

**Maulana Abul Kalam Azad University of Technology, West Bengal**  
*(Formerly West Bengal University of Technology)*  
**Syllabus for B. Sc. In Interior Design**  
**(Effective for Academic Session 2019-2020)**

**SEMESTER V**

**BID591**

**Full Marks: 100**

**Professional Industry Internship (Practical)**

**Objectives**

- To enable the students to get first hand practical industry training experience.
- To gain practical industry training from skill industry professionals.
- To allow students to be able to integrate the theoretical knowledge into practical situation.
- To develop students ability in industry working practices and conditions.
- To develop students documentation and written skills in terms of report writing.
- To develop written presentation skills in the form of a case study document.
- To develop students practical design skills in the contexts of industry based projects.
- To develop skills and experience in working within industry constraints.
- To develop professional industry practice design skills.

**Course Content**

**Duration: Approx 8-10 weeks**

A professional industry practical Internship at an Interior Design or Architectural Firm or Real Estate/ Promoters / Construction Firm or Furniture Design Unit.

Students to work on a given practical design project or project sections within professional constraints and contexts as set by the firm. Students will follow a design process to industry standards and produce a full interior design project (or part of varied design projects) with supporting research, photos and written information and diary/planner recording the full internship and project development.

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**BID501**

**Full Marks: 100**

**Sustainable & Ethical Studies - III Green and  
Energy Efficient Buildings (Theory)**

<b>Objectives</b>	
<p>Upon completion of this module students should be able to:</p> <ul style="list-style-type: none"> <li>• Understand sustainability associated with the construction, architectural and interior design industries, which includes an outline set of green specifications, construction methods and technologies..</li> <li>• Differentiate clearly between sustainable and unsustainable, construction methods and materials, when analyzing and making design decisions.</li> <li>• Communicate the application of their research findings and design development abilities, using industry standard methods.</li> <li>• Recognize and address some of the main environmental challenges facing the design and building construction industry.</li> <li>• Understand the importance of, identify with, and reflect on the wider benefits of sustainability and biodiversity to local communities.</li> </ul>	
<b>Units</b>	<b>Course Content</b>
1	<p><b>Human Ethics &amp; Environment</b></p> <ul style="list-style-type: none"> <li>• Resource consumption pattern and the need for equitable utilization</li> <li>• Equity-disparity in the northern and southern countries</li> <li>• Urban-rural equity issues</li> <li>• Need for gender equity</li> <li>• Preserving resources for future generations</li> <li>• The ethical basis of environment education and awareness</li> </ul>
2	<p><b>Fundamentals of Environment</b></p> <ul style="list-style-type: none"> <li>• Environmental definitions</li> <li>• Life and the environment</li> <li>• Changes in the environment: anthropogenic and non-anthropogenic</li> <li>• Environmental hazards and risks</li> <li>• Natural resources: conservation &amp; sustainable development</li> </ul>
3	<p><b>System Concept in Ecology</b></p> <ul style="list-style-type: none"> <li>• Ecosystem, and its functional attributes</li> <li>• Energy flow in the ecosystem</li> <li>• Material cycling</li> <li>• Development and evolution of ecosystems</li> </ul>
4	<p><b>Population &amp; Environment</b></p> <ul style="list-style-type: none"> <li>• Carrying capacity: limits to population growth</li> <li>• Population growth and natural resources</li> <li>• Impact of population growth on economic development and environment</li> </ul>
5	<p><b>Land &amp; Water Resources of the Earth</b></p> <ul style="list-style-type: none"> <li>• Land resources of the earth</li> <li>• Land use pattern</li> <li>• Water resources of the earth</li> </ul>
6	<p><b>Pollution &amp; Environment with Reference to Air, Water, Soil &amp; Noise</b></p> <ul style="list-style-type: none"> <li>• Concept of pollution</li> <li>• Sources of pollution</li> <li>• Remedies to control pollution</li> </ul>
7	<p><b>Environment &amp; Public Health</b></p> <ul style="list-style-type: none"> <li>• Environmental pollution and community health</li> <li>• Waste management: types of waste and solid waste management</li> </ul>

