**Department of Architecture**

**School of Architecture and planning**

**University of Management and technology**

**Course Outline (on OBE)**

## UMT’s Vision

## ***Our Vision is... Learning***

It defines our existence, inspires all stakeholders associated with us, creates a powerful momentum inside, and responds to the challenges outside. It continues to evolve as present captures new realities and foresight to unfold new possibilities. All in an incessant attempt to help individuals and organizations discover their God-given potentials to achieve Ultimate Success actualizing the highest standards of efficiency, effectiveness, excellence, equity, trusteeship and sustainable development of global human society.

## UMT Mission

Our Mission is.... Leading

We aspire to become a learning institution and evolve as the LEADING COMMUNITY for the purpose of integrated development of the society by actualizing strategic partnership with stakeholders, harnessing leadership, generating useful knowledge, fostering enduring values, and projecting sustainable technologies and practices.

### Mission of the School

The mission of the School is to provide the best leadership in the fields of the built environment; particularly in the development, management and innovation in the fields of architecture, urban planning and related specializations and sub-specializations

### Mission of the Department

At the Department of Architecture our mission is to challenge the participants to develop their abilities in solving complex problems by thinking creatively & informed decision making as a core of their professional schooling. Offering them a diverse interdisciplinary and meticulous program of studies led by an adroit faculty in a comprehensive studios or class environment and preparing them for leadership roles in the field of Architecture, Construction, Landscape, Built Environment and community development.

Course code - **AR 113** Course title - **BASIC DESIGN – I**

|  |  |
| --- | --- |
| **Program** | B.ARCH |
| **Credit Hours** | 0+6 |
| **Duration** | **Course: Fall Semester 2022**15 Weeks + Examination |
| **Prerequisites** | None |
| **Resource Person** | **SEC – A**Seemin AslamFareeha AfzalNew Teacher |
| **Counseling Timing (Room# )** | As per timetable |
| **Contact** | seemin.aslam@umt.edu.pk-- |

**Chairman/Director signature………………………………….**

**Dean’s signature…………………………… Date………………………………………….**

**Program educational objectives (PEO’s) of Bachelor of Architecture**

**PEO 1:** Ability to comprehend architectural skills manual as well as relevant computer programs and think creatively and identify new trends in Architectural design

**PEO 2:** Critical learning for a broad function in various areas of Architectural sciences and building technology including building materials, construction techniques, structural, mechanical, electrical, environmental, earthquake, and construction management

**PEO 3:** Ability to keep themselves abreast with recent developments in the relevant Architecture and a broad theoretical and conceptual base focusing on research, creativity and innovation

**PEO 4:** Spirit of discipline and respect for the code of ethics of the profession.

**Program Learning outcomes PLO’s)**

Graduates of the B-Architecture at UMT are expected to have acquired and developed the following set of knowledge, skills and personality traits (these are also referred to as graduate attributes).

**PLO 1** **Architectural Knowledge:** An ability to apply knowledge of mathematics, science, architectural fundamentals and an architectural specialization to the solution of complex architectural problems.

**PLO 2** **Design Analysis:** An ability to identify, formulate, search literature, and analyze complex architectural problems reaching substantiated conclusions using principles of natural sciences and architecture.

**PLO 3** **Design/Development of Solutions:** An ability to design solutions for complex architectural problems and design systems, components or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

**PLO 4** **Case study analysis:** An ability to investigate complex architectural problems in a methodical way including literature survey, design and conduct of field surveys, analysis and interpretation of field data, and synthesis of information to derive valid conclusions.

**PLO 5** **Modern Tool Usage:** An ability to create, select and apply appropriate techniques, resources, and modern architectural computer simulations, including prediction and modeling, to complex activities, with an understanding of the limitations.

**PLO 6** **The Architect and Society:** An ability to apply reasoning informed by contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional architectural practice and solution to complex problems.

**PLO 7** **Environment and Sustainability:** Ability to understand the impact of professional architectural solutions in societal and environmental contexts and demonstrate knowledge of and need for sustainable development.

**PLO 8** **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of architectural practice.

**PLO 9** **Individual and Team Work:** An ability to work effectively, as an individual or in a team, on multifaceted and/or multidisciplinary settings.

