



BIKANER TECHNICAL UNIVERSITY, BIKANER
बीकानेर तकनीकी विश्वविद्यालय, बीकानेर
OFFICE OF THE DEAN ACADEMICS



**SCHEME & SYLLABUS OF
UNDERGRADUATE DEGREE COURSE**

**B.Design
(Interior Design)**

V & VI Semester



Effective for the students admitted in year 2019-20 and onwards.

Approved by 7th AC Meeting held on 1st Nov. 2021

Office: Bikaner Technical University, Bikaner
Karni Industrial Area, Pugal Road, Bikaner-334004
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Page | 1


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Teaching and Examination Scheme

B.Design. : Interior Design

3rd Year – V Semester

THEORY											
S.No	Category	SUBJECT CODE	Course Title	CONTACT HOURS / WEEK		Marks				Cr.	
				L	P	Exam Hrs.	IA	ETE	Total		
1	PCC	BODID 501	ENTREPRENEURSHIP	2	0	2	20	80	100	2	
2		BODID 502	MATERIAL STUDY & BUILDING AUTOMATION SYSTEMS	2	0	2	20	80	100	2	
			SUB TOTAL		4	0		40	160	200	4
PRACTICAL & SESSIONAL											
3			BODID 503	INTERIOR ESTIMATION	0	4	2	60	40	100	2
4			BODID 504	COSTING	0	4	2	60	40	100	2
5			BODID 505	BUILDING SERVICES	0	6	2	90	60	150	3
6			BODID 506	COMPUTER APPLICATIONS – IV	0	4	2	60	40	100	2
7			BODID 507	WORKING DRAWING	0	4	2	60	40	100	2
8			BODID 508	CRAFTS IN INTERIOR DESIGN	0	4	2	60	40	100	2
9		BODID 509	PROJECT -III	0	8	2	120	80	200	4	
10	SODEC A	BODID 510	Social Outreach, Discipline and Extra Curricular Activities	0	0		0	0	25	0.5	
			SUB TOTAL	0	34		510	340	875	17.5	
			TOTAL OF V SEMESTER	4	34		550	500	1075	21.5	

L = Lecture, P = Practical, IA = Internal Assessment, ETE = End Term Exam, Cr = Credits

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Page | 2


Dean Academics
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Teaching and Examination Scheme

B.Design. : Interior Design

3rd Year – VI Semester

THEORY											
S.No.	Category	COURSE		CONTACT HOURS / WEEK		Marks				Cr.	
		SUBJECT CODE	Course Title	L	P	Exam Hrs.	IA	ETE	Total		
1	PCC	BODID 601	PROMOTION & BRANDING	2	0	2	20	80	100	2	
2		BODID 602	E- COMMERCE	2	0	2	20	80	100	2	
3		BODID 603	ESTIMATION, COSTING AND PROFESSIONAL PRACTICE	2	0	2	20	80	100	2	
			SUB TOTAL		6	0		60	240	300	6
PRACTICAL & SESSIONAL											
4			BODID 604	BUILDING SERVICES – III	0	6	2	90	60	150	3
5			BODID 605	COMPUTER APPLICATION S – V	0	4	2	60	40	100	2
6			BODID 606	INTERIOR LANDSCAPE DESIGN	0	6	2	90	60	150	3
7			BODID 607	DESIGN FOR SPECIALLY ABLED	0	4	2	60	40	100	2
8			BODID 608	PROJECT -IV	0	8	2	120	80	200	4
9	SODECA	BODID 609	Social Outreach, Discipline and Extra Curricular Activities	0	0		0	0	25	0.5	
		SUB TOTAL		0	28		420	280	725	14.5	
		TOTAL OF VI SEMESTER		6	28		480	520	1025	20.5	

L = Lecture, P = Practical, IA = Internal Assessment, ETE = End Term Exam, Cr = Credits

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Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 3
Dean Academics
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Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 4

Dean Academics
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V Semester **B. Design**

SUBJECT: BODID501 ENTREPRENEURSHIP

Credit : 02	Max. Marks: 100(IA:20, ETE: 80)	
2L+0T+0P	End Term Exam: 2 Hours	
S.No.	Contents	Hours
1	UNIT-1 Introduction to Entrepreneurship Entrepreneurship: Definition of Entrepreneur, Importance of Entrepreneurship, concepts of Entrepreneurship, Characteristics of successful Entrepreneur, Classification of Entrepreneurs, Myths of Entrepreneurship, Entrepreneurial Development models, Entrepreneurial development cycle, Problems faced by Entrepreneurs and capacity building for Entrepreneurship	4
2	UNIT-2 Entrepreneurial Assets Entrepreneurial Values and attitudes, Entrepreneurial Qualities, Role, Demands and Requirements of Entrepreneurs, Barriers to Entrepreneurship	6
3	UNIT-3 Entrepreneurial Motivation Definition and Meaning of Motivation, Need of Motivation for Achievement Motivating Factors: Internal and External	5
4	UNIT-4 Project Development Creativity and idea generation, Searching and selecting entrepreneurial ideas, Dynamics of project identification, Matching project and enterprise.	4
5	UNIT -5 Projects Management: A Project. Search for a Business idea: Introduction, Choosing an Idea, Selection of product, The Adoption process, Product Innovation, Product Planning and Development Strategy, Product Planning and Development Process. Concepts of Projects and Classification: Introduction, Meaning of Projects, Characteristics of a Project, Project Levels, Project Classification, Aspects of a Project, The project Cycle, Features and Phases of Project management, Project Management Processes. Project Identification: Feasibility Report, Project Feasibility Analysis. Project Formulation: Meaning, Steps in Project formulation, Sequential Stages of Project Formulation, Project Evaluation.	5
	Total	24

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Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 5

Dean Academics
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Course Objectives:

- To understand the concept of entrepreneurship.
To know the world of entrepreneurs
- To understand and cultivate entrepreneurial values, attitude, qualities and desires.
To sow the seed of entrepreneurship in fertile minds
- The program envisions to develop Entrepreneurial thinking & abilities in aspiring professionals for the dynamically changing economy & social ecology in the era of the 4th industrial revolution.
 - The program will expose students to concepts in human centric entrepreneurship and necessary skills to translate innovations into sustainable marketable products.
 - Students will learn how to commercialize an innovative idea for a segmented target audience and spin a sustainable business model around it.