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	<ul style="list-style-type: none"> <li>• Environmental registration and policies</li> <li>• Environmental ethics and human rights issues relating to environment</li> <li>• Women and environment</li> </ul>
8	<b>Fuel &amp; Energy Management</b> <ul style="list-style-type: none"> <li>• Fossil fuels &amp; solid, liquid and gaseous fuels</li> <li>• Hydel power: potential, limitations and adverse environmental impacts</li> <li>• Solar energy: principle (water heating, refrigeration, cooking, desalination)</li> <li>• Energy from biomass: biogas and gasohol</li> <li>• Energy audits &amp; management</li> <li>• Different measures of energy saving</li> </ul>
9	<b>Sources of Energy</b> Classification (nonrenewable and renewable, alternative, conventional & non-conventional).
10	<b>Solar Energy</b> <ul style="list-style-type: none"> <li>• Principle of liquid collectors</li> <li>• Concentrating collectors and air heaters</li> <li>• Storage devices</li> </ul>
11	<b>Solar Energy</b> Application of solar energy in water heating, refrigeration, cooking, desalination, power generation, photovoltaic conversions and solar salt ponds.
12	<b>Energy Conservation</b> <ul style="list-style-type: none"> <li>• Utilization of Biogas energy</li> <li>• Waste heat recovery and utilization</li> <li>• Maintenance of domestic heaters, cooking, lighting</li> </ul>
13	<b>Green Buildings</b> <ul style="list-style-type: none"> <li>• Nature of Green buildings</li> <li>• Principles of Green Buildings</li> <li>• Difference between the conventional and the Green Buildings</li> <li>• Benefits of Green Buildings</li> <li>• Green building Rating System</li> </ul>
14	<b>Eco friendly Construction Materials</b> Use of eco-friendly construction materials in flooring, walls, ceiling & roof
15	<b>Energy Efficiency</b> <ul style="list-style-type: none"> <li>• Air conditioning</li> <li>• Lighting System: efficient light sources, dimmer controls, use of natural light and solar light</li> <li>• Wind tower and power generation</li> </ul>
16	<b>Water Efficiency</b> <ul style="list-style-type: none"> <li>• Recycling of waste water</li> <li>• Rainwater Harvesting</li> <li>• Water Efficient Fittings</li> </ul>
17	<ul style="list-style-type: none"> <li>• The social implications and economic value of sustainability, to local and global communities</li> <li>• The application of sustainable theories and strategies, and green building construction principles to a design proposal</li> <li>• The Green and BIM Overlays to the RIBA's Plan of Work</li> <li>• How to conform to the Building Research Establishments Environmental Assessment Method (BREEAM) principles</li> </ul>

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|  | <ul style="list-style-type: none"><li>• Reusing fittings, recycling materials, and reducing waste, conservation of energy and Biodiversity</li><li>• Basic sustainable construction methods for walls, floors and ceilings</li><li>• Spatial psychology of 'New Ways of Working'.</li></ul> |
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**References**

**Books**

1. Cllicott B, *In Defense of Land Ethics: Essays in Environmental Philosophy*, Albany State University of New York Press, 1989
2. Enrich P R &Heldren J P, *Human Ecology*, 1973.
3. Nash R F, *The Rights of Nature: A History of Environmental Ethics*, Madison University of Wisconsin Press, 1989
4. Owen D F, *What is Ecology?* Oxford University press, 1974
5. Scheneider S H, *Global Warming: Are We Entering the Greenhouse Century*, 1989
6. Anink, D, *Handbook of Sustainable Buildings*, James & James, 1997
7. Baggs, Sand J, *The Healthy House*, Thames & Hudson, London, 1996
8. Woolly &Kimmins, *Green Building Handbook*, E & FN Spon, 1997

