ANNA UNIVERSITY, CHENNAI

UNDERGRADUATE CURRICULUM (NON-AUTONOMOUS AFFILIATED INSTITUTIONS)

Programme: B. Des. **Regulations:** 2025

Abbreviations:

Category

PC – Professional Core

PE – Professional Elective

BS & AE – Basic Sciences & Applied Engineering

PAE – Professional Ability Enhancement

SD – Skill Development

SL – Self Learning

HUM – Humanities (including Languages and others)

Course Type

S - Studio

T – Theory

TS – Theory cum Studio

IT – Internship Training

LIT – Laboratory Integrated Theory

TCP – Total Contact Period(s)

L – Lecture **P –** Practical

T – Tutorials **S** - Studio

PROGRAMME BASED OBJECTIVES

I. Become a competent design professional who can provide creative and user-centred design solutions addressing the needs of individuals and society.

II. Find gainful employment in design firms/ creative industries/ related sectors and contribute effectively through design thinking, technical skills, and informed decision-making**.**

III. Be a part of organisations that influence design innovation, sustainability, and societal development, contributing to positive changes in the built environment.

IV. Contribute to the discipline of design through higher studies, research, and continuous professional development**,** advancing knowledge and practice.

V. Become a thinker and entrepreneur who can lead creative initiatives, explore new design possibilities, and deliver impactful products and spaces in an interconnected world.

PROGRAM OUTCOMES (PO)

1. **Design Knowledge:** Apply knowledge of design principles, history, materials, and spatial systems to solve design problems.
2. **Problem Analysis:** Identify, analyse, and define user needs, spatial challenges, and design constraints using research methods.
3. **Design Development:** Create innovative and functional design solutions integrating aesthetics, usability, and context.
4. **Investigation & Research:** Conduct research, case studies, and data analysis to inform design decisions.

5. **Modern Tools Usage:** Use digital tools (CAD, modelling, rendering, simulation) effectively for design development and presentation.
6. **Professional Practice:** Apply knowledge of project management, costing, ethics, and legal aspects in professional practice.
7. **Environment & Sustainability:** Design with environmental sensitivity, sustainable materials, and energy-conscious approaches.
8. **Ethics:** Understand and apply professional ethics and responsibilities in design practice.
9. **Individual & Team Work:** Work effectively individually and in multidisciplinary teams.
10. **Communication:** Communicate effectively through drawings, models, presentations, and documentation.
11. **Project Management:** Demonstrate skills in planning, execution, and management of design projects.
12. **Lifelong Learning:** Recognize the need for and engage in continuous learning and professional development.

Semester – I							
S. No.	**Course Code**	**Course Name**	**Course Type**	**Periods / Week**		**Credits**	**Category**
				L-T- P/S	**TCP**		
1.	BS25101	Design Appreciation through History I	T	3-0-0	3	3	PC
2.	BS25102	Principles of Design	T	3-0-0	3	3	PC
3.	AR25C01	Introduction to Language and English Skills	T	3-0-0	3	3	HUM
4.	UC25H01	தமிழர் மரபு **/** Heritage of Tamils	T	1-0-0	1	1	HUM
5.	BS25103	Visual Arts and Crafts - I	TS	1-0-4	5	3	PC
6.	BS25104	Geometrical Drawing I	TS	1-0-4	5	3	PC
7.	BS25105	Studio I - Basic Design Studio	S	0-0-10	10	5	PC
				Total	**30**	**21**	

Semester – II							
S. No.	**Course Code**	**Course Name**	**Course Type**	**Periods / Week**		**Credits**	**Category**
				L-T- P/S	**TCP**		
1.	BS25201	Design Appreciation through History II	T	3-0-0	3	3	PC
2.	BS25202	Ergonomics - Fundamentals and Advanced	T	3-0-0	3	3	PAE
3.	UC25H02	தமிழர்களும் தொழில்நுட்பமும் **/** Tamils and Technology	T	1-0-0	1	1	HUM
4.	BS25203	Visual Arts and Crafts - II	TS	1-0-4	5	3	PC
5.	BS25204	Geometrical Drawing II	TS	1-0-4	5	3	PC
6.	BS25205	Computer Modelling and Simulation Techniques - I	TS	1-0-4	5	3	PC
7.	BS25206	Studio II - Foundation Design Studio	S	0-0-10	10	5	PC
8.		NCC/NSS/NCC/YRC Credit Course Level 1*	-	-	-	-	-
				Total	**32**	**21**	

Semester – III							
S. No.	**Course Code**	**Course Name**	**Course Type**	**Periods / Week**		**Credits**	**Category**
				L-T- P/S	**TCP**		
1.	BS25301	Applied Science for Interior Environments	T	3-0-0	3	3	BS & AE
2.	BS25302	Product Form Design	T	3-0-0	3	3	PC
3.	BS25303	Materials and Manufacturing I	T	3-0-0	3	3	BS & AE
4.	BS25304	Digital illustrations	TS	1-0-4	5	3	PAE
5.		Industry Oriented Course I	-	X-X-X	-	1	SD
6.	BS25305	Computer Modelling and Simulation Techniques II	S	0-0-6	6	3	PC
7.	BS25306	Studio III - Interior Space Design Studio	S	0-0-10	10	5	PC
				Total	**30**	**21**	

Semester – IV							
S. No.	**Course Code**	**Course Name**	**Course Type**	**Periods / Week**		**Credits**	**Category**
				L-T- P/S	**TCP**		
1.	BS25401	Professional Ethics and Law	T	3-0-0	3	3	PAE
2.	BS25402	Interior landscape design	T	3-0-0	3	3	PC
3.	BS25403	Interior Services I	T	3-0-0	3	3	BS & AE
4.	BS25404	Materials and Manufacturing II	T	3-0-0	3	3	BS & AE
5.	BS25405	Design Detailing I	TS	1-0-4	5	3	PAE
6.	BS25406	Studio IV - Design Studio I	S	0-0-12	12	6	PC
7.	BS25407	Internship Training I*	-	X-X-X	-	3	PAE
				Total	**29**	**24**	

* Summer Internship Training during May/June - Focus on industry experience in an organization /office engaged in Interior Design and approved by the Department

Semester – V							
S. No.	**Course Code**	**Course Name**	**Course Type**	**Periods / Week**		**Credits**	**Category**
				L-T- P/S	**TCP**		
1.		Estimation, Costing & Economics	T	3-0-0	3	3	PC
2.		Professional Elective I	T	3-0-0	3	3	PE
3.		Design Detailing II	T	1-0-4	5	3	PAE
4.		Interior Services II	T	1-0-4	5	3	BS & AE
5.		Digital Fabrication	S	0-0-6	6	3	PAE
6.		Studio V - Design Studio II	S	0-0-12	12	6	PC
				Total	**34**	**21**	

