**School of Architecture and planning**

**University of Management and technology**

**Course Outline (on OBE)**

**Bachelor of Interior Architecture**

**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: Course Title: Digital Realities for Interior Architecture**

|  |  |
| --- | --- |
| Program | Bachelor of Interior Architecture |
| Credit hours | 3+0 |
| Duration | 16 Weeks |
| Prerequisites | None |
| Resource Person |  |
| Counseling Timing | As per time table |
| Contact | https://mail.google.com/mail/u/0/images/cleardot.gif |

**Chairman/Director Program signature………………. Dean’s signature…………**

**Date………………………………….**

**Program Educational Objectives (PEOs):**

**PEO-1**: Able to interpret and elaborate on design knowledge effectively utilizing communication, graphical, and computer skills to convey design content comprehensively.

**PEO-2**: Possess strong analytical skills and ability to evaluate design challenges critically, proposing innovative solutions that address functional, aesthetic, and contextual considerations.

**PEO-3**: Able to apply principles of interior architecture in professional settings, showcasing creativity, technical proficiency, and adherence to ethical standards.

**Program Learning outcomes (PLOs)**

**PLO 1: Design Fundamentals:** Develop the ability to conceive and execute innovative and aesthetically pleasing interior spaces that meet both functional requirements and artistic standards.

**PLO 2: Design Development and Analysis:** Integrate knowledge from various disciplines to analyze complex design problems and demonstrate proficiency in conceptualizing and developing design solutions through various stages.

**PLO 3: Technical and Technological Competence:** Acquire a comprehensive understanding of construction methods, materials, and building systems coupled with expertise in utilizing industry-standard software and tools for design, drafting, modeling, and rendering, to produce precise and detailed technical drawings and specifications.

**PLO 4: Effective Communication and Visual Representation:** Enhance ability in expressing design concepts and solutions through verbal and written communication, while adeptly employing visual representation tools like sketches, renderings, and digital models.

**PLO 5: Sustainability and Environmental Responsibility:** Demonstrate a commitment to sustainable design practices by understanding and applying principles of environmental stewardship, energy efficiency, and resource conservation in interior architecture projects.

**PLO 6: Professional Readiness:** Prepare for professional practice in interior architecture by imparting knowledge of ethical, legal, and business aspects, while fostering skills in project management, client communication, collaboration with other design professionals, and adherence to industry standards.

**Course Overview:**

This course explores the intersection of digital technologies and interior architecture, emphasizing the impact of digital realities such as virtual reality (VR), augmented reality (AR), and mixed reality (MR) on design processes and spatial experiences. Students will engage with cutting-edge software and hardware, gaining hands-on experience in creating immersive environments and digital simulations. The course aims to equip students with the skills to integrate digital realities into their design practice, enhancing their ability to visualize, communicate, and innovate in the field of interior architecture.

**Course Learning outcomes (CLO’s)**

1. Digital Literacy: Develop proficiency in using VR, AR, and MR technologies and software relevant to interior architecture.
2. Design Integration: Apply digital realities to conceptualize, design, and present interior architectural projects effectively.
3. Critical Analysis: Evaluate the impact of digital technologies on spatial experiences and interior architectural practices.
4. Innovative Practice: Create innovative design solutions that leverage digital realities to address contemporary challenges in interior architecture.

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

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Semester** | **Course Code** | **Title** | **Course Learning outcomes** | **PLO-1 Design Fundamentals** | **PLO-2 Design Development and Analysis** | **PLO-3 Technical and Technological Competence** | **PLO-4 Effective Communication and Visual Representation** | **PLO 5: Sustainability and Environmental Responsibility** | **PLO6: Professional Readiness** |
| **SEMESTER** |  | **Digital Realities for Interior Architecture METHODOLOGY** | Digital Literacy: Develop proficiency in using VR, AR, and MR technologies and software relevant to interior architecture. |  |  | √ |  |  |  |
| Design Integration: Apply digital realities to conceptualize, design, and present interior architectural projects effectively. | √ |  |  |  |  |  |
| Critical Analysis: Evaluate the impact of digital technologies on spatial experiences and interior architectural practices. |  | √ |  |  |  |  |
| Innovative Practice: Create innovative design solutions that leverage digital realities to address contemporary challenges in interior architecture. |  |  |  |  |  | √ |