**PLO 10** **Communication:** An ability to communicate effectively, orally and written, on complex architectural activities with the architectural community and with society at large, such as being able to comprehend and write effective reports, design documentation and make effective presentations. To develop an understanding of architectural language through manual and digital ways, in order to make working drawings and presentable sheets using different rendering modes.

**PLO 11** **Project Management:** An ability to demonstrate management skills and apply architectural principles to one's own work as a member and/or leader in a team and to manage projects in a multidisciplinary environment.

**PLO 12** **Lifelong Learning:** Ability to recognize the importance of, and pursue lifelong learning in the broader context of innovation and technological developments.

**Course Learning outcomes (CLO’s)**

After studying this course, the students will be able to:

1. How to apply basic concepts of design in spaces to think architecturally. (C1)
2. Interpret conceptual ideas to bring elements and principles of design into a whole. (C2)
3. Develop understandings about fundamentals of architecture. (C3)
4. Experiment with different materials and techniques to enhance 2D and 3D perception. (C3)
5. Construct 2D and 3D compositions by visual organization of shapes and forms. (C3)
6. Develop values and approaches in perceptual, and technological terms. (C3)

**Mapping of CLO’s to Program’s Learning outcomes (PLO’S)**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Semester** | **Course Code** | **Title** | **Course Learning outcomes** | **PLO 1: Architectural Knowledge** | **PLO 2: Design Analysis:** | **PLO3: Design/Development of Solutions Design/Development of Solutions Design/Development of Solutions Design/Development of Solutions** | **PLO 4: Case study analysis** | **PLO 5: Modern Tool Usage** | **PLO 6: The Architect and Society** | **PLO 7: Environment and Sustainability** | **PLO 8: Ethics** | **PLO 9: Individual and Team Work** | **PLO 10: Communication** | **PLO 11: Project Management** | **PLO 12: Lifelong Learning** |
| **1ST**  | **AR-113** | **BASIC DESIGN – I Application in Architecture-I** | How to apply basic concepts of design in spaces to think architecturally. (C1) | √ | √ |  |  |  |  |  |  |  |  |  | √ |
| Interpret conceptual ideas to bring elements and principles of design into a whole. (C2) |  | √ | √ |  |  |  |  |  |  |  |  | √ |
| Develop understandings about fundamentals of architecture. (C3) | √ |  |  |  |  | √ |  |  |  |  |  | √ |
| Experiment with different materials and techniques to enhance 2D and 3D perception. (C3) | √ |  |  |  | √ |  |  |  |  |  |  | √ |
| Construct 2D and 3D compositions by visual organization of shapes and forms. (C3) | √ |  |  |  |  |  |  |  |  |  |  | √ |
|  |  |  | Develop values and approaches in perceptual, and technological terms. (C3) |  |  |  |  | √ |  |  |  |  | √ |  | √ |

**Learning Methodology:**

 In accordance with HEC curriculum **outcomes**, students at the end of the course should be able to

* Develop an attitude towards creative design thinking process.
* Acquiring a comprehensive understand of basic concepts and terms of basic design
* Understand application of design fundamentals in architecture
* Appreciate the importance of basic design concepts to start with.
* Acquire an ability to express their design intentions through oral, written and graphic presentation skills.

**Grade Evaluation Criteria**

Following is the criteria for the distribution of marks to evaluate final grade in a semester.

