

**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-III**

**BID391**

**Full Marks: 100**

**Computer Aided Design Studies I - AUTOCAD (Practical)**

**Objectives**

To enable the students to:

- Develop skills in the industry standard AutoCAD software programme for the production of plans and technical drawings in 2 Dimensions.
- Develop design and digital based skills in producing plans which demonstrate design intentions.
- Understand how digital design software is used in the industry for the production of accurate and detailed plans and layouts for interior and architectural drawings.

Units	Course Content
1	Introduction about Computer Aided Designing (Essentiality of CAD), Usage of AutoCAD, Product Show Reel, User Interface of AutoCAD
2	Understanding Coordinate System, Classification of AutoCAD Coordinate System, Drafting Basic Shape with Dimension
3	Working with Architectural Unit System, Drawing & Modifying Simple Architectural Block.
4	Drafting Plan of Residential / Commercial Building
5	Drafting Front & Side Elevation of Residential / Commercial Building.
6	Making Layout of Different Sectional Views
7	Making a Complete Interior Layout with All Accessories.
8	Concept of AutoCAD Plotting. Plotting a Complete Layout
9	Designing & Modifying Complex Architectural Block (Doors, Windows Chajja, Sofa, Wardrobe & Wall Unit).
10	Hatching Different Cross Sections & Applying Various Patterns.
11	Customizing Different Dimension Styles
12	Layout Slide Show

**References**

1. Book on Latest Version of Auto CAD
2. Parker, Charles. Understanding Computers Today & Tomorrow. Fort Worth, TX: Dryden Press, 1998.
3. Sabot, Gary. High Performance Computing Problem Solving with Parallel and Vector Architectures. Reading, MA: Addison-Wesley Publishing Company, 1995.
4. Taylor, Dean. *Computer-Aided Design*. Reading, MA: Addison-Wesley Publishing Company, 1992.

**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)**

**BID301**

**Full Marks: 100**

**Sustainable & Ethical Studies - II Materials, Technologies & Innovations (Theory)**

**Objectives**

To enable students to:

- Understand the effects the construction & interior design industry has on resources and the environment.
- Become aware of sustainable materials and technologies – traditional & new innovations for the construction of buildings and spaces.
- Become aware of sustainable materials and technologies – traditional & new innovations for the construction of furniture, furnishings and products.
- Develop research and analytical skills with reference to sustainable designers and their work.
- Be aware of organizations, agencies and certification bodies.
- Be aware of regulations pertaining to the construction and interior design industries.

Units	Course Content
1	<b>Environmental Impact and Sustainability associated to the construction &amp; Interior space design industries:</b> Issues on environmental impact and sustainability within the construction and interior design industries.
2	<b>Resource consumption and depletion associated to the construction &amp; Interior space design industries:</b> Resource consumption within the construction and interior design industries. <ul style="list-style-type: none"> <li>• Deforestation</li> <li>• Non – Renewable Energies</li> <li>• Non – Renewable Materials</li> </ul>
3	<b>Traditional Sustainable materials &amp; technologies in the construction and interior space design industries:</b> <ul style="list-style-type: none"> <li>• Adobe</li> <li>• Bamboo</li> <li>• Managed Forests</li> <li>• Recycled/Up-cycled materials</li> </ul>
4	<b>Innovations in sustainable materials and technologies associated to the construction &amp; Interior space design industries:</b> <ul style="list-style-type: none"> <li>• Bamboo construction materials</li> <li>• Prefabricated construction</li> <li>• Recycled and up-cycled materials</li> <li>• Renovation and restoration</li> </ul>
5	<b>Upcycling and recycling within the construction, furniture and interior design industries.</b>
6	<b>Ethical issues within the construction, furniture and interior design industries associated to:</b> <ul style="list-style-type: none"> <li>• Labour</li> <li>• Conditions</li> <li>• Health &amp; Safety</li> <li>• Remuneration</li> <li>• Waste management</li> </ul>
7	<b>Renewable Energy Vs. Non-Renewable Energy:</b> <ul style="list-style-type: none"> <li>• Impact of non-renewable i.e. traditional fossil fuel based energies.</li> <li>• Renewable energy systems and technology innovations</li> <li>• Sustainable energy schemes and initiatives in India.</li> </ul>

**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)**

**References**

**Videos**

<https://www.youtube.com/watch?v=AqhpFVFdEM0> - Sustainable Building Materials Segment 2

[https://www.youtube.com/watch?v=RocreN7\\_sqs](https://www.youtube.com/watch?v=RocreN7_sqs) - Sustainable Building Materials Segment 1