**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 10%

Quiz 15%

Mid Term 25%

Final exam 50%

--------------------------------------------------------------------------------------------------

Total 100%

**Learning Methodology:**

* Lectures and Demonstrations: Introduction to concepts, theories, and technologies related to digital realities in interior architecture.
* Hands-on Workshops: Practical sessions where students will work with VR/AR/MR software and hardware.
* Group Projects: Collaborative projects to foster teamwork and real-world application of digital technologies in design.
* Guest Lectures and Field Visits: Insights from industry professionals and visits to organizations using digital realities in design practice.
* Assessments: Continuous assessment through assignments, project presentations, and a final project.

**Recommended Books:**

* "Virtual Reality and the Built Environment" by Jennifer Whyte
* "Augmented Reality: Principles and Practice" by Dieter Schmalstieg and Tobias Hollerer
* "Designing Immersive 3D Experiences: A Guide to AR and VR" by Kevin Mack and Jared Tarbell

**Reference Books:**

* "Digital Drawing for Designers: A Visual Guide to AutoCAD 2021" by Douglas R. Seidler
* "The VR Book: Human-Centered Design for Virtual Reality" by Jason Jerald
* "Architectural Design with SketchUp: 3D Modeling, Extensions, BIM, Rendering, Making, and Scripting" by Alexander Schreyer

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

**Course code Course title:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Week** |  **Course Contents**  | **CLO** | **Reference Chapter(s)** |
| 1 |  Topic: Introduction to Digital RealitiesActivities: Course overview, introduction to VR, AR, and MR technologies. |  |  |
| 2 | Topic: Historical Context and EvolutionActivities: Lecture on the evolution of digital realities in design, discussion on current trends. |  |  |
| 3 | Topic: VR Basics and ApplicationsActivities: Hands-on workshop on basic VR tools and software. |  |  |
| 4 | Topic: AR in Interior ArchitectureActivities: Introduction to AR tools and applications in interior design. |  |  |
| 5 | Topic: MR and Its PotentialsActivities: Exploration of MR technologies, guest lecture from an industry expert. |  |  |
| 6 | Topic: Digital Realities in Conceptual DesignActivities: Case studies, analysis of design processes integrating digital realities. |  |  |
| 7 | Topic: Creating Immersive EnvironmentsActivities: Practical session on creating VR environments, group discussions. |  |  |
| 8 | Topic: Software ProficiencyActivities: Advanced workshops on VR/AR/MR software (e.g., Unity, Unreal Engine). |  |  |
| 9 | **Mid Term Exam** |  |  |
| 10 | Topic: Midterm Review and Project ProposalsActivities: Review of key concepts, submission of project proposals. |  |  |
| 11 | Topic: Collaborative Design ProjectsActivities: Group work on projects, peer feedback sessions. |  |  |
| 12 | Topic: Enhancing Spatial ExperiencesActivities: Techniques to enhance user experience in digital environments |  |  |
| 13 | Topic: Presentation and VisualizationActivities: Workshops on effective presentation and visualization techniques. |  |  |
| 14 | Topic: Future Trends and InnovationsActivities: Exploration of emerging technologies and their potential impacts. |  |  |
| 15 | Topic: Final Project DevelopmentActivities: Work on final projects, one-on-one feedback from the instructor. |  |  |
| 16 | Topic: Final Presentations and Course Wrap-upActivities: Presentation of final projects, course evaluation, and feedback. |  |  |

This course outline aims to provide a comprehensive framework for understanding and applying digital realities in interior architecture, ensuring students are well-prepared for the evolving demands of the industry.