Reference Books:

- Entrepreneurs: Talent- Temperament Technique- Bolton, B. & Thompson, J Entrepreneurship Development- Taneja, S. & Gupta, S.L.
- His. Entrepreneurship: Starting, Developing and Managing a New Enterprise- Richard, D.
USA -rich, R.D. & Peters, M.P
- Entrepreneurial Development-(Vol I & II,) - Desai, V.
- Principles of Management P. C.Tripathi, P.N. Reddy Tata McGraw Hill,
- Dynamics of Entrepreneurial Development & Management Vasant Desai Publishing House · Entrepreneurship Development Poornima. M. Charantimath Small Business Enterprises - Pearson 2006 2 &

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Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 6
Dean Academics
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SYLLABUS

V Semester

B. Design

SUBJECT: BODID502 MATERIAL STUDY & BUILDING AUTOMATION SYSTEMS

Credit : 02	Max. Marks: 100(IA:20, ETE: 80)
2L+0T+0P	End Term Exam: 2 Hours

S.No.	Contents	Hours
1	UNIT-1 Steel, Iron and other Metals Introduction of unit - Composition, Properties, anticorrosive measures, mechanical and heat treatment of steel - Market forms of steel: Steel for Reinforcement - Hot rolled bars, CTD Bars, TMT bars, Welded wire fabrics; Steel for Pre- stressed concrete; Structural steel; Stainless steel, steel alloys, current developments. Iron-Brief study on manufacture, composition, properties and uses of cast iron, wrought iron, pig iron. Other metals: Aluminum and its alloys, copper, and its alloys. Conclusion and summary of unit.	5
2	UNIT-2 Fire Alarm and firefighting System and HVAC system Introduction of unit Fundamentals: What is Fire? Fire modes, History, Components, and Principles of Operation. FAS Components: Different fire sensors, smoke detectors and their types, Fire control panels, design considerations for the FA system. Field Components, Panel Components, Applications. FAS Architectures: Types of Architectures, Examples. FAS loops: Classification of loops, Examples. Fire Standards: FAS Design procedure in brief, NFPA 72A, BS 5839, IS Concept of IP enabled fire & alarm system, design aspects and components of PA system. Fire extinguishing systems, Various warning and alarm systems, Firefighting finishes and doors, Planning for fire escape for buildings. Fundamentals: Introduction to HVAC, HVAC Fundamentals, Basic Processes (Heating, Cooling etc.) Basic Science: Air Properties, Psychometric Chart, Heat Transfer mechanisms, Examples. Human Comfort: Human comfort zones, Effect of Heat, Humidity, and Heat loss. Processes: Heating Process & Applications (I.e. Boiler, Heater), Cooling Process & Applications (I.e. Chiller), Ventilation Process & Applications (I.e. Central Fan System, AHU, Exhaust Fans), Unitary Systems (VAV, FCU etc.). Control Theory: Instrumentation Basics, Field components & use, DDC & applications. Control Panel: HVAC Control Panel, MCC Basics, Panel Components Conclusion and summary of unit.	6

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Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 7


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बीकानेर तकनीकी विश्वविद्यालय, बीकानेर

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	<p>UNIT -3 Door-window fittings and materials and Paints, Distemper & Varnishes Introduction of unit Standard sections - Channel, box, extruded etc. - Connections - Specifications. Door and window hinges like butt hinges, pin hinges, parliament hinges, garnet hinges, counter flap hinges, strap hinges, piano hinges, auto-closing hinges - Door and window bolts like sliding door bolt, tower bolt, flush bolt - door handles- door locks-other fastenings to door and windows like hook and eyes, window stays, door stoppers, door closers, caster wheels, floor springs, pivots, magnetic catchers for wooden cupboards etc. Drawings - Steel windows and doors, Aluminum doors, windows and handrails, Door and window fittings. PAINTS, DISTEMPERS & VARNISHES - types -composition - properties - Application- Uses -BIS specifications. Conclusion and summary of unit.</p>	5
4	<p>UNIT - 4 Access control System and EPBX System Introduction of unit Access Control System: Access Components, Access control system Design. CCTV: Camera: Operation & types, Camera Selection Criteria, Camera Applications, DVR Based system, DVM, Network design, Storage design. Components of CCTV system like cameras, types of lenses, typical types of cables, controlling system. CCTV Applications: CCTV Applications. Design consideration of EPBX system and its components, integration of all the above systems to design BMS. Conclusion and summary of unit.</p>	4
5	<p>UNIT -5 Recycled and green materials Introduction of unit Introduction of renewable materials, need for recycle materials. The logic behind recycling - recycling of steel, wood, glass etc. - estimation of the quality of recycled timber - criteria for recycling of steel, glass etc. Conclusion and summary of unit.</p>	4
	Total	24

Course Objectives:

- To understand the importance of materials used in interior spaces.
- To understand material's visual and physical characteristics, properties, and functions through exploring, studying, and designing with interior architecture building and finishing materials.
- To understand the characteristics of the materials being used in the interior design industry.
- It also includes the understanding of basic building materials in Interior spaces.
- Boost awareness of the relationship between interior design and the environment, economy and activities in other regions around the world.

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Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 8


Dean Academics
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- To analyze current philosophy, technology, terminology, and practices used in building automation .
- Evaluate different fire standards, FAS Components, FAS loops, Architectures.
- Select hardware and software for HVAC system
- Evaluate energy management system.