Semester – VI							
S. No.	**Course Code**	**Course Name**	**Course Type**	**Periods / Week**		**Credits**	**Category**
				L-T- P/S	**TCP**		
1.		Professional Management I	T	3-0-0	3	3	PC
2.		Textile in Interior Design	T	3-0-0	3	3	BS & AE
3.		Ceramic Products and Design	T	3-0-0	3	3	PC
4.		Professional Elective II	T	3-0-0	3	3	PE
5.		Industry Oriented Course 1	-	X-X-X	-	1	SD
6.		Integrated Design Seminar	S	0-0-4	4	2	PAE
7.		Studio VI - Design Studio III	S	0-0-12	12	6	PC
8.		Internship Training II*	-	X-X-X	-	3	**PAE**
				Total	**28**	**24**	

* Summer Internship Training during May/June - Focus on industry experience in an organization /office engaged in Interior Design and approved by the Department

Semester – VII							
S. No.	**Course Code**	**Course Name**	**Course Type**	**Periods / Week**		**Credits**	**Category**
				L-T- P/S	**TCP**		
1.		Professional Management II	T	3-0-0	3	3	PC
2.		Public Design Research	T	3-0-0	3	3	PAE
3.		Professional Elective III	T	3-0-0	3	3	PE
4.		Professional Elective IV	T	3-0-0	3	3	PE
5.		Dissertation	S	0-0-6	6	3	PAE
6.		Studio VII - Packaging and Printing Design Studio	S	0-0-12	12	6	PC
				Total	**30**	**21**	

Semester – VIII							
S. No.	**Course Code**	**Course Name**	**Course Type**	**Periods / Week**		**Credits**	**Category**
				L-T- P/S	**TCP**		
1.		Professional Elective V	T	3-0-0	3	3	PE
2.		Professional Elective VI	T	3-0-0	3	3	PE
3.		Project	S	0-0-20	20	10	PC
				Total	**26**	**16**	

Total Credits:169

Professional Elective Courses

S. No.	Course Code	Course Title	Category	Periods Per Week			Total Contact Periods	Credits
				L	T	P/S		
Professional Elective I								
1.		Visual tools and Typographic Form	PEC	3	0	0	3	3
2.		Communication Theories, Visual Perception and Semiotics	PEC	3	0	0	3	3
3.		Environmental Science	PEC	3	0	0	3	3
Professional Elective II								
1.		Craft documentation	PEC	3	0	0	3	3
2.		Design,Media and technology	PEC	3	0	0	3	3
3.		Digital Portfolio development	PEC	3	0	0	3	3
Professional Elective III								
1.		Lighting design	PEC	3	0	0	3	3
2.		Beyond the Box: Introduction to Packaging Design	PEC	3	0	0	3	3
3.		Printing Design and technology	PEC	3	0	0	3	3
Professional Elective IV								
1.		Advertising Design	PEC	3	0	0	3	3
2.		Introduction to accessibility & inclusivity design	PEC	3	0	0	3	3
3.		Brand Identity design	PEC	3	0	0	3	3
Professional Elective V								
1.		Visual Grammar for Diversity: Social design	PEC	3	0	0	3	3
2.		AI in Interior Design	PEC	3	0	0	3	3
3.		Emerging design technology-AR/VR /Immersive experiences	PEC	3	0	0	3	3
Professional Elective VI								
1.		Indian Symbology and Knowledge	PEC	3	0	0	3	3
2.		Fundamentals of User Experience Design	PEC	3	0	0	3	3
3.		Cultural forms	PEC	3	0	0	3	3

Semester I

BS25101	Design Appreciation through History – I	L	T	P/S	C
		3	0	0	3

Course Objectives:

- To understand the origins and development of design and art in prehistoric and early civilizations.
- To explore the evolution of design and art in classical Greek and Roman civilizations. To examine classical design techniques and their influence on subsequent art and design movements.
- To examine the evolution of Christian and Islamic art and design from the early to Baroque periods.
- To explore the impact of the Industrial Revolution on art, design, and production.
- To investigate the characteristics of Colonial and Victorian design and their historical context.

Evolution of Design: From Prehistoric Times to River Valley Civilizations: Design and Art in the Prehistoric Era - Early tools and their design, Pottery as both a practical object and an art form, cave paintings and carvings. Art and Design in River Valley Civilizations- Sumerian Civilization- cylinder seals, relief sculptures, jewellery, and innovations in cuneiform writing, temple art and votive offerings. Ancient Egypt- amulets, scarabs, and wall art.

9 Periods

Design in Classical Civilizations: Evolution of Greek art- sculpture, pottery, and frescoes-key artists and design techniques, the use of proportion and idealization in sculpture. Design and layout of Greek domestic spaces (Oikos) - frescoes, mosaics, and decorative elements. Common Greek furniture styles (klismos chairs, couches); materials used and craftsmanship; the role of furniture in daily life.

Roman contributions to art - advancements in sculpture, painting, and mosaics- realism in portraiture, and historical reliefs. Interior design features, such as frescoes, mosaics, wainscots, and the integration of decorative arts; use of colour and design in domestic settings. Common Greek furniture styles (klismos chairs, couches); materials used and craftsmanship; the role of furniture in daily life.

9 Periods

Design and Symbolism - Christianity and Islam: Christianity through early Christian - Medieval - Renaissance and Baroque period. Major symbols in Christian art-symbols used in painting, sculpture, and stained glass. The use of design elements -colour, light, and space in Christian art and decoration. Symbolic elements in altars, frescoes, and mosaics.

Islamic Design and Symbolism- Calligraphy, geometric patterns, arabesques used in painting, architecture, and decorative arts- symmetry and abstraction in Islamic art - decorative tiles (zellij), and textiles.

9 Periods

Impact of the Industrial Revolution on Design: Examination of Realism, Impressionism in art – Innovations in materials - mass-produced furnishings and new

materials- Evolution of decorative arts including textiles and ceramics-Study of influential designers -and their contributions to design.

9 Periods

Evolution of Colonial and Victorian Design: Key features of Colonial architecture - symmetrical facades, use of local materials, simple forms - Typical Colonial interior design elements - furniture, textiles, colour schemes - influence of European styles and local adaptations.

Features of Victorian design - ornate details, use of new materials, eclectic styles - elaborate furniture, wallpaper patterns, colour schemes - influence of technological advancements on design**.**

9 Periods

Total: 45 Periods

Weightage: Continuous Internal Assessment: 40%, End Semester Examinations: 60%.

Assessment Methodology: Two Assessments with equal weightage.

One Assessment as Internal written Test /Examination (50%), second as Assignment (50%) of any mode such as study, seminar, and or a combination of modes, etc.

