**University of Management and Technology**

**Course Outline**

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.

**Program educational objectives (PEO’s) of Bachelor of Science in Building Design and Construction (BS-BDC)**

**Program Objectives**

The objective of the program is to prepare professionals in the design and construction of commercial, industrial, and institutional buildings and other facilities. The curriculum has been developed to inculcate the following objectives in the graduates.

**PEO 1:**  Able to acquire construction knowledge and skills, the graduates will serve the construction industry with professional integrity.

**PEO 2:** The graduates will pose decision-making and problem-solving abilities with reference to construction.

**PEO 3:** The graduates will respect the code of ethics for the construction profession.

**Program Learning Outcomes PLO’s**

Graduates of the BS. Building & Design 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 Fundamental Knowledge of Building Construction:** An ability to apply knowledge of construction fundamentals through a comprehensive learning of building design language.

**PLO 2 Construction Analysis & Development of Sustainable Solutions:** Ability to analyze and develop solutions to complex building problems that meet specified needs with appropriate considerations for public health and safety, society, and environment.

**PLO 3** **Modern Tool Usage:** An ability to create, select and apply appropriate techniques, resources, and modern software computer simulations, including prediction and modeling, to complex activities, with an understanding of the limitations.

**PLO 4 Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of building construction practice.

**PLO 5 Project Management:** An ability to demonstrate management skills and apply building construction principles to one’s own work as a member and/or leader in a team and to manage projects in a multidisciplinary environment.

**PLO 6 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)**

* Develop adequate freehand drawing skills and be able to develop proportionate sketch of any composition. (C-2)
* Visualization of a form as an object made out of coming together of various shapes in the three dimensional space as well as an understanding of the basic contents of an architectural drawing i.e.Plan, Elevation and Cross Section.
* (A-3)
* To be able to translate orthographic views into 3-dimensional drawings. (P-5)
* Understand and is able to draw perspective views both One and Two point. (C-2)
* Apply various pencil rendering techniques by using freehand drawing skills in 2D and 3D drawings. (C-3)
* To be able to create models using different materials. (C-3)

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| **Program** | BS.BDC |
| **Credit Hours** | 0+6 |
| **Duration** | 15 Weeks + Examination |
| **Prerequisites** | None |
| **Resource Person** | Alveena Fatima Hassan |
| **Counseling Timing**  **(Room# )** | As per timetable |
| **Contact** | [alvina.fatima@umt.edu.pk](mailto:alvina.fatima@umt.edu.pk)  0333-4357337 |

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

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

**Learning Objective:**

The aim of this basic introductory course is to broaden, stimulate and enhance the creative abilities of the student in terms of developing an awareness, understanding and appreciation of the basic concepts of design as observed in nature and the built environment.

Thinking and creativity are mental processes which have close connections and are similar to each other. Exploring and developing creative design ideas incorporating their understanding of Figure Ground Organization, Ordering principles of Spatial Organization while invariably incorporating Design Principles. Visual & Physical Textures /Patterns, Color Theory/Harmony, Concept of Scale and proportion in Solid /Void and Abstract Compositions using horizontal and vertical planes shall also be studied. Transformation of 2D compositions into 3D forms and exploration of their spatial characteristics complimented by use of harmonious colors.

**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 65%

Mid Viva 10%

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:/assoc-redirect.amazon.com/g/r/https:/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:/assoc-redirect.amazon.com/g/r/https:/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:/assoc-redirect.amazon.com/g/r/https:/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

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

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Semester** | **Course Code** | **Title** | **Course Learning outcomes** | **PLO 1: Architectural Knowledge** | **PLO 2: Design Analysis and development** | **PLO3: Case study analysis Design/Development of Solutions Design/Development of Solutions Design/Development of Solutions** | **PLO 4: Digital Tool Usage** | **PLO 5: Environment and Sustainability** | **PLO 6: Project Management** | **PLO 7: Design Coordination** | **PLO 8: Ethics and the society** |
| **3rd** | **Ar-236** | **Visual Communication-II** | Develop adequate freehand drawing skills and be able to develop proportionate sketch of any composition. | √ |  |  |  |  |  |  |  |
| Demonstrate understanding of the basic contents of an architectural drawing i,e Plan, Elevation and Cross Section. | √ |  |  |  |  |  |  |  |
| To be able to translate orthographic views into 3-dimensional drawings. | √ |  |  |  |  |  |  |  |
| Understand and is able to draw perspective views both One and Two point. | √ |  |  |  |  |  |  |  |
| Apply variouspencil rendering techniques by using freehand drawing skills in 2D and 3D drawings. | √ |  |  |  |  |  |  |  |