Suggested Reference Books:

- Engineering Materials - S.C. Rangwala
- Building Materials - P.C. Uarghese
- Building Materials - S.K. Duggal
- Green Building Materials SPIEGE
- Smart Buildings by Jim Sinopoli, Butterworth-Heinemann imprint of Elsevier, 2nd ed., 2010.
- Understanding Building Automation Systems (Direct Digital Control, Energy Management, Life Safety, Security, Access Control, Lighting, Building Management Programs) by Reinhold A. Carlson, Robert A. Di Giandomenico, pub. By R.S. Means Company, 1991?
- Intelligent Building Systems by Albert Ting-Pat So, WaiLok Chan, Kluwer Academic publisher, 3rd ed., 2012.
- Design of Special Hazards and Fire Alarm Systems by Robert Gagnon, Thomson Delmar Learning; 2nd edition, 2007.
- HVAC Controls and Systems by Levenhagen, John I. Spethmann, Donald H., McGraw-Hill Pub.
- HVAC Control in the New Millennium by Hordeski, Michael F, Fairmont press, 2001. • Process Control- Instrument Engineers Handbook by Bela G. Liptak, Chilton book co
- Design of Special Hazards and Fire Alarm Systems, Robert Gagnon, 2007

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Website: <https://btu.ac.in>

Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 9


Dean Academics
Bikaner Technical University
Bikaner



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SYLLABUS

V Semester

B. Design

SUBJECT: BODID503 INTERIOR ESTIMATION

Credit : 02	Max. Marks: 100(IA: 60, ETE: 40)	
OL+OT+4P	End Term Exam: 2 Hours	
S.N o.	Contents	Hours
1	UNIT-I Introduction to Estimation Introduction to the Unit Estimation - definition, purpose, types of estimate, and procedure for Estimating the cost of work in order to implement an interior design project or to make products related to interior design like furniture, artifacts etc. Conclusion & Summary of the unit.	10
2	UNIT-2 Rate analysis Introduction to the Unit Rate Analysis - definition, method of preparation, quantity & labour estimate. Conclusion & Summary of the unit.	08
3	UNIT-3 Estimate Formats Introduction to the Unit Detailed Estimate - data required, factors to be considered, methodology of preparation, abstract of Estimate, contingencies, labour charges, bill of quantities, different methods of estimate for interior design works, methods of measurement of works. Conclusion & Summary of the unit.	10
4	UNIT - 4 Introduction to Specification Introduction to the Unit Specification - Definition, purpose, principles, types of specifications, procedure for writing specification for the purpose of calling tenders, types of specification. Specification for different item related to interior design project - woodwork for furniture window frames & pelmets, partitions etc. also of materials like steel aluminum glass of various kind. Wall paneling & false ceiling of materials like aluminum, steel, wood, electrical, plumbing, air conditioning & firefighting equipment's, distempering and colour washing. Conclusion & Summary of the unit.	12
5	UNIT 5: Estimation and Costing Introduction to the Unit Project: Estimation of Interior design work for residential spaces. Conclusion & Summary of the unit.	08
	Total	48

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Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 10

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Course Objectives:

- To develop the understanding of textiles in reference to interior spaces.
- To understand use of textiles in interior spaces.
- To understand the construction of carpets and related interior products.
- The students should be able to make estimate of interior schemes

Reference Books:

- Estimation, Costing, Specification and Valuation in Civil engineering - M. Chakraborti
- Estimating and Costing
-Dutta
- Interior Design -Ahmed
A. Kasu
- Civil Estimating & Costing by Amarjit Agarwal and A. K. Upadhya.

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Website: <https://btu.ac.in>

Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 11

Dean Academics
Bikaner Technical University
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बीकानेर तकनीकी विश्वविद्यालय, बीकानेर
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SYLLABUS

V Semester

B.Design

SUBJECT: BODID504 COSTING

Credit : 02	Max. Marks: 100(IA: 60, ETE: 40)	
OL+OT+4P	End Term Exam: 2 Hours	
S.No.	Contents	Hours
1	UNIT 1: Introduction Cost: Meaning, Concept and Classification. Elements of Cost, Nature & Importance, Material Costing. Methods of Valuation of Material issue. Concept and material control and its techniques. Labor Costing, Methods of Wages payments.	17
2	UNIT 2: Unit Costing, Preparation of Cost Sheet and Statement of Cost (Including calculation of tender price) Overhead costing, (Including calculation of machine hour rate.)	7
3	UNIT3: Contract and Job costing, operating costing, Process Costing (Including Inter process profit and Reserve). Reconciliation of Cost and Financial Accounts.	8
4	UNIT 4: Marginal Costing- Profit - Volume Ratio, Break - Even Point, Margin of Safety, Application of Break-even Analysis. Cost Audit - Meaning, Importance and Techniques of Cost Audit, Cost Audit Programme.	16
	Total	48

Reference Books:

- Cost Accounting - Theory and Problems, Maheshwari, S.N and Mittal, S. N. (2009)
- Cost Accounting, Rajasekaran, (2010), 1st ed, Pearson Education.
- Cost Accounting Principles and Practice, Jain, I. C & Nigam, B.M.L
- Cost Accounting Text and Problems by M. C. Shukla, T. S .Grewal and M. P. Gupta - S Chand

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Karni Industrial Area, Pugal Road, Bikaner-334004
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Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 12

Dean Academics
Bikaner Technical University
Bikaner



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बीकानेर तकनीकी विश्वविद्यालय, बीकानेर
OFFICE OF THE DEAN ACADEMICS



SYLLABUS

V Semester

B. Design

SUBJECT: BODID505 BUILDING SERVICES – II


Credit : 03	Max. Marks: 150(IA: 90, ETE: 60)
OL+OT+6P	End Term Exam: 2 Hours

S.No.	Contents	Hours
1	UNIT- 1: Electrical Distribution Introduction to the Unit Lighting and vision, basic units, photometry and measurement. Effects of good lighting, considerations for good lighting, brightness, glare, contrast and diffusion. Economic issues of lighting. Importance of electrical distribution, Daylight - advantages, admitting daylight, controlling daylight - multiple glazing, orientation, window treatments, and potentials of day lighting as an energy resource. Artificial lighting - color characteristics of artificial lighting, integration of daylighting with artificial lighting, lighting controls, intelligent building systems for lighting, switches, dimmers. Types of electrical distribution systems, wiring system Conclusion & Summary of the unit.	24
2	UNIT- 2: Mains and Sub Distribution Introduction to the Unit Laws of illumination, switches and controls, general aspects of design of electrical domestic installations, power and light loads, MCB, MCCB, SFU,	12
3	UNIT- 3: Layout and Service System Introduction to the Unit Classification of voltages, Layout system for lighting, fans, telephones, Types of lighting. Lifts, pumps, air-conditioning system, computer systems, etc. pipe and plate Earthing, lighting protection in buildings.	12
4	UNIT- 4: Quality and quantity of different sources of light Introduction to the Unit Lighting, Design for lighting, Classification of lighting. Fixtures & Fittings available in the market. Daylight, incandescent, fluorescent, halogen, electric gas discharge High discharge, neon, cold cathode, mercury, sodium vapor etc. lighting levels, visual field. Survey of lamps available in the market with cost and technical specifications. Lamps and lighting fixtures - Floor, table and desk, wall mounted, ceiling units, built in lighting, miscellaneous types, decorative	24
	Total	72

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Website: <https://btu.ac.in>

Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 13


Dean Academics
Bikaner Technical University
Bikaner



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Course Objectives:

- To Study electrical services in building design
- Understand Building Management system and Automation.
- Describe various Sensors and Transducers - Automation components in BMS. Explain control panel and communication such as HVAC and Modbus.
- Describe FAS and Security Systems in Building Automation.
- Understand the Energy Management systems.