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**BID502**

**Full Marks: 100**

**Entrepreneurship Management (Theory)**

**Objectives**

- To develop entrepreneurship skills in students.
- To motivate students towards seeking an entrepreneurial career.
- To help the students understand the process & procedure of setting up small enterprises.
- To develop analytical skills of students regarding the environment related to small-scale industries & businesses.
- Demonstrate an understanding of the potential variety of roles of a professional Landscape Architect or Interior Designer, and the range of projects they may undertake.
- Demonstrate an appreciation of the professions potential future role and contribution to environmental development and 'place-making'.

Units	Course Content
1	<b>Enterprise Management</b> <ul style="list-style-type: none"> <li>• Concept of entrepreneurship development</li> <li>• Need, scope, process &amp; role in economy.</li> <li>• Types of enterprises: merits &amp; demerits.</li> <li>• Institutional support, government policies &amp; schemes for enterprise development.</li> </ul>
2	<b>The Entrepreneur</b> <ul style="list-style-type: none"> <li>• Definition behavior, characteristics, entrepreneurial competency, concepts &amp; development.</li> <li>• Self-awareness, interpersonal skills, creativity, assertiveness.</li> <li>• Factors influencing entrepreneur's role.</li> </ul>
3	<b>Setting &amp; Managing an Enterprise</b> <ul style="list-style-type: none"> <li>• Need, scope &amp; approaches for project formation, market assessment, S.W.G.T analysis &amp; techno-economic feasibility of project.</li> <li>• Resource mobilization-finance, technology, raw materials, site &amp; manpower.</li> <li>• Costing, marketing management &amp; quality control institutions.</li> <li>• Book of accounts, financial statements, funds flow analysis &amp; financial incentives.</li> <li>• Feedback, monitoring &amp; evaluation</li> </ul>
4	<b>Critical Path Method, Project Evaluation, Review Techniques for Establishing Small-Scale Industries.</b>
5	<b>Creativity &amp; Problem Solving Personnel Management.</b> <ul style="list-style-type: none"> <li>• Salaries, wages &amp; incentives, performance appraisal, quality control etc.</li> </ul>
6	<b>Marketing &amp; Sales Management</b> <ul style="list-style-type: none"> <li>• Marketing management &amp; sales techniques, packaging, label intervention, pricing &amp; after sales service.</li> </ul>
7	<b>Legislation</b> <ul style="list-style-type: none"> <li>• Licensing, registration, principal laws, business ethics, income tax, labour law application, consumer complaint redressal.</li> </ul>

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**(Effective for Academic Session 2019-2020)**

**References**

**Books**

1. A handbook of learning Systems, Entrepreneurship Development, Institute of India, New Delhi, 1982
2. Deshpande M V, Entrepreneurship of Small Scale Industries, Concept, Growth & Management, Deep & Deep Publications, New Delhi, 1984
3. Hirsch R D. & Peter M P, Entrepreneurship, Starting Developing & Managing a NewEnterprise, Richard. D Irwin, Inc, U.S.A, 1995
4. Parekh V & Rao T V, Personal Efficiency in Developing Entrepreneurship Learning System, New Delhi, 1978