Required Reading:

1. "The Art of Prehistoric Man" by H. L. Schaffer.
2. "The Art of Ancient Egypt" by Gay Robins.
3. “Greek Art and Architecture" by John Griffiths Pedley.
4. "Roman Art" by Nancy H. Ramage and Andrew Ramage.
5. “Signs and Symbols in Christian Art” by George Ferguson.
6. "Islamic Art and Architecture: An Introduction" by Robert Hillenbrand.
7. “A Companion to Renaissance and Baroque Art” by Babette Bohn.
8. "Victorian Design and Decoration" by Barbara Ann McLaughlin.
9. "The Industrial Revolution and British Society" by Patrick O'Brien.
10. "Colonial Architecture and Interiors: The British Tradition" by David Watkin

References:

1. The Story of Art" by E.H. Gombrich.
2. "Ancient Near Eastern Art" by Henri Frankfort.
3. "The Art of Ancient Greece" by Nigel Spivey.
4. "Daily Life in Ancient Rome" by Jérôme Carcopino.
5. “A Complete Guide to Christian Symbols” by Riojas, Edward.
6. "The Art and Architecture of Islam 1250–1800" by Sheila Blair and Jonathan Bloom.
7. "Victorian Interior Decoration: American Interiors 1830-1900" by Annette Stott.
8. "The Colonial Revival House" by Richard Guy Wilson.

E – Resources:

1. NPTEL course – Introduction to Architecture - https://onlinecourses.nptel.ac.in/noc23_ar01/preview
2. NPTEL course - Modern Indian Architecture - https://onlinecourses.nptel.ac.in/noc25_ar15/preview

3. Gabriela Goldschmidt, ‘Critical Design and Design Thinking vs. critical design and design thinking’, in *Different Perspectives in Design Thinking*, CRC Press, 2022.
4. Samuel B. Frank, ‘Modern Architecture since 1900, Modern Architecture and Design: An Alternative History’

	Description of CO	**PO1**	**PO2**	**PO4**
CO1	Gain basic understanding of early art and design. Develop knowledge of prehistoric and ancient civilizations. Build the ability to recognize key forms like tools, pottery, and cave art.	1	1	1
CO2	Develop familiarity with classical, Christian, and Islamic art and Gain an overall understanding of their styles and symbols.	1	2	2
CO3	Build awareness of the Industrial Revolution and later design periods.	2	2	3
CO4	Recognize the features of Colonial and Victorian design styles.	2	2	2
CO5	Understand how society, religion, and technology influenced art and design.	3	2	2

BS25102	Principles of Design	L	T	P/S	C
		3	0	0	3

Course Objectives:

- To introduce students to the fundamental elements and principles of design.
- To understand the cultural influences on the interpretation and evolution of form.
- To explore basic geometric shapes and their applications in design.
- To analyse form and space in design.

Introduction to Elements and Principles of Design: Primary elements of Design – line, shape, form, colour, tone, texture and space– Geometry in Design - texture, and colour – in relation to light, and pattern. Synthesis of these elements evolves understanding of basics of design - static and dynamic aspects of different compositions of design elements– order to chaos - Regularity and irregularity.

9 Periods

Ordering Principles: Introduction to various ordering principles: Axis, Symmetry, Hierarchy, Rhythm, Repetition, Transformation, and Balance - symmetrical, radial, occult; harmony; unity; variety; rhythm; emphasis, - scale - proportion -- Golden Section, Le modular, Fibonacci series Renaissance Theories. Introduction to Gestalt Principles. Figure and ground, positive and negative spaces.

9 Periods

Form and Space: Form and Space, Basic Forms, Transformation of Forms, Formal Collisions of Geometry, Defining Space, Spatial Organization, Spatial Relationships, and Circulation.

9 Periods

Concept of Geometry and Visual Composition: Introduction to different 3-D forms and primitive forms, shapes - characteristic features and their behaviour - understanding the behaviour when combined. Transformation of 2-D to 3-D - process - principles - types - Composition - types - Principles of composition using grids, symmetrical/ asymmetrical, Rule of Thirds, Centre of Interest, Gestalt's Theory of Visual Composition.

9 Periods

Colour Theory: Introduction colour theory - spectrum of colours - application - concept - Colour wheel – primary, secondary, tertiary colours, colour wheel, colour schemes colour value, intensity, and modification of colour hues – tints, shades, neutralization. Colour chart types, making and using. colour harmony, use of colour harmony. The psychological impact of colour – warm, cool and neutral colours, impact of specific hues, meanings of colour, colour and form, colour and light, colour and surface qualities, colour and distances and scales.

9 Periods

Total: 45 Periods

Weightage: Continuous Internal Assessment: 40%, End Semester Examinations: 60%.

Assessment Methodology: Two Assessments with equal weightage.
One Assessment as Internal written Test /Examination (50%), second as Assignment (50%) of any mode such as study, seminar, and or a combination of modes, etc.

Required Reading

1. Johannes Itten, "The Art of Color: The Subjective Experience and Objective Rationale of Color," John Wiley & Sons,1997.
2. Wucius Wong, "Principles of Form and Design," John Wiley & Sons, 1993.
3. Rudolf Arnheim, "Art and Visual Perception: A Psychology of the Creative Eye," University of California Press, 1974.
4. Hugh Honour and John Fleming, "A World History of Art," Laurence King Publishing, 2009.
5. Ernst Gombrich, "The Story of Art," Phaidon Press, 1995.
6. Kimberly Elam, "Geometry of Design: Studies in Proportion and Composition," Princeton Architectural Press, 2001.
7. Jay Hambidge, "The Elements of Dynamic Symmetry," Dover Publications, 2005.
8. Francis D. K. Ching, "Architecture: Form, Space, and Order," John Wiley & Sons, 2014.
9. Simon Unwin, "Analysing Architecture," Routledge, 2014.
10. Robert McCarter, "Louis I. Kahn," Phaidon Press, 2005.
11. Gail Peter Borden, "Material Precedent: The Typology of Modern Tectonics," John Wiley & Sons, 2010.
12. Peter Zumthor, "Atmospheres: Architectural Environments - Surrounding Objects," Birkhäuser, 2006.

References

1. Pevsner, N. (1963). An outline of European architecture. Pelican Books.
2. Livio, M. (2003). The golden ratio: The story of phi, the world's most astonishing number. Broadway Books.
3. Pile, J. F. (2014). Interior design. Pearson.

E – Resources:

1. NPTEL: Introduction to Graphic Design (SWAYAM/IIT) https://onlinecourses.nptel.ac.in/noc_ds43/preview
2. Fundamentals of Graphic Design — CalArts (Coursera) https://www.coursera.org/learn/fundamentals-of-graphic-design
3. NPTEL: Interior Design — IIT Roorkee (SWAYAM) https://onlinecourses.nptel.ac.in/noc26_de16/preview

	Description of CO	**PO1**	**PO3**	**PO10**
CO1	Develop a basic understanding of design elements and principles. Gain knowledge of geometry, composition, and visual organization.	1	1	2
CO2	Build familiarity with form, space, and spatial relationships. Develop the ability to recognize and analyze visual compositions.	2	2	2
CO3	Develop the ability to consider colour, form, and perception in design, and the ability to design simple compositions.	2	3	3
CO4	Understand the cultural influences on design and develop awareness of their impact on form and visual expression.	2	2	1

AR25C01	Introduction to Language and English Skills	L	T	P/S	C
		3	0	0	3

Course Objectives:

- To give an introduction to the concepts and evolution of language in human society including its various expressions and functions
- To give basic skills of English language in everyday situations involving speaking, listening, reading, writing, presenting.
- To enable the use of language to think, express experience and communicate larger meaning.