Reference Books:

- Principles of air conditioning and refrigeration -
- SL Gupte .Air conditioning engineering -W.P.Jones
- Designing with Light: The Art, Science and Practice of Architectural Lighting Design -Jason Livingston
- 21st Century Lighting Design - Alyn Griffiths
- The Codes Guidebook for Interiors, 7th Edition - Katherine E. Kennon, Sharon K. Harmon

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Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 14


Dean Academics
Bikaner Technical University
Bikaner



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SYLLABUS

V Semester

B. Design

SUBJECT: BODID506 COMPUTER APPLICATIONS-IV

Credit : 02	Max. Marks: 100(IA: 60, ETE: 40)
OL+OT+4P	End Term Exam: 2 Hours

S.No.	Contents	Hours
1	UNIT- 1: Google Sketch up Introduction to the Unit Toolbars Camera controls: Pan, Zoom, orbit Basic tools: Rectangle, Circle, Selection, pencil, push /pull, Groups, Components, Move, Rotate, Copy, Array, Polar array, Offset, Paint bucket SKP Modeling practice: Walls + floor, Windows, Doors, Frames, tables Openings Creating materials: Search online for materials, Create new material, Edit materials Scale, Rotate, Edit, Modeling practice, Chair, Shelves, Accessories Warehouse: Download models, Edit models, Groups vs components Project 1: Residential Interior Detailing phase: Tables, Counters, Rugs, Picture frames / posters, Light fixtures, Doors, Windows, Planters, Accessories Lighting phase: Lights and settings, Lighting with shades, Directional lights, Ambient lights, General lights, Accent lights Test renders: What we are looking for when we test render, Render phase, Fixing the lighting, Editing materials, V Ray material effects, Camera positioning, Render settings. Presentation phase: Views, Views in Sketch UP for use in Layouts, Set up layout, Image hierarchy, scale, Inserting renderings, Dimensions and labels, Title block, Presentation Tips Conclusion & Summary of the unit.	48
	Total	48

Course Objectives:

- Gain and understanding of Google SketchUp and introduce you to modeling terminology and concepts.
- Grasp and appreciation for viewing and presenting models in 3D to clients and design team members.

Suggested Reference Books:

- The SketchUp Workflow for Architecture: Modeling Buildings, Visualizing Design, and Creating Construction Documents with SketchUp Pro and LayOut – Michael Brightman

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Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 15

Dean Academics
Bikaner Technical University
Bikaner



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बीकानेर तकनीकी विश्वविद्यालय, बीकानेर
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- SketchUp to LayOut: The essential guide to creating construction documents with SketchUp Pro & LayOut - Matt Donley

SYLLABUS

V Semester

B. Design

SUBJECT: BODID507 WORKING DRAWING

Credit : 02	Max. Marks: 100(IA: 60, ETE: 40)	
OL+0T+4P	End Term Exam: 2 Hours	
S.No.	Contents	Hours
1	UNIT-I Furniture working details Introduction of unit Preparation of working drawing for furniture, Preparation of details to clarify constructional techniques and use of material.	6
2	UNIT-2: The basics of Furniture Construction and Tools Introduction of unit Preparation of measured and working drawing for small residential project designed by the students/ professionals, Preparation of details to clarify constructional techniques and use of material.	10
3	UNIT-3: Measured Drawing I Introduction of unit A detailed tour Programme should be prepared specifying the site of interior architectural interest to be visited within the city. A detail measured drawing of one famous building should be prepared as a Group work. A teacher must accompany the students and assign specific jobs of the measure drawing to a specific Group in a balanced way. Performance of each student shall be evaluated by his actual participation in the site of measured drawing, preparation of the final drawings and presentation.	16
4	UNIT-4: Measured Drawing II Introduction of unit A detailed tour Program should be prepared specifying the site of interior architectural interest to be visited in the country. A detail measured drawing of one famous building should be prepared as a Group work. A teacher must accompany the students and assign specific jobs of the measure drawing to a specific Group in a balanced way. Performance of each student shall be evaluated by his actual participation in the site of measured drawing, preparation of the final drawings and presentation.	16
	Total	48

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Website: <https://btu.ac.in>

Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 16

Dean Academics
Bikaner Technical University
Bikaner



BIKANER TECHNICAL UNIVERSITY, BIKANER

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Course Objectives:

- To understand Simple Interior Architectural nuances. To acquire skills for taking perfect measurements.
- To acquire skills for making detailed working drawings for the required and desired construction design.

Reference Books:

- Time-Saver Standards for Interior Design and Space Planning - by Joseph Dechiara, Julius Panero, Martin Zelnik
- The Interior Design Reference & Specification Book updated & revised: Everything Interior Designers Need to Know Every Day - by Chris Grimley (Author), Mimi Love (Author)
- Design Drawing - Francis D.K. Ching
- Construction Drawings and Details for Interiors: Basic Skills - by Rosemary Kilmer (Author), W. Otie Kilmer (Author)

Office: Bikaner Technical University, Bikaner
Karni Industrial Area, Pugal Road, Bikaner-334004
Website: <https://btu.ac.in>

Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 17


Dean Academics
Bikaner Technical University
Bikaner



BIKANER TECHNICAL UNIVERSITY, BIKANER

बीकानेर तकनीकी विश्वविद्यालय, बीकानेर

OFFICE OF THE DEAN ACADEMICS



SYLLABUS

V Semester

B. Design

SUBJECT: BODID508 CRAFTS IN INTERIOR DESIGN

S.No.	Contents	Hours
1	UNIT-I: Traditional Art and Craft Introduction of unit Describe different crafts. Describe different materials and explain use of different materials for textile craft. Introduction to the crafts of different countries. Conclusion and summary of the unit.	12
2	UNIT-2: Contemporary Art and Craft Introduction of unit. Describe different crafts. Describe different materials and explain use of different materials for textile craft. Explain techniques of art and craft, Use of different colours & patterns in craft. Different materials used for crafts like fibers, yarns and fabrics etc.) Conclusion and summary of the unit.	24
3	UNIT-3: Design Project I Craft design for Traditional Project Prepare crafts by using different patterns and colours. Combined Temporary and new techniques for crafts to create objects. New design development by combining traditional and modern concepts.) Conclusion and summary of the unit.	24
4	UNIT-4: Design Project II Create effects of different colour combinations on aesthetics of craft. (Create a variety of crafts according to their uses. Develop new designs for crafting objects. Combined Contemporary and new techniques for crafts to create objects. Craft design according to the Contemporary method. New design development by combining traditional and modern concepts.)	36
		96

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Karni Industrial Area, Pugal Road, Bikaner-334004
Website: <https://btu.ac.in>

Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 18


Dean Academics
Bikaner Technical University
Bikaner



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बीकानेर तकनीकी विश्वविद्यालय, बीकानेर
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Course Objectives:

To innovatively integrate Indian Crafts with contemporary design practice.

To be encouraged to develop an understanding of how the attitudes of designers, craftsmen, makers and end-users influence the appearance and function of design solutions.

To develop the understanding of craft in design in a variety of contexts - historical, cultural, economic, social and personal.

Reference Books:

- You can find inspiration in everything, if you can't, look again - Smith, P., et al. The Design Process - Aspelund. K.
- Fashion by Design - Ellinwood, J.G.
- Why Materials Matter: Responsible Design for a Better World - Seetal Solanki
- Handmade in India: A Geographic Encyclopedia of India Handicrafts - Aditi Ranjan and M. P. Ranjan
- Crafts of India: Handmade in India - Aditi Ranjan and M. P. Ranjan

Disclaimer: This subject largely focusses towards the practical application but will be initiated with conceptualization.

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Website: <https://btu.ac.in>

Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 19


Dean Academics
Bikaner Technical University
Bikaner



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बीकानेर तकनीकी विश्वविद्यालय, बीकानेर

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SYLLABUS
V Semester
B. Design
SUBJECT: BODID509 PROJECT III

Credit : 02	Max. Marks: 200 (IA: 120, ETE: 80)
OL+OT+8P	End Term Exam: 2 Hours

S.No.	Contents	Hours
1	Unit I: RESEARCH Selection of the theme for the design project Inspiration for your design, client's mood and choice and color board Category of garments, skills for design research Doodling and Explorations	16
2	Unit II: DEFINE Define the client's needs, target needs and market, client profile, product details, Material details. Introduction to skills of interaction, finally communication skills	14
3	Unit III: IDEATION Research on design based on target client and market, doodling, details on specifications, detailing of design, making collection of designs for the product. Skills required: Drawing, Sketching, Product Anatomy, Rendering, Detailing, Material Rendering, Product anthropology and ergonomics.	20
4	Unit IV: PROTOTYPE Development of sample of the product. Production methods, Machines involved, Steps of production, Quality standards, Costing estimation.	21
5	UNIT V: TEST Feedback on the product, methods of marketing and promotion.	25
	Total	96

Learning Outcomes:

- Observe, analyze, and apply the basic elements, principles and skills of visualization, presentation.
- Develop an understanding of three-dimensional representations and realization.
- Learn Illustration and rendering techniques.
- Present and communicate visually.

Office: Bikaner Technical University, Bikaner
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Website: <https://btu.ac.in>

Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 20


Dean Academics
Bikaner Technical University
Bikaner



BIKANER TECHNICAL UNIVERSITY, BIKANER

बीकानेर तकनीकी विश्वविद्यालय, बीकानेर
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SYLLABUS

VI Semester

B. Design

SUBJECT: BODID601 PROMOTION AND BRANDING

Credit : 02	Max. Marks: 100(IA: 20, ETE: 80)	
2L+0T+0P	End Term Exam: 2 Hours	
S.No.	Contents	Hours
1	UNIT-1 Introduction to Brand Management Meaning of Brand, Branding, Brand Management, Importance of Branding to Consumers, Firms, Brands v/s Products, Scope of Branding, Branding Challenges and Opportunities, Strategic Brand Management Process, Customer Based Brand Equity model (CBBE), Sources of Brand Equity, Steps of Brand Building including Brand Building Blocks, Brand Positioning: Meaning, Importance, Basis	4
2	UNIT-2 Planning and Implementing Brand Marketing Programs Brand Elements: Meaning, Criteria for choosing Brand Elements, Types of Brand Elements Integrating Marketing Programs and Activities Personalizing Marketing: Experiential Marketing, One to One Marketing, Permission Marketing Product Strategy: Perceived Quality and Relationship Marketing Pricing Strategy: Setting Prices to Build Brand Equity Channel Strategy: Direct, Indirect Channels Promotion Strategy: Developing Integrated Marketing Communication Programs Leveraging Secondary Brand Associations to Build Brand Equity: Companies, Countries, Channel of Distribution, Co-branding, Characters, Events.	7

Office: Bikaner Technical University, Bikaner
Karni Industrial Area, Pugal Road, Bikaner-334004
Website: <https://btu.ac.in>

Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 21


Dean Academics
Bikaner Technical University
Bikaner



BIKANER TECHNICAL UNIVERSITY, BIKANER

बीकानेर तकनीकी विश्वविद्यालय, बीकानेर
OFFICE OF THE DEAN ACADEMICS



3	UNIT-3 Measuring and Interpreting Brand Performance The Brand Value Chain a) Measuring Sources of Brand Equity: Qualitative Research Techniques: Projective Techniques: Completion, Comparison, Brand Personality and Values: The Big Five, Free Association Quantitative Research Techniques: Brand Awareness: Recognition, Recall, Brand Image, Brand Responses b) Young and Rubicam's Brand Asset Valuator c) Measuring Outcomes of Brand Equity Comparative Methods: Brand based Comparative Approaches, Marketing Based Comparative	8
	UNIT-4: Growing and Sustaining Brand Equity a) Designing & Implementing Branding Strategies: Brand Architecture: Meaning of Brand Architecture, The Brand-Product Matri, Breadth of a Branding Strategy, Depth of a Branding Strategy Brand Hierarchy: Meaning of Brand Hierarchy, Building Equity at Different Hierarchy Levels Cause Marketing to Build Brand Equity: Meaning of Cause Marketing, □	5
	Total	24