[https://www.youtube.com/watch?v=g1yUFUL-\\_AI](https://www.youtube.com/watch?v=g1yUFUL-_AI) - Sustainable materials: with both eyes open

<https://www.youtube.com/watch?v=WPRgRBxfbs> - Green Building Concepts-3.0

[https://www.youtube.com/watch?v=JEUShQ7r\\_tE](https://www.youtube.com/watch?v=JEUShQ7r_tE) - Green buildings are more than brick and mortar | Bryn Davidson | TEDxRenfrewCollingwood

**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)**

**BID381**

**Full Marks: 100**

**Model Making - II (Practical) SESSIONAL**

**Module Outline:**

This module explores advanced model making materials and techniques specifically Semi-detailed or detailed working models. ‘Semi detailed’ and ‘Detailed’ completed models represent the plans in 3 dimensional form to builders and show precisely what the project or building will look like after completion and it is important that the finest detail is depicted. Interior models show the internal set-up, complete with scale-model furniture and the interior decorating of the building. The model maker is expected to make the furniture to scale.

**Objectives**

To enable the students to:

- Develop practical skills in designing in 3 Dimensions, exploring relationships between form and space.
- Develop making skills and understanding of various model making materials, suitable applications and representations for visual interpretations of buildings, interiors and products.
- Develop an understanding of the function of space through 3 dimensional interpretations of structure and form.
- Develop critical design thinking and evaluative processes in relation to desired objectives and design realization.
- Develop action planning skills for future learning.

Units	Course Content
1	<p><b>Exploration of 3 dimensional interior design creative visual design ideas:</b></p> <ul style="list-style-type: none"> <li>• Sketches of overall and details of design</li> <li>• Floor plan</li> <li>• Site plan</li> <li>• Elevation</li> <li>• Cross section</li> <li>• Isometric and axonometric projections.</li> <li>• Detail drawings</li> <li>• Presentation drawings</li> <li>• Design development process</li> <li>•</li> </ul>
2	<p><b>Exploration of materials and techniques</b></p> <ul style="list-style-type: none"> <li>• Model Making Techniques</li> <li>• Selection of materials</li> <li>• Colour</li> <li>• Textures</li> <li>• Styles</li> </ul>
6	<p><b>Integration of contextual references through visual design.</b></p> <ul style="list-style-type: none"> <li>• Annotations and notes to explain connections to designers</li> <li>• Diagrams and notes to explain visual intentions</li> </ul>
7	<p><b>Evaluation of outcomes against defined design objectives and desired visual design outcomes.</b></p>

**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)**

<b>8</b>	<b>Generation of action plan(s) for future learning.</b>
<b>References</b>	
<b><u>Websites</u></b> <a href="https://www.arch2o.com/architectural-model-complete-guide/">https://www.arch2o.com/architectural-model-complete-guide/</a> <a href="http://www.modelmakers-uk.co.uk/students-advice">http://www.modelmakers-uk.co.uk/students-advice</a> <a href="http://www.instructables.com/id/How-to-make-an-Architectural-Model-by-hands/">http://www.instructables.com/id/How-to-make-an-Architectural-Model-by-hands/</a>	
<b><u>Books</u></b> Architectural Model Building: Tools, Techniques, and Materials 1st Edition by Roark T. Congdon (Author) - ISBN-13: 978-1563677731 Model Making (Architecture Briefs) 1st Edition by Megan Werner (Author) - ISBN-13: 978-1568988702	

**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)**

**BID302**

**Full Marks: 100**

**Ergonomics in Design Contexts (Theory)**

**Outline:**

The practice of ergonomics has two primary objectives to enhancing workplace health, safety, and work design issues. These are to: 1) Enhance performance and productivity and 2) Prevent fatigue and injury. These principles are integral to current thinking in modern lifestyles and the designing of spaces and furniture.

**Objectives**

To enable the students to:

- Understand the science and theory behind ergonomics.
- Understand the effects of design on humans.
- Understand how to incorporate ergonomics in furniture, product and interior space design.
- To be able to design an enabling environment that positively affects human physically.
- To develop research, written and analytical skills.
- To develop links between own work and the work of others.