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**BID592**

**Full Marks: 100**

**Computer Aided Design – II - 3D MAX (Practical)**

<b>Objectives</b>	
<ul style="list-style-type: none"> <li>• To develop students practical design skills 3D Max &amp; its application.</li> <li>• To develop students technical knowledge of AutoCAD with reference to technical drawing and drafting in 3 Dimensional format.</li> </ul>	
<b>Units</b>	<b>Course Content</b>
1	Essentiality of 3Ds Max in Architectural Design Visualization, Product Show Reel & Other Demo Reel, User Interface of 3D Max
2	Negotiating with Objects Transformation (Move, Rotate, Scale), Understanding Various 3D Model Types (Spline, Mesh, Poly, Patch, Nurbs)
3	Changing System Unit & Working with Architectural Unit System, Drafting & Modifying Simple 2D Architectural Block with Spline Shape
4	Usage of Spline Modifiers (Extrude, Lathe, Bevel Profile, Sweep) to Generate 3D Surface Model.
5	Creating a Simple Building Plan with Dimension.
6	Importing Plan from Autocad to 3D Max & Modeling a Complete 3Dd Building (by Using Wall Tool & other AEC Extended Objects).
7	Mesh & Poly Modeling of Different Interior Accessories.
8	Concept of Patch & Nurbs Model & Understanding their Characteristics. Usage of Them in Architectural Modeling.
9	Definition Of Material And Textures And Relation Of Them With Virtual Scene Light.
10	Working with Different Architectural Materials, Placing Proper Lights in a Small Interior Scene.
11	Handling Target & Free Camera, Placing Camera in a Scene to Get Perspective View from a Specific Angle.
12	Examples of Advanced Material (Mental Ray Arch & Design) & Photometric Light (Area, Linear, Isotropic, Spot) with Indirect Illumination (Final Gathering)
13	Casting Mental Ray Sun & Sky Light for Exterior Scene, Generating Atmospheric Effects such as Fog, Mist, Fire, Cloud
14	Rendering into Photo Realistic Raster Images of Various Formats & Sizes.
15	Definition of Animation. Classification of Animation. Examples of 3D Max Key Frame Animation
16	Creating Camera Fly through in Both Int& Ext Scene
17	Managing Project File, File Import Export, Xref Objects & Communicating with Other 3D Packages

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**References**

1. Arnaud, Remi & Barnes, Mark C. "COLLADA: sailing the gulf of 3D digital content creation". Wellesley, Mass. A K Peters, 2006.
2. Blundell, Barry G. & Schwarz, Adam J. "Creative 3-D display and interaction interfaces: a transdisciplinary approach". Hoboken. Wiley-Interscience, 2006.
4. Blundell, Barry. "Introduction to computer graphics and creative 3-D environments". London. Springer, 2008.
5. Boardman, Ted & Hubbell, Jeremy. "Inside 3D studio max 3: modeling, materials and rendering". New Delhi. Techmedia, 1999.
6. Brown, Tim H.[et al.]. Art of Maya: an introduction to 3D computer graphics, 4th ed. California. Autodesk Maya Press, 2007.
7. Buss, Samuel R. "3D computer graphics: a mathematical introduction with OpenGL". Cambridge. Cambridge University Press, 2003
8. Chen, Jim X. & Chen, Chunyang. "Foundations of 3D graphics programming: using JOGL and Java3D, 2nd ed." London. Springer, 2008.
9. Derakhshani, Dariush, Munn, Randi L. & McFarland, Jon. "Introducing 3ds Max 9: 3D for beginners". Indiana. Wiley Publishing, 2007.
10. Discreet. "3ds max 7 fundamentals and beyond courseware". Delhi. Focal Press, 2005.
11. Ferguson, R. Stuart. "Practical algorithms for 3D computer graphics". Natick. A K Peters, 2001.
12. Giambruno, Mark, "3D graphics and animation, 2nd ed." Delhi. Pearson Education Asia, 2002.



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**BID581**

**Full Marks: 100**

**Design Studio - V - Professional Mentored Design Project (Practical)**  
**SESSIONAL**

**Overview**

This module focuses on the design of a substantial interior space, working with a professional mentor. Students will research existing creative interior spaces and explore the core elements of the design process for a given interior space. The project will touch on all aspects of interior design such as interior architecture and space design, with an emphasis on creating a unique cutting edge design.

You will use the broad range of skills which you have gained to support your creative design and problem solving processes. You will understand and be aware of, and understanding how the built environment is used, occupied and constructed, is invaluable in helping initiate this. Selecting appropriate knowledge of key practical skill sets and techniques, and using professional standards and conventions to portray their technically and visually, is crucial to ensuring that these processes are developed and facilitated efficiently and effectively.