Reference books:

- Keller Kevin Lane, Strategic Brand Management: Building, Measuring and Managing Brand Equity
- Keller Kevin Lane, Strategic Brand Management-2008
- Elliot, Richard, Strategic Brand Management 2008
- Kapferer, Jean-Noel, Strategic Brand Management-2000
- Kishen, Ram, Strategic Brand Management 2013
- Keller Kevin Lane, Strategic Brand Management 4e-2015

Office: Bikaner Technical University, Bikaner
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Website: <https://btu.ac.in>



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OFFICE OF THE DEAN ACADEMICS



SYLLABUS

VI Semester

B. Design

SUBJECT: BODID602 E-COMMERCE

Credit : 02	Max. Marks: 100(IA: 20, ETE: 80)	
2L+0T+0P	End Term Exam: 2 Hours	
S.No.	Contents	Hours
1	Unit-I: Internet Concepts & Technologies - Concept & evolution of internet; Web technologies - global publishing concept, hypertext, URLs, HTTP, HTTPD, Servers, HTML, HTML Forms & CGI gateway services.	6
2	UNIT - II: Web - site Design: Role of web - site in B2C e-commerce; website strategies & web-site design principles; push & pull technologies, alternative methods of customer communication.	5
3	UNIT - III: Multi - Media & E-commerce; push & pull technologies, alternative methods of customer communication.	4
4	UNIT - IV: Electronic Payment System: Special features required in payment system for e-commerce; Types of e-payment System; E-cash & currency servers, e-cheques, credit cards, smart cards, electronic purses & debit cards	5
5	UNIT - V: Security Issues in E-Commerce: Security risks of e-commerce, exposure of resources, type of threats, sources of threats, security tools & risk - management approach	4
	Total	24

Course Objectives:

This course focuses on principles of e-commerce from a business perspective, providing an overview of business and technology topics, business models, virtual value chains and social innovation and marketing strategies.

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Website: <https://btu.ac.in>

Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 23


Dean Academics
Bikaner Technical University
Bikaner



Reference Books:

- Joseph, P.T. (2005). E-COMMERCE AN INDIAN PERSPECTIVE (2e), New Delhi Prentice-Hall of India
- Kaspersky, (2008). THE CYBERCRIME ECOSYSTEM WHITEPAPER, Kaspersky Lab
- O'Brien, J. (2004). MANAGEMENT INFORMATION SYSTEMS MANAGING

INFORMATION TECHNOLOGY IN THE BUSINESS ENTERPRISE, New Delhi Tata mcgraw- Hill.

- Rayport, J. F. & Jaworski, B. J. (2002). INTRODUCTION TO E-COMMERCE, New York mcgraw-Hill Irwin.
- Stair, R. M. & Reynolds, G. W. (2001). PRINCIPLES OF INFORMATION SYSTEMS, 5e, Singapore Thomson Learning.



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SYLLABUS

VI Semester

B. Design

SUBJECT: BODID603 ESTIMATION, COSTING AND PROFESSIONAL PRACTICE

Credit : 02	Max. Marks: 100(IA: 20, ETE: 80)	
2L+0T+0P	End Term Exam: 2 Hours	
S.No.	Contents	Hours
1	UNIT-1 Estimation and Costing Introduction of unit- Purpose of estimating and valuation, Types of estimates. Estimation of Interior design work for residential and commercial spaces. Conclusion and summary of unit.	03
2	UNIT-2 Entrepreneurial Business Environment Introduction to Entrepreneurship: Entrepreneur and Entrepreneurship - Entrepreneurship as a Career - Roles and Functions of an Entrepreneur - Innovation, Risk and Uncertainty - An Imitating Entrepreneur - Small Business - Types - Role, Problems and Challenges of a Small Business - Entrepreneurial Competencies, Motivation, Performance and Rewards. Constitutional Support and Framework for Entrepreneurship. Production, Quality and Growth, Quality Control and Productivity - Growth Strategies for Entrepreneurs, Basics of Bookkeeping. Conclusion and summary of unit.	09
3	UNIT-3 Professional Practice in Interior Design Introduction to the Unit Role of an Interior Designer Issues of Professional Practice - Professional behavior, Ethics, Types of clients, Contracts, Tenders, Arbitration etc. as defined in terms of Interior Design field and current day context. Responsibilities of an Interior Designer- Drawings to be prepared: Interior Designer's relation with other parties connected with works such as client, contractor, sub-contractors, consultants and authorities. Types of Offices - Types of offices for interior design practice: staff structure, filing of records, correspondence and drawings, maintenance of accounts, presentations in meetings, recording minutes of meeting. IIID- Details about the institute for Indian Interior Designer's Conclusion & Summary of the unit.	12
	Total	24

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Karni Industrial Area, Pugal Road, Bikaner-334004
Website: <https://btu.ac.in>

Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 25

Dean Academics
Bikaner Technical University
Bikaner



BIKANER TECHNICAL UNIVERSITY, BIKANER

बीकानेर तकनीकी विश्वविद्यालय, बीकानेर
OFFICE OF THE DEAN ACADEMICS



Course Objectives:

- To understand the importance of materials used in interior spaces.
- To understand the characteristics of the materials being used in the interior design industry.
- It also includes the understanding of basic building materials in Interior spaces.
- To introduce the students in depth knowledge of professional practice as well the quantity analysis of construction works like, multi-storied structures, Water works & sanitary works, Irrigation works, Road estimates, culverts, etc.

Reference Books:

- Engineering Materials -
S.C.Rangwala
- Building Materials - P.C.
Uarghese
- Building Materials - S.K.
Duggal
- Green Building Materials
SPIEGE
- Aggarwal, A., Upadhyay, A.K., Civil Estimating, Costing & Valuation, S.K. Kataria & Sons, New Delhi.
- Chandola, S.P. and Vazirani, Estimating and Costing, Khanna Publication.