Introduction to Language and Linguistics: Communication in humans and animals. Language in humans– definition, function and hypotheses of evolution. Some concepts of language- Phonetics, Phonology, Morphology, Syntax, Semantics, Pragmatics.

9 Periods

English- Speaking and Listening: Everyday communication and human interaction through language. Speaking and listening. Simple class exercises.

9 Periods

English-Reading, Writing, Presenting: Reading and writing. Language comprehension skills through reading and writing. Presenting information and ideas. Simple exercises.

9 Periods

Language as Expression and Cognition: Language as expression – poetry, prose, literature, etc., Cognitive function of language. Cognitive role of language in constructing reality, abstracting, and projecting the future. Simple exercises.

9 Periods

Language as Discourse: Thinking, talking and writing about ideas and situations within a social context and conveying broader meaning and abstraction. Discourse, dialectic. Simple class exercises.

9 Periods

Total: 45 Periods

Weightage: Continuous Internal Assessment: 40%, End Semester Examinations: 60%.

Assessment Methodology: Two Assessments with equal weightage.

One Assessment as Internal written Test /Examination (50%), second as Assignment (50%) of any mode such as study, seminar, and or a combination of modes, etc.

Required Reading

1. Sharon Hendenreich, ‘English for Architects and Civil Engineers’, Springer, 2014
2. www.cambridgescholars.com
3. www.robertdwatkins.com/Englishworkbook.pdf
4. N. Chomsky, ‘Reflections on Language’, Fontana, 1975.
5. Steve Pinker, ‘The Language Instinct’, Penguin, 2015.
6. R.L. Trask, ‘Language and Linguistics: The Key Concepts’, Routledge, 2007.

References

1. Mounsey, C. (2005). Essays and dissertation. Oxford University Press.
2. Greenbaum, S. (2005). The Oxford English grammar. Oxford University Press.
3. Mohan, K., & Banerji, M. (2009). Developing communication skills. Laxmi Publications.

E - Resources

1. NPTEL Course – Developing Soft Skills and Personality
   https://onlinecourses.nptel.ac.in/
2. Online Course – Improve Your English Communication Skills by Georgia Institute of Technology (Coursera)
   https://www.coursera.org/
3. Online Resource – Learning English by BBC
   https://www.bbc.co.uk/learningenglish

	Description of CO	**PO10**	**PO12**
CO1	Gain an understanding of the origin, evolution, and functions of language along with knowledge of basic linguistic concepts.	1	1
CO2	Develop skills in speaking, listening, reading, and writing in English with the ability to communicate ideas clearly.	2	2
CO3	Build awareness of language as expression and cognition with the ability to interpret and analyze ideas in social contexts.	3	2

UC25H01	தமிழர் மரபு	L	T	P	C
		1	0	0	1

மொழி மற்றும் இலக்கியம்: இந்திய மொழிக் குடும்பங்கள், திராவிட மொழிகள், தமிழ் ஒரு செம்மொழி, தமிழ் செவ்விலக்கியங்கள், சங்க இலக்கியத்தின் சமயச் சார்பற்ற தன்மை, சங்க இலக்கியத்தில் பகிர்தல் அறம், திருக்குறளில் மேலாண்மைக் கருத்துக்கள், தமிழ்க் காப்பியங்கள், தமிழகத்தில் சமண பௌத்த சமயங்களின் தாக்கம், பக்தி இலக்கியம், ஆழ்வார்கள் மற்றும் நாயன்மார்கள், சிற்றிலக்கியங்கள், தமிழில் நவீன இலக்கியத்தின் வளர்ச்சி, தமிழ் இலக்கிய வளர்ச்சியில் பாரதியார் மற்றும் பாரதிதாசன் ஆகியோரின் பங்களிப்பு.

மரபு – பாறை ஓவியங்கள் முதல் நவீன ஓவியங்கள் வரை – சிற்பக் கலை: நடுகல் முதல் நவீன சிற்பங்கள் வரை, ஐம்பொன் சிலைகள், பழங்குடியினர் மற்றும் அவர்கள் தயாரிக்கும் கைவினைப் பொருட்கள், பொம்மைகள் , தேர் செய்யும் கலை, சுடுமண் சிற்பங்கள், நாட்டுப்புறத் தெய்வங்கள், குமரிமுனையில் திருவள்ளுவர் சிலை, இசைக் கருவிகள், மிருதங்கம், பறை, வீணை, யாழ், நாதஸ்வரம், தமிழர்களின் சமூக பொருளாதார வாழ்வில் கோவில்களின் பங்கு.

நாட்டுப்புறக் கலைகள் மற்றும் வீர விளையாட்டுகள்: தெருக்கூத்து, கரகாட்டம், வில்லுப்பாட்டு, கணியான் கூத்து, ஒயிலாட்டம், தோல்பாவைக் கூத்து, சிலம்பாட்டம், வளரி, புலியாட்டம், தமிழர்களின் விளையாட்டுகள்.

தமிழர்களின் திணைக் கோட்பாடுகள்: தமிழகத்தின் தாவரங்களும், விலங்குகளும், தொல்காப்பியம் மற்றும் சங்க இலக்கியத்தில் அகம் மற்றும் புறக் கோட்பாடுகள், தமிழர்கள் போற்றிய அறக்கோட்பாடு, சங்ககாலத்தில் தமிழகத்தில் எழுத்தறிவும், கல்வியும், சங்ககால நகரங்களும் துறை முகங்களும், சங்ககாலத்தில் ஏற்றுமதி மற்றும் இறக்குமதி, கடல்கடந்த நாடுகளில் சோழர்களின் வெற்றி.

இந்திய தேசிய இயக்கம் மற்றும் இந்திய பண்பாட்டிற்குத் தமிழர்களின் பங்களிப்பு: இந்திய விடுதலைப்போரில் தமிழர்களின் பங்கு, இந்தியாவின் பிறப்பகுதிகளில் தமிழ்ப் பண்பாட்டின் தாக்கம் , சுயமரியாதை இயக்கம் இந்திய மருத்துவத்தில், சித்த மருத்துவத்தின் பங்கு, கல்வெட்டுகள், கையெழுத்துப்படிகள், தமிழ்ப் புத்தகங்களின் அச்சு வரலாறு.