**GRADING POLICY**

Class Assignments – 65%

Mid Viva & Portfolio – 10%

Final Viva & Portfolio – 25%

TOTAL – 100%

**Recommended Text Books:**

**Reference Books:**

* Color Harmony by Bride M. Whelan ----------- Color Value
* Architects’ Drawings by Kendra Schank Smith ----------- Styles and Techniques
* Architectural Graphics Fifth edition by Ching ----------- Perspective drawings
* Architectural Models ----------- A challenge for tomorrow Models
* Architecture Form, space & order by ching ----------- shapes, vertical elements space
* The Beginners Guide by Ian Sidaway ----------- Technique light to dark
* Perspective depth & distance by Geoff Kersey ----------- perspective
* Freehand Drawing & discovery by James Richards, DK Ching ----------- Keys to drawings
* Architects’ Drawings by Kendra Schank Smith ----------- Styles and Techniques
* Interior Graphic standards second edition by Corky BinggeliAsid ------ Accessibility Standards
* Interior Graphic standards second edition by Corky BinggeliAsid ------ Human factors
* Time Saver Standards by Callender, John Hancock.

**Course Schedule**

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| **Weeks** | **Topics** | **Textbook /**  **Reference Readings** |
| Week 1-2 | A comprehensive Overview and Revision of VC-I Portfolio especially to ensure clear understanding of Theoretical, Conceptual, Analytical as well as Practical issues related to Architectural Scales, Orthographic Projection, Isometric View, as observed/criticized in the Viva. Standard symbols of materials and fixtures as used in Architecture. | C-1 |
| Week 3 | **ONE- POINT PERSPECTIVE DRAWING**  Basic Introduction to different types of PERSPECTIVE VIEWS. How to draw Exterior and InteriorOne Point Perspective views Freehand as well as using instruments and properly rendered with shade/shadows etc. while using Basic Principles and Drawing Methods. | C-1 |
| Week 4 | **ONE –POINT PERSPECTIVE PROJECT**  In continuation with previous week assignment students are now expected to produce One Point perspective using their Basic Design Project. Students will also be given assignment for outdoor sketching to further enhance and improve their Freehand Drawing skills as per description give above. | C-1 |
| Week 5 | **TWO- POINT PERSPECTIVE DRAWING**  [Two point perspective](http://drawsketch.about.com/od/perspective/ss/2ptperspective.htm) definition and how to draw it, Mechanical and Free hand drawing techniques of making Two point perspective views. | C-1 |
| Week 6 | [Two point perspective](http://drawsketch.about.com/od/perspective/ss/2ptperspective.htm) views of their Design Studio Project. | C-1 |
| Week 7 | Lecture and Introduction to techniques using various materials for model making like art paper, card board, balsa wood. Model making in relation to Basic Design I assignments | C-1 |
| Week 8 | Model making exercise of selected UMT buildings generated from pictures. | C-3 |
| Week 9 | MID TERM EXAM |  |
| Week 10 | Students will prepare the finished models from week 8 and will now draw all Orthographic as well as isometric views of these buildings. | C-3 |
| Week 11 | Basic Design II project will be developed into 3d views and interior views, using one-point, two-point and isometric views | C-3 |
| Week 12 | Introduction to Architectural Rendering. Rendering project will be done in relation to their design Studio project. | C-3 |
| Week 13 | Rendering Techniques applied to BUILDING PLANS, ELEVATIONS, SECTIONS and PERSPECTIVES already drawn in class. | C-3 |
| Week 14 & 15 | **Enrichment of PLANS, ELEVATIONS, PERSPECTIVES thru introduction of TREES, CARS HUMANS etc. to incorporate a sense of Scale and Proportion in the views**  Trees/Shrubs/Hedges/Grass, Pavements/Walkways etc. are very important part of architectural drawings specially when it comes to landscape drawings or site planning. Students are expected to develop an understanding of the importance of such graphical information of the plantation and green areas by drawing trees in plan and elevation views. | C-3 |
| Week 16 | **Final Term Exam** |  |