Office: Bikaner Technical University, Bikaner
Karni Industrial Area, Pugal Road, Bikaner-334004
Website: <https://btu.ac.in>

Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 26


Dean Academics
Bikaner Technical University
Bikaner



BIKANER TECHNICAL UNIVERSITY, BIKANER

बीकानेर तकनीकी विश्वविद्यालय, बीकानेर

OFFICE OF THE DEAN ACADEMICS



SYLLABUS

VI Semester

B. Design

SUBJECT: BODID604 BUILDING SERVICES - III

Credit : 03	Max. Marks: 150(IA: 90, ETE: 60)
0L+0T+6P	End Term Exam: 2 Hours

S.No.	Contents	Hours
1	UNIT-1: Lifts Minimum standards of grouping of lifts, Return time and travel time, Installation requirement Conclusion & Summary of the unit.	10
2	UNIT-2 Escalators Introduction of unit Minimum standards of grouping of escalators, Return time and travel time, Installation requirement. Conclusion and summary of unit.	12
3	UNIT-3 Service design project I Introduction of unit Service design for residential project Conclusion and summary of unit.	24
4	UNIT-3 Service design project II Introduction of unit Service design for Commercial project Conclusion and summary of unit.	26
	Total	72

Course Objectives:

- To analyze current philosophy, technology, terminology, and practices used in building services.
- To understand vertical transport design.
- To understand the application of service design in interior projects with respect to residential and commercial spaces.
- Develop basic & functional understanding of various kinds of provisions of air conditioning system and movement facilities like ramps, lifts and escalators

Disclaimer: This subject largely focusses towards the practical application but will be initiated with conceptualization.

Office: Bikaner Technical University, Bikaner
Karni Industrial Area, Pugal Road, Bikaner-334004
Website: <https://btu.ac.in>

Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 27


Dean Academics
Bikaner Technical University
Bikaner



Suggested Reference Books:

- Residential Interior Design: A Guide to Planning Spaces - by Maureen Mitton, Courtney Nystuen
- Smart Buildings by Jim Sinopoli, Butterworth-Heinemann imprint of Elsevier, 2nd ed., 2010.
- Understanding Building Automation Systems (Direct Digital Control, Energy Management, Life Safety, Security, Access Control, Lighting, Building Management Programs) by Reinhold A. Carlson, Robert A. Di Giandomenico, pub. By R.S. Means Company, 1991? • Intelligent Building Systems by Albert Ting-Pat So, WaiLok Chan, Kluwer Academic publisher, 3rd ed., 2012.
- Design of Special Hazards and Fire Alarm Systems by Robert Gagnon, Thomson Delmar Learning; 2nd edition, 2007.
- Elevator design book. - Elevator Technology
- The Architect Elevator — Visiting the upper floors - Gregor Hohpe
- Handbook of Staircases, Elevators, Escalators and Moving Walkways - Bangash M. Y. H.
- Lifts, Elevators, Escalators and Moving Walkways/Travelators - M.Y.H.Bangash
- Building Services and Equipment, Frederick E. Hall, Longman Scientific and Technical



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OFFICE OF THE DEAN ACADEMICS



SYLLABUS

VI Semester

B. Design

SUBJECT: BODID605 COMPUTER APPLICATIONS - V

Credit : 02	Max. Marks: 100(IA: 60, ETE: 40)	
OL+OT+4P	End Term Exam: 2 Hours	
S.N o.	Contents	Hour s
1	UNIT-I Integrated Computer Application Introduction to the Unit To create a design project using Auto CAD, 3DS MAX, Google Sketch up and V Ray and other rendering tools. Conclusion & Summary of the unit.	48
	Total	48

Course Objectives:

- To develop the understanding of software and their application in Interior design.

References:

- Eismann, Katrin, Photoshop Retouching Techniques, Simmon - Steve publisher, Adobe Photoshop CS6,
- Classroom in a book, Dorling Kingslay Pub, 2013, E BOOKS
- http://help.adobe.com/archive/en/photoshop/cs6/photoshop_reference.pdf
- <http://www.mypracticalskills.com/store/photoshop-for-fashion-ebook/> MOOC
- <https://www.mooc-list.com/course/learn-designing-using-adobephotoshop-scratch-eduonix>

Office: Bikaner Technical University, Bikaner
Karni Industrial Area, Pugal Road, Bikaner-334004
Website: <https://btu.ac.in>

Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 29


Dean Academics
Bikaner Technical University
Bikaner



BIKANER TECHNICAL UNIVERSITY, BIKANER

बीकानेर तकनीकी विश्वविद्यालय, बीकानेर
OFFICE OF THE DEAN ACADEMICS



SYLLABUS
VI Semester
B. Design
SUBJECT: BODID606 INTERIOR LANDSCAPE DESIGN

Credit : 03	Max. Marks: 150(IA: 90, ETE: 60)
OL+OT+6P	End Term Exam: 2 Hours

S.No.	Contents	Hours
1	UNIT- 1: Interior Landscape Introduction to the Unit Definition, classification of plants, indoor plants and their functions, layout & components, Floriculture - commercial, ornamental, Selection of plants & pest control. Conclusion & Summary of the unit.	12
2	UNIT- 2: Physical Requirements of Plants Introduction to the Unit Physical requirements of plants - light, temperature, water, planting medium, soil separator, weight of plants, acclimatization & maintenance. Techniques to meet physical requirements. Conclusion & Summary of the unit.	13
3	UNIT- 3: Interior Landscaping Elements and Principles Introduction to the Unit Various interior landscaping elements - water bodies - pools, fountains, cascades, Plants, rocks, artifacts, paving & lighting, Design guidelines- plant texture & colour, plant height, plant spacing. Conclusion & Summary of the unit.	14
4	UNIT- 4: Visual and Non Visual Components Introduction to the Unit Understanding the visual (color, form, texture) / non-visual (smell, touch, sound) attributes of these elements and their usage and application in design. Integration of indoor and Outdoor spaces. History of Landscape Architecture: To study of various principles and philosophies of landscape design throughout the world from ancient to contemporary times. Conclusion & Summary of the unit.	15

Office: Bikaner Technical University, Bikaner
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Website: <https://btu.ac.in>

Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 30


Dean Academics
Bikaner Technical University
Bikaner



BIKANER TECHNICAL UNIVERSITY, BIKANER

बीकानेर तकनीकी विश्वविद्यालय, बीकानेर

OFFICE OF THE DEAN ACADEMICS



5	UNIT-5: Design Project Implementation of Landscape in design through a design project. Conclusion & Summary of the unit.	18
	Total	72

Course Objectives:

- To introduce landscape design and its significance in interior architecture and architecture.
- To give an understanding of the process of landscape design. This includes the basic principles of planting design including how to design and define a space using landscape elements.
- Develop a campus landscape which minimizes water use, protects the adjacent national park environment, enhances biodiversity, creates habitat for indigenous fauna, utilizes indigenous flora and minimizes energy and non-renewable resource use.
- To blend man's technology (house or building) into the natural surroundings.
- To understand the application of technical understanding of landscape design.