Units	Course Content
1	<b>What is Ergonomics?</b> <ul style="list-style-type: none"> <li>• The study of how a workplace and the equipment used there can best be designed for comfort, efficiency, safety, and productivity.</li> </ul>
2	<b>Perception of Space, Environment &amp; Ecology in relation to living and commercial space design and function</b>
3	<b>Research Ergonomic Design and (Work of others):</b> <ul style="list-style-type: none"> <li>• Furniture</li> <li>• Interior Spaces</li> <li>• Products</li> </ul>
4	<b>Impact of bad design on:</b> <ul style="list-style-type: none"> <li>• People</li> <li>• Productivity</li> </ul>
5	<b>Anthropometry &amp; Biomechanics</b> <ul style="list-style-type: none"> <li>• Definition and scope</li> <li>• Physical dimensions of human body as a working machine</li> <li>• Human body as a system of levers</li> <li>• Identification &amp; analysis of posture</li> <li>• Effect of wrong posture on cardio vascular and musculoskeletal system (eg. Back trouble, inter vertebral disc pressure, lower back and inter abdominal pressure)</li> <li>• Design application of anthropometry</li> <li>• Design of interiors and furniture according to consumer ergonomics.</li> <li>• Study of basic furniture dimensions based on anthropometries measurements</li> </ul>
6	<b>Innovations ergonomics in:</b> <ul style="list-style-type: none"> <li>• Furniture Design</li> <li>• Product Design</li> </ul>

**References**

**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)**

- Art and Visual Perception: A Psychology of the Creative Eye (Rudolf Arnheim) - Published in 1974
- Beisner, Beatrix and Kim Cuddington, editors. 2005. Ecological Paradigms Lost: Routes of Theory Change. Academic Press.
- Blackstone, William T. 1973. Ethics and Ecology. Southern Journal of Philosophy 11: 55–71.
- Buege, Douglas J. 1996. An Ecologically-Informed Ontology for Environmental Ethics. Biology & Philosophy 12(1): 1–20.
- Colyvan, Mark. 2005. Probability and Ecological Complexity. Biology & Philosophy 20(4): 869–879.
- Colyvan, Mark. Forthcoming. Population Ecology. In Sahotra Sarkar and Anya Plutynski, editors, A Companion to the Philosophy of Biology. Blackwell.
- Colyvan, Mark and L. R. Ginzburg. 2003b. Laws of nature and laws of ecology. *Oikos* 101(3):649.

**Websites**

<https://ergo-plus.com/workplace-ergonomics-benefits/>

**Videos**

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

**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)**

**BID392**

**Full Marks: 100**

**Furniture Design & Technology (Practical)**

**Objectives**

To enable the students to:

- Acquire knowledge about the various materials used in furniture.
- Know the multiple use of furniture keeping the constraints of available space.
- Learn to care & maintain the furniture with various finishes.
- Appreciate the contribution of furnishings in satisfying family living.
- Recognize the importance of wise decision making in selection, use and care of home furnishings.
- Learn principles that will help one to judge the design of furnishing relative to their function and beauty.

Units	Course Content
1	<b>Brief History of Furniture Styles &amp; Techniques – Contemporary &amp; Traditional to Modern Furniture - Innovations</b>
2	<b>Ergonomic Furniture Design Creation – Visual design ideas and sketches</b>
3	<b>Design development through drawings, sketches, models showing visual exploration</b>
3	<b>Orthographic Projections of Simple Furniture Pieces</b> such as chair, table, bed, cupboard, wardrobe, cabinets etc
4	<b>Isometric Projections of Furniture</b>
5	<b>Wooden Joinery &amp; Carpentry</b> The different types of joineries used in making furniture
6	<b>Furniture Detailing</b> Detailed drawing of different types of furniture with their joineries
7	<b>Preparing furniture models</b>
8	<b>Market Survey of Furniture Materials, Furniture Finishes &amp; Furnishings</b>
9	<b>Basic Materials used for Furniture</b> Types of wood, processed wood (block boards, laminates, veneers, particle board), metals, cane & Other wicker materials, plastics, fiber glass.
10	<b>Finishes Used on Furniture</b> Varnish, polish, lacquer, melamine, paints, staining
11	<b>Study of Basic Furniture Dimensions Based on Ergonomic/Anthropometric Measurements</b>
12	<b>Types of Furnishings</b> Curtains, draperies, upholstery, bedspreads, cushion covers, loose covers, blinds, carpets and rugs, leather, rexine & fiberglass and new innovations in furnishing materials.
13	<b>Selection of Material for Furnishing</b> Colour, pattern, texture, style, cost, durability, maintenance etc