# Marks Evaluation Marks in percentage

Assignments 60%

Mid Viva 15%

Final Viva + Final Project 25%

**Total 100%**

**Recommended Text Books:**

**Reference Books:**

1. Architecture: Space. Form & Order by Francis D.K Ching
2. The Process: A New Foundation in Art and Design By Richard Wilde and Judith Wilde
3. Color harmony a guide to creative color combinations Chijiiwa, Hideaki by Chijiiwa, Hideaki.
4. The art of using color a course in mastering the art of mixing colors Edwards, Betty by Edwards, Betty.
5. Color Studies Edith Anderson Feisner, Ronald Reed
6. Minbar of Saladin : Reconstructing A Jewel of Islamic Art by Lynette Singer, Thames and Hudson, 2008
7. Islamic Geometric Design by Eric Broug
8. Biomimicry: Innovation Inspired by Nature by [Janine M. Benyus,](https://www.kirkusreviews.com/search/?q=Janine%20M.%20Benyus;t=author) Publisher: Quill, 1998
9. Organic architecture inspired by nature by Schleifer, Simone K. Barcelona, Spain: [Loft Publications,](https://lrc.umt.edu.pk/cgi-bin/koha/opac-search.pl?q=Provider:Loft%20Publications%2C) 2010
10. Street Furniture by [Chris van Uffelen](https://www.google.com.pk/search?tbo=p&tbm=bks&q=inauthor:%22Chris+van+Uffelen%22) , Publisher:Braun, 2010
11. Model Making: Conceive, Create and Convince by Arjan Karssen & Bernard Otte
12. NEW SPACE 1 TO 9.
13. Analysing Architecture by **Simon Unwin**
14. The Elements of Modern Architecture: Understanding Contemporary Buildings by Antony Radford
15. Investigate, Ask, Tell, Draw, Build: 3xn Architects by Matteo Cainer
16. Thinking About Architecture: An Introduction To Architectural Theory by Colin Davies
17. The Language of Architecture: 26 Principles Every Architect Should Know by Andrea Simitch
18. Wonders of World Architecture by Neil Parkyn
19. Space Planning Basics by Mark Karlen, Rob Fleming
20. [The Architecture Reference & Specification Book: Everything Architects Need to Know Every Day](https://aax-us-east.amazon-adsystem.com/x/c/Qr-jeSuoX0aRfOOI8nvwKsgAAAFsoVzlhQEAAAFKAeSEF5U/https%3A/assoc-redirect.amazon.com/g/r/https%3A/www.amazon.com/Architecture-Reference-Specification-Book-Everything/dp/1592538487?imprToken=K4YSFoFN526uLYZbTP.AbA&slotNum=4&SubscriptionId=AKIAIOCEBIGP6NUBL47A&tag=thearcsgui07-20&linkCode=xm2&camp=2025&creative=165953&creativeASIN=1592538487) By Julia McMorrough
21. [The Ten Books On Architecture (Illustrated)](https://aax-us-east.amazon-adsystem.com/x/c/Qr-jeSuoX0aRfOOI8nvwKsgAAAFsoVzlhQEAAAFKAeSEF5U/https%3A/assoc-redirect.amazon.com/g/r/https%3A/www.amazon.com/Ten-Books-Architecture-Illustrated-ebook/dp/B0013K2K8Q?imprToken=K4YSFoFN526uLYZbTP.AbA&slotNum=16&SubscriptionId=AKIAIOCEBIGP6NUBL47A&tag=thearcsgui07-20&linkCode=xm2&camp=2025&creative=165953&creativeASIN=B0013K2K8Q) By Vitruvius
22. [Understanding Architecture: Its Elements, History, and Meaning](https://aax-us-east.amazon-adsystem.com/x/c/Qr-jeSuoX0aRfOOI8nvwKsgAAAFsoVzlhQEAAAFKAeSEF5U/https%3A/assoc-redirect.amazon.com/g/r/https%3A/www.amazon.com/Understanding-Architecture-Elements-History-Meaning/dp/0813349036?imprToken=K4YSFoFN526uLYZbTP.AbA&slotNum=22&SubscriptionId=AKIAIOCEBIGP6NUBL47A&tag=thearcsgui07-20&linkCode=xm2&camp=2025&creative=165953&creativeASIN=0813349036) By Leland M. Roth, Amanda C. Roth Clark

**Calendar of Course contents to be covered during semester**

**Course code** - **AR – 113 Course title** - **BASIC DESIGN – I**

|  |  |  |  |
| --- | --- | --- | --- |
| **Week** | **Course Contents** | CLO | **Reference Chapter(s)** |
| 1 | Basic Introductory Session:Discussion/Description of course outline, class rules/discipline/attendance, grading policy.Preliminary theoretical introduction to Design Method and Elements, Primary Shapes and their characteristics.Exploration of different relationships such as side to side, corner to corner, side to corner, overlapping etc. Students will get approval of their 4”x6” 2-D designs on A4 paper and will submit their final design on the next day. | 1,2 | 1. Architecture: Space. Form &