References:

1. தமிழக வரலாறு, மக்களும் பண்பாடும், கே.கே. பிள்ளை (வெளியீடு: தமிழ்நாடு பாடநூல் மற்றும் கல்வியியல் பணிகள் கழகம்).
2. கணினித் தமிழ், முனைவர் இல. சுந்தரம். (விகடன் பிரசுரம்).
3. கீழடி, வைகை நதிக்கரையில் சங்ககால நகர நாகரிகம் (தொல்லியல் துறை வெளியீடு)
4. பொருநை, ஆற்றங்கரை நாகரிகம். (தொல்லியல் துறை வெளியீடு)
5. Social Life of Tamils (Dr.K.K.Pillay) A joint publication of TNTB & ESC and RMRL – (in print)
6. Social Life of the Tamils - The Classical Period (Dr.S.Singaravelu) (Published by: International Institute of Tamil Studies.
7. Historical Heritage of the Tamils (Dr.S.V.Subatamanian, Dr.K.D. Thirunavukkarasu) (Published by: International Institute of Tamil Studies).
8. The Contributions of the Tamils to Indian Culture (Dr.M.Valarmathi) (Published by: International Institute of Tamil Studies.)
9. Keeladi - 'Sangam City C ivilization on the banks of river Vaigai' (Jointly Published by: Department of Archaeology & Tamil Nadu Text Book and Educational Services Corporation, Tamil Nadu)
10. Studies in the History of India with Special Reference to Tamil Nadu (Dr.K.K.Pillay) (Published by: The Author)
11. Porunai Civilization (Jointly Published by: Department of Archaeology & Tamil Nadu Text Book and Educational Services Corporation, Tamil Nadu)
12. Journey of Civilization Indus to Vaigai (R.Balakrishnan) (Published by: RMRL) – Reference Book.

UC25H01	Heritage of Tamils	L	T	P	C
		1	0	0	1

Language and Literature: Language Families in India, Dravidian Languages, Tamil as aClassical Language, Classical Literature in Tamil, Secular Nature of Sangam Literature, Distributive Justice in Sangam Literature, Management Principles in Thirukural, Tamil Epics and Impact of Buddhism & Jainism in Tamil Land, Bakthi Literature Azhwars and Nayanmars, Forms of minor Poetry - Development of Modern literature in Tamil - Contribution of Bharathiyar and Bharathidhasan.

Heritage - Rock Art Paintings to Modern Art – Sculpture: Hero stone to modern sculpture, Bronze icons, Tribes and their handicrafts, Art of temple car making, Massive Terracotta sculptures, Village deities, Thiruvalluvar Statue at Kanyakumari, Making of musical instruments, Mridhangam, Parai, Veenai, Yazh and Nadhaswaram, Role of Temples in Social and Economic Life of Tamils.

Folk and Martial Arts: Therukoothu, Karagattam, Villu Pattu, Kaniyan Koothu, Oyillattam, Leather puppetry, Silambattam, Valari, Tiger dance, Sports and Games of Tamils.

Thinai Concept of Tamils: Flora and Fauna of Tamils & Aham and Puram Concept from Tholkappiyam and Sangam Literature, Aram Concept of Tamils, Education and Literacy during Sangam Age, Ancient Cities and Ports of Sangam Age, Export and Import during Sangam Age, Overseas Conquest of Cholas.

Contribution of Tamils to Indian National Movement and Indian Culture:

Contribution of Tamils to Indian Freedom Struggle, The Cultural Influence of Tamils over the other parts of India, Self-Respect Movement, Role of Siddha Medicine in Indigenous Systems of Medicine, Inscriptions & Manuscripts, Print History of Tamil Books

References:

1. தமிழக வரலாறு, மக்களும் பண்பாடும், கே.கே. பிள்ளை (வெளியீடு: தமிழ்நாடு பாடநூல் மற்றும், கல்வியியல் பணிகள் கழகம்).
2. கணினித் தமிழ், முனைவர் இல. சுந்தரம். (விகடன் பிரசுரம்).
3. கீழடி, வைகை நதிக்கரையில் சங்ககால நகர நாகரிகம் (தொல்லியல் துறை வெளியீடு)
4. பொருநை, ஆற்றங்கரை நாகரிகம். (தொல்லியல் துறை வெளியீடு)
5. Social Life of Tamils (Dr.K.K.Pillay) A joint publication of TNTB & ESC and RMRL – (in print)
6. Social Life of the Tamils, The Classical Period (Dr.S.Singaravelu) (Published by: International Institute of Tamil Studies.
7. Historical Heritage of the Tamils (Dr.S.V.Subatamanian, Dr.K.D. Thirunavukkarasu) (Published by: International Institute of Tamil Studies).
8. The Contributions of the Tamils to Indian Culture (Dr.M.Valarmathi) (Published by: International Institute of Tamil Studies.)
9. Keeladi, 'Sangam City C ivilization on the banks of river Vaigai' (Jointly Published by: Department ofArchaeology & Tamil Nadu Text Book and Educational Services Corporation, Tamil Nadu)
10. Studies in the History of India with Special Reference to Tamil Nadu (Dr.K.K.Pillay) (Publishedby: The Author)
11. Porunai Civilization (Jointly Published by: Department of Archaeology & Tamil Nadu Text Bookand Educational Services Corporation, Tamil Nadu)
12. Journey of Civilization Indus to Vaigai (R.Balakrishnan) (Published by: RMRL), Reference Book.

BS25103	Visual Arts and Crafts – I	L	T	P	C
		1	0	4	3

Course Objectives:

- To understand how to use different mediums to represent ideas on paper.
- To give an introduction to the discipline of visual art and its various facets.
- To introduce the importance of art and its relation to design through study and hands-on work of techniques and mediums of Art.
- To introduce the vocabulary of Visual Arts in terms of elements and principles in application.
- To explore the historical and cultural contexts of notable Indian art forms and their transformation over time.
- To explore the rich tradition and diversity of Indian crafts across different regions and historical periods.

Introduction to Freehand Sketching: Exercises include freehand drawing and sketching studies - Exploring Line, Shape, Tone, Texture and Depth. Quality of line, Drawing shapes in proportion, Composition of shapes, Contour Drawing, Still Life Drawing, Line Studies. Basics of drawing one-point and two-point perspectives. Construct basic to complex 3d platonic forms using the freehand method. Value Studies.

20 Periods

Introduction to art Mediums: Explore different mediums for sketching - Pencil, Ball pen, Ink pen, Charcoal sticks, brush pen etc. Explore different mediums and their techniques for artwork - oil and dry Pastels, Poster colours, Watercolours, Oil colours, Glass colours, Fabric colours etc.

20 Periods

Major Art Movements and Their Influence: Characteristics & Influence – Renaissance- Baroque – Romanticism- Impressionism- Cubism – Surrealism - Pop Art- Contemporary Art.