Reference Books:

- Time saver standards for landscape architecture
- Planting design - Theodore D. Walker
- Landscaping Principles and Practices - Jack E. Ingels
- Time Saver Standards for Landscape Architecture
- RHS Encyclopedia of Garden Design: Planning, Building and Planting Your Perfect Outdoor Space
- The Essential Garden Design Workbook - Rosemary Alexander
- Bookes, J. Small Garden: Brilliant Ideas for Small Spaces. Dorling Kindersley. 2005. ASIN: B0012NW2EG

Office: Bikaner Technical University, Bikaner
Karni Industrial Area, Pugal Road, Bikaner-334004
Website: <https://btu.ac.in>

Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 31

Dean Academics
Bikaner Technical University
Bikaner



BIKANER TECHNICAL UNIVERSITY, BIKANER

बीकानेर तकनीकी विश्वविद्यालय, बीकानेर

OFFICE OF THE DEAN ACADEMICS



SYLLABUS

VI Semester

B. Design

Subject: BODID607 DESIGN FOR SPECIALLY ABLED

Credit : 02	Max. Marks: 100(IA: 60, ETE: 40)	
OL+OT+4P	End Term Exam: 2 Hours	
S.No.	Contents	Hours
1	UNIT-I Introduction to human function and types of disabilities Introduction of unit -Human being in the manmade world and importance of ergonomics, Gross human anatomy, Ergonomics for children at workplace old people. Conclusion and summary of unit.	04
2	UNIT-2: Applied ergonomics for specially abled Introduction of unit Introduction to Anthropometrics, static and dynamic anthropometrics, Muscles and work physiology, Static and Dynamic work including maximum capacity. Conclusion and summary of unit.	14
3	UNIT-3: Inclusive Design Introduction of unit Built environment for the physically handicapped, Ramp, toilets and corridor design, Spatial Requirements for wheel chair Movement- Design issues in the design of old age homes, Criteria to be considered when designing for the visually impaired. Conclusion and summary of unit.	14
4	UNIT-4: Lighting Design for especially abled Introduction of unit Understanding the needs of especially abled, understanding the application of illumination for the same in residential as well as commercial spaces. Conclusion and summary of unit.	04

Office: Bikaner Technical University, Bikaner
Karni Industrial Area, Pugal Road, Bikaner-334004
Website: <https://btu.ac.in>

Approved by 7th AC Meeting held on 1st Nov. 2021

Page | 32


Dean Academics
Bikaner Technical University
Bikaner



BIKANER TECHNICAL UNIVERSITY, BIKANER

बीकानेर तकनीकी विश्वविद्यालय, बीकानेर

OFFICE OF THE DEAN ACADEMICS



5	UNIT-5: Design Project The students to incorporate design for especially abled in the semester design project. All the provisions need to be taken in consideration.	12
	Total	48

Course Objectives:

- The subject looks at barrier free design principles and concepts of universal design
- Barrier free design principles in urban design
- Provides an idea about barrier free construction principles in interior spaces

Reference Books:

- Time-Saver Standards for Interior Design and Space Planning - by Joseph Dechiara, Julius Panero, Martin Zelnik
- The Interior Design Reference & Specification Book updated & revised: Everything Interior Designers Need to Know Every Day - by Chris Grimley (Author), Mimi Love (Author)
- Design Drawing - Francis D.K. Ching
- Construction Drawings and Details for Interiors: Basic Skills - by Rosemary Kilmer (Author), W. Otie Kilmer (Author)
- Guidelines and Space Standards for Barrier Free Built Environment for Disabled and Elderly Persons - Central Public Works Department, Ministry of Urban Affairs & Employment, India, 1998
- Barrier-Free Design: Principles Planning, Examples, by Oliver Heiss, Christine Degenhardt, Johann Ebe (Birkhauser Architecture, 2010)
- IS - 4963 (1987), Recommendations for buildings and facilities for Physically Handicapped

Office: Bikaner Technical University, Bikaner
Karni Industrial Area, Pugal Road, Bikaner-334004
Website: <https://btu.ac.in>

Approved by 7th AC Meeting held on 1st Nov. 2021

Page 33
Dean Academics
Bikaner Technical University
Bikaner



SYLLABUS
VI Semester
B. Design
Subject: BODID608 Project IV

Credit : 04		Max. Marks: 150(IA: 120, ETE: 80)
OL+OT+8P		End Term Exam: 2 Hours
S.No.	Contents	Hours
1	Unit I: RESEARCH Selection of the theme for the design project Inspiration for your design, client's mood and choice and color board Category of garments, skills for design research Doodling and	16
2	Explorations Unit II: DEFINE Define the client's needs, target needs and market, client profile, product details, material details. Introduction to skills of interaction, finally communication skills	14
3	Unit III: IDEATION Research on design based on target client and market, doodling, details on specifications, detailing of design, making collection of designs for the product. Skills required: Drawing, Sketching, Product Anatomy, Rendering, Detailing, Material Rendering, Product anthropology and	20
4	Unit IV: PROTOTYPE Development of sample of the product. Production methods, Machines involved, Steps of production, Quality standards, Costing estimation.	21
5	UNIT V: TEST Feedback on the product, methods of marketing and promotion.	25
		Total 96

Learning Outcomes:

Observe, analyze, and apply the basic elements, principles and skills of visualization, presentation.

- Develop an understanding of three-dimensional representations and realization.
- Learn Illustration and rendering techniques.
- Present and communicate visually.