Order by Francis D.K Ching1. Model Making: Conceive, Create and Convince by Arjan Karssen & Bernard Otte
 |
| 2 | 2D Exercise on**Design Principles**.Students will prepare 6 formats inBlack /White color scheme by using 3-4 primary shapes expressing **Design Principles** such as balance, rhythm, emphasis, contrast, unity etc.Students will repeat this assignment with any color scheme of their choice. | 2 | Architecture: Space. Form & Order byFrancis D.K Ching |

|  |  |  |  |
| --- | --- | --- | --- |
| 3 | **Color Theory/Harmony**- An Exercise on use of Poster color.Students will prepare a sheet by implementing color theory. | 1, 3 | 1. Color harmony a guide to creative color combinations Chijiiwa, Hideaki by Chijiiwa, Hideaki.
2. The art of using color a course in mastering the art of mixing colors Edwards, Betty by Edwards, Betty.
 |
| 4 | **Model Making Workshop** | 3 | - |
| 5 | **FIGURE AND GROUND**Figure–ground organization is a type of perceptual grouping which is a vital necessity for recognizing objects through vision. In Gestalt psychology it is known as identifying a figure from the background.For example, words on a printed paper are seen as the "figure" and the white sheet as the "background".The students have to develop formats for various figure and ground perceptions. | 5 | Architecture: Space. Form & Order by Francis D.K Ching |
| 6 | Visual & Physical Textures | 2, 4 | Architecture: Space. Form & Order by Francis D.K Ching |
| 7 | Understanding of **Geometric Patterns.** Concept of tessellation. | 3 | 1.Minbar of Saladin : Reconstructing AJewel of Islamic Art by Lynette Singer,Thames and Hudson, 20082. Islamic Geometric Design by Eric Broug |
| 8 | Monochromatic and Colored **Screen****Patterns**Students will prepare screen patterns based on monochromatic and colored schemes and the output would be in the form of implementation of Islamic geometrical patterns. The students can take inspiration from every day geometry or patterns around them or any other scheme developed by themselves. | 4 | 1.Minbar of Saladin : Reconstructing AJewel of Islamic Art by Lynette Singer,Thames and Hudson, 20082. Islamic Geometric Design by Eric Broug |
| 9 | **Mid Term Examination Week** | ---- | ----- |
| 10 | **Photography Workshop**  | 3,6 | Architecture: Space. Form & Order by Francis D.K Ching |
| 11-12 | **Scale, Ratio and Proportion**Student will introduce the concept of scale, ratios (Golden mean ratio) and proportions.The students need to have a basic understanding of the spaces and proportion of other objects in or around it. It can be a city scape or interior of any small or large space.Visual Assessment Experience: Students will explore/visualize the selected buildings.**Study Tour** | 3 | Architecture: Space. Form & Order by Francis D.K ChingBiomimicry: Innovation Inspiredby Nature by [Janine M. Benyus](https://www.kirkusreviews.com/search/?q=Janine%20M.%20Benyus;t=author) Organic architecture inspired by nature by Schleifer, Simone K. |
| 13 | Students will explore the concept of biomimicry. They will take an inspiration from nature and will prepare design process sheet with sketches starting from original form to the final modified sketch. Finally they will prepare an on scale model of modified sketch. | 3 | Biomimicry: Innovation Inspiredby Nature by [Janine M. Benyus](https://www.kirkusreviews.com/search/?q=Janine%20M.%20Benyus;t=author) Organic architecture inspired by nature by Schleifer, Simone K. |
| 14-15 | **Transformation** of any form like Prism, cylinder octahedral, Hexagon– An exercise based on Solids and Voids. Preparation of glossary of key words and enhancement of Design Terminology/Vocabulary. | 1, 5,6 | Architecture: Space. Form & Order by Francis D.K Chinghttp://www.designcoding.net/solidvoid-exercise/ |
| 16 | Final Viva – Portfolio Review and Jury of FinalProject | ---- | ---- |