15 Periods

Introduction to Arts – India: Outline the characteristics of exemplary arts in India across the ages, including living folk traditions. Case studies- Madhubani, Miniature Painting Warli, Tanjore, Pattachitra, Kalamkari. Phad, Kalighat, Gond, Cheriyal Scrolls, Pichwai, Kerala Mural, and Bhil. Decoding systems and Exercises in understanding historical aspects of the art sector, transformation through Time including works of contemporary artists- M.F. Husain, Tyeb Mehta, and S.H. Raza. Digital and Experimental Art- contemporary practices using new media, technology, and experimental methods to reflect current trends.

20 Periods

Total: 75 Periods

Weightage: Continuous Internal Assessment: 50%, End Semester Examinations: 50%.

Assessment Methodology: Three Assessments with equal weightage.
One Assessment as Internal written Test /Examination (approx.33.33%), other two Assignments (approx.33.33% each) incorporate continuous marking of the work and performance during the particular assessment period such as drawings, models, study, seminar, etc.

Required Reading:

1. Betty Edwards, "The New Drawing on the Right Side of the Brain," Tarcher, 1999.
2. Arthur L. Guptill, "Rendering in Pen and Ink," Watson-Guptill, 1997.
3. Bert Dodson, "Keys to Drawing with Imagination," North Light Books, 2006.
4. Rudolf Arnheim, "Art and Visual Perception: A Psychology of the Creative Eye," University of California Press, 1974.
5. Stephen Palmer, "Vision Science: Photons to Phenomenology," MIT Press, 1999.
6. Josef Albers, "Interaction of Color," Yale University Press, 1971.
7. Johannes Itten, "The Art of Color," John Wiley & Sons, 1974.

References

1. Mollica, P. (2013). Color theory: An essential guide to color. Walter Foster Publishing
2. Zakia, R., & Madsen, P. (2012). Perception and imaging: Photography as a way of seeing. Focal Press.
3. Merleau-Ponty, M. (2012). Phenomenology of perception. Routledge.
4. Pile, J. F. (2014). Interior design. Pearson.
5. Mounsey, C. (2005). Essays and dissertation. Oxford University Press.
6. Oliver, R. S. (1995). Perspective drawing: A step-by-step handbook. Dover Publications.
7. Smith, R. (2009). The artist's handbook. DK Publishing.

E – Resources:

1. NPTEL Course – *Introduction to Visual Arts and Design* https://onlinecourses.nptel.ac.in/
2. Open Educational Resource – *Drawing and Sketching Basics* by MIT https://ocw.mit.edu/
3. Online Resource – *Indian Art and Culture* by Google Arts & Culture https://artsandculture.google.com/
4. Open Resource – *Art Techniques and Mediums* by Tate https://www.tate.org.uk/art

	Description of CO	**PO1**	**PO10**
CO1	Basic understanding of visual art elements and the ability to recognize different mediums.	1	1
CO2	Knowledge of art movements and Indian art traditions.	2	1
CO3	Familiarity with art tools and the ability to design simple compositions.	2	3
CO4	Develop awareness of the elements and principles of visual arts and their application in design.	2	2
CO5	Understand the historical and cultural significance of Indian art forms and crafts.	2	1
CO6	Recognize the diversity of regional Indian crafts and their evolution over time.	1	1

BS25104	Geometrical Drawing - I	L	T	P	C
		1	0	4	3

Course Objectives:

- To develop an understanding of Geometrical Drawing.
- To master drawing the Geometric Shapes and Surfaces.
- To enable students to construct physical planar models of geometric shapes and surfaces.
- To familiarize students with the terminology and methods of orthographic, isometric, axonometric, and perspective projections.

Introduction to Drawing: Introduction and setting to the drawing equipment, Concept of line, its types, Line thickness quality, grade, divisions and angles, polygons, circles, geometrical curves, helix etc., Concept of Dimensioning & dimension line. Freehand and Architectural lettering, proportion of letter size as per scale and size of the sheet. Scales- Types of scales: Plain scale and Diagonal scale.
Introduction to point, line, plane. Definition of geometrical drawing. Drawing lines and angles Drawing shapes/ planar surfaces - triangle, square, rhombus, rectangle, polygon, hexagon, etc. Drawing of circles, tangents, curves, and conic sections (hyperbola, parabola, ellipse).

20 Periods

Geometrical Construction: Solids - cube, cuboids, cylinders, prisms, pyramids, spheres, cones- Sections of solids - The true shape of solids. - Plan, elevation, and section of simple solids.

20 Periods

Introduction to Axonometric Projections: Isometric and Axonometric projection of planes, solids and combinations of solids etc. Isometric and Axonometric projection of simple objects. Study of concepts, types and terminologies such as picture plane, station point, vanishing point, eye level, ground level, Horizon etc.

15 Periods

Measured Drawing: Introduction to fundamentals of measured drawing, line value, lettering, drawing representation, format for presentation methods and technique of measuring buildings and their details. Measured drawings of simple objects like furniture, detailing in terms of construction, ornamentation, measured drawings of building components like columns, doors, windows, cornices, etc.

20 Periods

Total: 75 Periods

Weightage: Continuous Internal Assessment: 50%, End Semester Examinations: 50%.

Assessment Methodology: Three Assessments with equal weightage.
One Assessment as Internal written Test /Examination (approx.33.33%), other two Assignments (approx.33.33% each) incorporate continuous marking of the work and performance during the particular assessment period such as drawings, models, study, seminar, etc.

Required Reading:

1. Robert S. Oliver, "Perspective Drawing: A Step-by-Step Handbook," Dover Publications, 1995.
2. Francis D. K. Ching, "Architectural Graphics," John Wiley & Sons, 2015.
3. David H. Ross, "Freehand Figure Drawing for Illustrators," Watson-Guptill, 2015.
4. Matthew Frederick, "101 Things I Learned in Architecture School," MIT Press, 2007.
5. Peter Stanyer, "The Complete Book of Drawing Techniques," Arcturus Publishing, 2012.
6. Francis D. K. Ching, "Design Drawing," John Wiley & Sons, 2010.
7. John Raynes, "The Complete Guide to Perspective Drawing: From One-Point to Six-Point," North Light Books,2005.

References:

1. Ivor H. Seeley, "Building Quantities Explained," Macmillan, 1993.
2. John Montague, "Basic Perspective Drawing: A Visual Approach," John Wiley & Sons, 2012.
3. James Richards, "Freehand Drawing and Discovery," John Wiley & Sons, 2013.
4. Michael E. Doyle, "Color Drawing: Design Drawing Skills and Techniques for Architects, Landscape Architects, and Interior Designers," John Wiley & Sons, 2011.
5. Charles B. Wiest, "The Art of Perspective Drawing," McGraw-Hill, 2004.