**Objectives**

*A student passing this module should be able to:*

Further examine and digest a written design brief, site contexts and user requirements to logically and competently produce an innovative solution to a design problem.

2. Appraise the ergonomic impact of classic design furniture and products, to help create an aesthetically pleasing as well as a functional atmosphere within an interior.
3. Understand the value of coherently incorporating sketching, model making, technical drawing and CAD, into an acceptable professional standard of communication, using materials and techniques to coordinate the presentation.
4. Follow the design process to create creative unique sustainable and healthy environment, using the basic strategic knowledge and tactics of e.g. planar form, movement, light, colour and surface finishes.
5. Document and contextualize research to help inform the design decision making process for the benefit of the end users.
6. Produce correct and professionally presented drawings, design ideas, proposals and models.
7. Further demonstrate and apply basic knowledge of building construction and materials for informing a sustainable design project resolution.

Units	Course Content
1	<b>Professional Project Planning</b> Identify a client, a practical site and develop the design requirement, related design issues and provide alternate design scenarios and develop the most practical alternative.
2	<b>Ideas Generation</b> Generation and development of visual design ideas & sketches showing varied viewpoints for a given interior.
3	<b>Design Development</b> Development of visual design idea through the exploration of layouts, concepts and interior plans.
4	<b>Exploration and investigation of materials</b> Exploration and investigation of materials, techniques and technologies for interior spaces and surface designs.
5	<b>Technical Drafting and drawing</b> Technical Drafting and drawing of layouts and plans including correct symbols and scale, within the constraints for given interior design project brief.
6	<b>Model Making</b> 3 Dimensional Scale model of space design using correct techniques
7	<b>Symbols, Scale and Technical Drawing</b> Application of symbols on technical architectural plans and drawings. Using correct and accurate scale and drafting methodology.

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8	<b>Application of media and drawing techniques</b> to illustrate different viewpoints of a given Interior including perspective drawings, orthographic drawings of views and sections.
9	<b>Quantification, Reporting, Presentation.</b> Budget Provision and Project Schedule
10	<b>Organization and Presentation</b> Organization of the working drawings for the same including service drawing with professional guidance.
11	<b>Group Design Critic, Evaluation and Action Planning</b> Written evaluation against brief objectives and intended outcomes. Action plan based on critic feedback from others and own informed evaluations.

**References**

**Books**

- Habitat: The Field Guide to Decorating: Lauren Liess:9781419717857
- <https://www.amazon.com/Habitat-Field-Decorating-Lauren-Liess/dp/141971785>
- Patterns in design, art and architecture: Petra Schmidt - Annete Tiebenberg - Ralf Wolheim: Birkhauser.
- In Details - Interior Surfaces and Materials: Christian Schittick - Editions Detail.
- Material Skills - Evolution of materials - Els Zijlstra - Materia Rotterdam.
- Kevin Lynch. The Image of the city. The MIT Press, 1960.
- Christopher Alexander. A Pattern language: towns, buildings, construction. Oxford University Press, 1978.
- Kenneth Frampton. Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture. The MIT Press, 1995.

**Websites**

- [https://www.designingbuildings.co.uk/wiki/Types\\_of\\_drawings\\_for\\_building\\_design](https://www.designingbuildings.co.uk/wiki/Types_of_drawings_for_building_design)
- <https://www.dkorinteriors.com/lighting-modern-interior-design/>
- <https://www.hgtv.com/remodel/mechanical-systems/lighting-tips-for-every-room>
- <https://study.com/academy/lesson/what-is-residential-interior-design.html>
- <http://mydesignagenda.com/interior-design-and-architecture-projects-need-inspired/>

**Videos**

- <https://www.youtube.com/watch?v=wjTcUzMDqzY>