**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)**

**References**

1. Charlotte & Peter Fiell, *Modern Furniture Classics Since 1945*, Thames & Hudson
2. Darby Tom, *Making Fine Furniture*; Guild of Master Craftsman Publications
3. De Chiara Joseph & Callender John, *Time Saver Standards for Architectural Types & Interior Design & Space Planning*; McGraw Hill Book Co.
4. Gilliatt Mary, *The Decorating Book*; Michael Joseph
5. Grandjean E, *Fitting the Task to the Man*; Taylor & Francis, London, 1988
6. Kasu Ahmed, *An Introduction to Art, Craft, Science, Technique & Profession of Interior Design*, Ashish Book Centre, Delhi, 2005

**Videos**

<https://www.youtube.com/watch?v=s7pI0cHJQtY> - Making Tension Based Furniture - Robby Cuthbert

**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)**

**BID382**

**Full Marks: 100**

**Design Studio - III – Innovative Green Building Project (Practical)**  
**SESSIONAL**

**Overview**

This module explores sustainable and modern interior space design, students will investigate and explore how to integrate sustainable design and systems into their design work to allow them to create spaces that have limited impact on the environment.

Interior designers need to develop a broad range of skills and abilities to support them in their creative design and problem solving processes. Being 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:

1. Understand, analyze and evaluate a basic Design Brief, by acknowledging the importance of constraints and conditions imposed by client and site, and produce a small range of 3D spatial design ideas and concepts accordingly.
2. Understand the basic elements and principles of the sustainable design process, for generating ideas from Briefing to Concept proposals, including how to carry out a measured survey & drawings
3. Develop professional interior design skills & techniques including drawings, plans, illustrations and models.
4. Develop students understanding and skills in materials & techniques & technologies within interior design contexts and constraints.
5. Understand the construction process, and identify the difference between sustainable and unsustainable materials.
6. Produce a basic Environmental Strategy proposal to include e.g. energy, water and waste reduction.
7. Adopt either traditional or new methods of sustainable building construction and technology in their design proposals, to conform to the statutory requirements of the Building/Fire Regulations and Disabled Access.
8. Evidence the ability to think three dimensionally in response to contextual and environmental factors, and using appropriate sketch design and development techniques, reflect on the quality and appropriateness of their experiments to inform their progress
9. Develop technical layout, drafting and practical drawing and design skills.
10. Develop visual design skills for the generation of ideas and concepts.
11. To develop design skills within the constraints of a given interior design project brief.

Units	Course Content
1	<b>Design Ideas Generation</b> <b>Creative Conceptual Interior Space Design ideas, sketches and drawings.</b> Process development of visual design ideas & sketches showing varied viewpoints for a proposed given interior.
2	<b>Design Development</b> of visual design idea through the exploration of layouts, concepts And interior plans.
3	<b>Exploration and investigation</b> of materials, techniques and technologies for interior Spaces and surface designs.
4	<b>Technical Drafting and drawing of layouts and plans</b> including correct symbols and Scale, within the constraints for given interior design project brief.
5	<b>Application of media and drawing techniques</b> to illustrate different viewpoints of a Given interior including perspective drawings, orthographic drawings of views and

**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)**

	sections.
6	<b>Model Making Materials, Techniques &amp; Technologies</b> Production of scale model(s) of proposed design
7	<b>Understanding Architectural Symbols and scales</b> for architectural and interior design.
8	<b>Quantification, Reporting, Presentation.</b>
9	<b>Detail Documentation, Drawing, Observation and Notes</b>
10	<b>Visit to various sites (field visits) and to submit study report</b>
11	<b>Understanding constraints and needs of the given ‘Design Brief’ from a client’s Perspective and according to their requirements.</b>
12	<b>Quantification , Estimations and costing), Reporting, Presentation</b>
13	<b>Professional Presentation Skills</b> <b>Sketches, plans, layouts, illustrations and models presented professionally</b>
14	<b>Group Design Presentation &amp; Critic</b>

**References**

**Books**

1. Berger, C. Jaye. Interior Design Law and Business Practices. New York: John Wiley & Sons, Inc., 1994.
2. Burden, Ernest. Design Communication: Developing Promotional Material for Design Professionals. New York: McGraw-Hill, 1987.
3. Ching, Frank. Illustrated Guide to Interior Architecture. New York: Van Nostrand Reinhold, 1987.
4. Cvoxe, Weld, Maister, David, and The Coxe Group. Success Strategies for Design Professionals. New York: McGraw-Hill, 1987.
5. Dell’Isola, Alphonse, and Kirk, Stephen J. Life Cycle Costing for Design Professionals. New York: McGraw-Hill, 1981.
6. Epstein, Lee. Legal Forms for the Designer. New York: Design Publications, 1977.

**Websites**

<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>

**Videos**

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