E – Resources:

1. NPTEL Course – *Engineering Drawing and Graphics* https://onlinecourses.nptel.ac.in/
2. Open Educational Resource – *Architectural Drawing and Representation* by MIT OpenCourseWare https://ocw.mit.edu/
3. Online Resource – *Perspective Drawing and Geometric Constructions* by Khan Academy https://www.khanacademy.org/
4. Open Resource – *Isometric and Orthographic Projection Basics* by Engineering Toolbox https://www.engineeringtoolbox.com/

	Description of CO	**PO5**	**PO10**
CO1	Basic understanding of geometrical drawing and the ability to recognize shapes and projections.	1	1
CO2	Knowledge of geometric constructions, scales, and drawing techniques.	2	2
CO3	Familiarity with projection methods and the ability to design simple measured drawings.	3	3
CO4	Develop the ability to construct and visualize geometric forms through orthographic, isometric, and perspective drawings.	3	2

BS25105	Studio I – Basic Design Studio	L	T	P/S	C
		0	0	10	5

Course Objectives:

- To give an understanding of design as creating form towards a purpose at various scales.
- To enable exploration of the universal visual, experiential and cognitive aspects of design through engaging elements and principles of form.
- To give an insight into the ways in which form/ morphology and use/effect can come together.

Architecture as a discipline starts with morphology as the answer to questions and needs of human society. While the needs are multifarious, including shelter and comfort, social and psychological well-being, culture and meaning, expression of time and context, etc., the means are negotiated through the fundamentals of form in its various attributes. In the foundational studio, the exploration would be on understanding these fundamentals as universals as well as in terms of particular manifestations in specific cultural and temporal contexts. The word form here means all physical manifested aspects.

The explorations in the foundational studio would be of two types. One would be to understand and break down form to its component elements and principles in order to get insight into the most important aspects that give a totality of cognitive effect (perceptive, behavioural, cultural etc.,) or use (anthropometrics, activities, scale, etc.,).Design exploration would continue after this to create a form for use/effect. Another would be to explore component elements like point, line, planes, volume, shape, colour, texture light, pattern, etc., using principles such as balance, unity, dominance, transparency, proportion, scale, solid, void, fluidity, movement, fractal, order, chaos, gestalt, etc., This exploration could be an end in itself or could lead to the creation of a higher level of or composite form/design through using elements and principles in conjunction towards human need/ use (perceptive, behavioural, cultural, anthropometrics, activities, scale, etc.,).

The whole studio would be conducted through a series of related design exercises with multiple stages as well as standalone independent exercises. Observational/ analytical study and design exploration could go hand in hand or one could precede the other, based on the specific project. The exercises would be mediated through situations and contexts, historic and contemporary references, local or global character, aesthetics, basics of human response and behaviour, etc., Different media would be explored in 2D and 3D. The final exercise(s) would be focussed towards small product/ furniture/ architectural design/ component design in urban context, etc.

Total: 150 Periods

Weightage: Continuous Internal Assessment:50%, End Semester Examinations: 50%.

Assessment Methodology:

Three Assessments with equal weightage (approx.33.33% each).

Each assessment shall incorporate continuous marking of the work and performance during the particular assessment period.

Required Reading:

1. Kumar Vyas, ‘Design and Environment- A Primer’, National Institute of Design, 2009.
2. Pierre von Meiss, ‘Elements of Architecture: From Form to Place’, Routledge, 2014.
3. James F. Eckler,’ Language of Space and Form: Generative Terms for Architecture’, Wiley, 2012.
4. Owen Cappleman and Michael Jack Jordon, ‘Foundations in Architecture: An Annotated Anthology of Beginning Design Project’, Van Nostrand Reinhold New York, 1993.
5. Charles Wallschlacgerm and Cynthia Busic-Snyder, ‘Basic Visual Concepts and Principles for Artists, Architects and Designers’, McGraw Hill, New York 1992.
6. Victor Papanek, 'Design for the Real world, Human Ecology and Social Change', Chicago Review Press, 2005.

References:

1. Ching, F. D. K. (1979). Architecture: Form space and order. Van Nostrand Reinhold Co.
2. Miyasaka, T. (2013). Seeing and making in architecture: Design exercises. *Routledge.*
3. Pramar, V. S (1997). Design fundamentals in architecture. Somaiya Publications.

E – Resources:

1. Open Educational Resource – *Architecture Design Studio Fundamentals* by MIT OpenCourseWarehttps://ocw.mit.edu/
2. Online Resource – *Architecture Projects and Case Studies* by ArchDaily https://www.archdaily.com/
3. Open Resource – *Design Process and Visual Thinking* by Interaction Design Foundationhttps://www.interaction-design.org/

	Description of CO	**PO1**	**PO2**	**PO3**
CO1	Basic understanding of design elements and the ability to recognise form and its purpose.	2	1	1
CO2	Knowledge of principles of form, morphology, and human-centered design aspects.	2	2	2
CO3	Awareness of design contexts and the ability to design simple forms responding to human needs.	3	3	3

Semester II

BS25201	Design Appreciation through History – II	L	T	P	C
		3	0	0	3

Course Objectives:

- To explore the key symbols and motifs in Hindu, Buddhist, Jain, and Islamic art and design, and their cultural significance across regions.
- To investigate the relationship between religious beliefs and architectural styles in historical and contemporary contexts.
- To evaluate the effects of colonialism on Indian art, design, and vernacular traditions, highlighting resistance and adaptation.
- To identify the characteristics and cultural influences of vernacular architecture in India and their relevance in modern design.
- To assess the emergence of modernism in design, its principles, and its interaction with traditional practices across various cultures.

Design and Symbolism – Hindu, Buddhist and Jain Culture: Hindu Art and Symbolism - Overview of paintings like Madhubani, Warli, sculptures, and textiles.

Key Symbols - Analysis of symbols such as the Om, lotus, and trident. Understanding the visual representation of gods and goddesses. Buddhist Art and Symbolism- Thangka paintings, sculptures, and mandalas. The significance of the lotus, wheel, and bodhi tree. Various mudras and their meanings.

Cross-Cultural Analysis: Similarities and differences in symbols across the three traditions. Exploration of recurring designs and their interpretations.

9 Periods

Design and Symbolism – Buddhist and Islam in Southeast And Far East Regions: Buddhist Arts and Symbolism in Southeast Asia - Focus on Thailand, Indonesia, and Cambodia Overview of sculptures, paintings, and textiles. The lotus, dharma wheel, and Bodhisattvas.
Buddhist Arts and Symbolism in Far East Asia - Focus on China, Korea and Japan- Thangka paintings, Zen ink wash, and sculptures. Exploration of the Buddha's iconography and mudras.

