

North West Elevation
Scale 1:50

Sections

Section A-A
Scale 1:50

Section B-B
Scale 1:50

Section C-C
Scale 1:50

Structural Details

Corbelling isometric Detail
Scale 1:10

Arc Connection Detail
Scale 1:10

KeyStone Detail
Scale 1:10

Sketches

EXAMPLE STUDENTS WORK

3D modeling



Done By:

- 1- Abdullah Ahmed Saleh 2038212
- 2- Dima Mufleh -1836799
- 3- Farah Al-Maaitah - 1830955
- 4- Lujain Arabiat - 1831010
- 5- Moath Al-Omour - 1837663



Co-funded by the
Erasmus+ Programme
of the European Union

Thank you

HANDS PROJECT NUMBER: 610238-EPP-1-2019-1-JOEPKA2-CBHE-JP