Islamic Art and Symbolism in Southeast Asia - Influence of local traditions on Islamic artistic expressions in countries like Indonesia and Malaysia - Calligraphy, textiles, and ceramics. Geometric patterns, arabesques, and floral designs. Far East Asia - Miniature paintings and textiles. Understanding the significance of patterns and colour use. Influence of Persian and Central Asian styles in Chinese Islamic art.
Traditional methods, such as silk painting and natural pigments. Carving and modelling methods in both traditions. Textile Arts: Exploration of weaving, dyeing, and embroidery techniques

9 Periods

Colonialism in India: Pre-Colonial Art Forms - Overview of major Indian art forms before colonialism like Mughal, Rajput, and Pahari. Characteristics of traditional Indian painting, sculpture, and crafts. Early Colonial Influences - Arrival of European artists and the introduction of Western styles and impact of the British East India Company on local art practices - Case studies of early colonial art - company paintings.
The British Raj and Artistic Transformation – Introduction of New Mediums – Photography, Printmaking. The establishment of art schools and their influence on Indian artists- The Bengal School- Influence of the British aesthetic on Indian textiles and decorative arts. Progressive Artists' Group- Formation and Goals- Prominent artists like F.N. Souza, M.F. Husain, and S.H. Raza- Themes and Techniques- focus on themes of nationalism, identity, and human experience, reflecting the complexities of post-colonial society.

9 Periods

Vernacular Traditions in India: Cultural and context of Vernacular traditions in India – Building and materiality of Art & Crafts in vernacular architecture like Rajasthan Havelis - Bhunga Houses – Bohra Housing – Chettinad Houses – Nalukettu Houses & Mansions in Bengal.

9 Periods

Modernism in Design: Introduction to Modernism- Key characteristics and history. Key Movements in Modern Art. Fauvism, Cubism, and Expressionism-Works of Artists: Matisse, Picasso, Kandinsky. The Bauhaus Movement-Origins and Principles. Key figures: Gropius, Moholy-Nagy. Graphic Design in Modernism-Evolution of typography and layout. Key designers- El Lissitzky, Paul Rand. Modern Art Movements-Surrealism and Dadaism-Key artists Dalí, Duchamp- Critique of Modernism- Introduction to Postmodernism. Discussion on Modernism's legacy.

9 Periods

Total: 45 Periods

Weightage: Continuous Internal Assessment: 40%, End Semester Examinations: 60%.

Assessment Methodology: Two Assessments with equal weightage.

One Assessment as Internal written Test /Examination (50%), second as Assignment (50%) of any mode such as study, seminar, and or a combination of modes, etc.

Required Reading:

1. Hindu Art and Architecture by S. P. Gupta
2. Buddhist Art and Architecture by David Snellgrove
3. Islamic Art: A Very Short Introduction by Stefano Carboni
4. Buddhism and Islamic Art: A Cultural History by John Guy
5. Colonialism in India: A History by G. B. Singh
6. The Discovery of India by Jawaharlal Nehru
7. Vernacular Architecture in India by K. K. Shukla
8. Indian Vernacular Architecture: The Regional and Cultural Context by G. K. Chellappa
9. Modernism: A Very Short Introduction by Christopher Butler
10. Designing Modern India by K. P. R. Krishna

References:

1. The Art of Indian Asia: Its Mythology and Transformations by Joseph Needham
2. Jain Art and Architecture by Kumkum Sangari
3. Art and Architecture of the Islamic World by Robert Hillenbrand
4. Buddhist Art in Asia by John Guy
5. The Invention of Tradition by Eric Hobsbawm and Terence Ranger
6. India: A History by John Keay
7. The Architecture of the Indian Subcontinent by Donald Leslie
8. Traditional Indian Architecture: Space and Place by V. K. Jain Design as Art by Bruno Munari
9. The International Style: Architecture Since 1922 by Henry-Russell Hitchcock and Philip Johnson

E – Resources:

1. NPTEL Course – *History of Architecture and Culture* https://onlinecourses.nptel.ac.in/
2. Online Course – *Modern Art & Ideas* by The Museum of Modern Art (Coursera) https://www.coursera.org/
3. Online Resource – *Indian Art, Culture and Heritage* by Google Arts & Culture https://artsandculture.google.com/
4. Open Resource – *Islamic Art and Architecture* by The Metropolitan Museum of Art https://www.metmuseum.org/

	Description of CO	**PO1**	**PO4**
CO1	Basic understanding of religious symbols and the ability to recognise their cultural meanings.	1	1
CO2	Knowledge of Indian art, colonial impact, and modern design movements.	2	2
CO3	Awareness of vernacular traditions and the ability to consider their relevance in design.	2	3
CO4	Understand the relationship between religion, culture, and architectural styles in different historical periods.	2	2
CO5	Recognize the principles of modernism and their influence on contemporary design practices.	3	2

BS25202	Ergonomics – Fundamentals and Advanced	L	T	P	C
		3	0	0	3

Course Objectives:

- To understand key concepts and terminology in ergonomics.
- To analyze ergonomic challenges in various settings.
- To apply ergonomic principles to design solutions.

Ergonomics, Human Factors and Anthropometry: Definition, scope, and importance of ergonomics in various fields - Human capabilities, limitations, and the role of anthropometry in ergonomic design. Hands-on activity measuring anthropometric data.

9 Periods

Ergonomics – Cognitive, Physical and Environmental: Mental workload, cognitive processing, and designing for user experience. Analyse case studies focusing on cognitive load. Body mechanics, posture analysis, and the impact of physical ergonomics on health. Design considerations for lighting, noise, temperature, and their effects on performance.

9 Periods

Ergonomics for Special Populations: Designing for diversity, including age, disability, and cultural considerations. Designing for Women and Men - Designing for Pregnant Women - Designing for the Aging - Designing for Disabled Individuals - Designing for Overweight/Obese Workers - Designing for Patients and Healthcare Providers.

9 Periods

Design Principles for Workstations & Advanced Ergonomics in Technology: Best practices in spaces - workstation, kitchen, and bathroom design; understanding user-centred design principles- Exercises to redesign existing spaces. The impact of emerging technologies on ergonomics, including VR and AR applications.

9 Periods

Product Design and Future Trends in Ergonomics: Principles of ergonomic product development; Modern approach to design and analyse the flaws - chairs and furniture. Case studies - chair designed by Hans Wegner, Verner Panton, Ludwig Mies van der Rohe, Warren Platner, Le Corbusier, Thonet, Eero Saarinen, Arne Jacobsen, Marcel Breuer, Eileen Gray & Charles & Ray Eames. Japanese approach to design - Pod hotels. Emerging trends, sustainable practices, and the future of ergonomic design.

9 Periods

Total: 45 Periods

Weightage: Continuous Internal Assessment: 40%, End Semester Examinations: 60%.

Assessment Methodology: Two Assessments with equal weightage.

One Assessment as Internal written Test /Examination (50%), second as Assignment (50%) of any mode such as study, seminar, and or a combination of modes, etc.

Required Reading:

1. Introduction to Ergonomics by Robert Bridger
2. Ergonomics - How to design for ease and efficiency by Katrin E. Kroemer Elbert, Henrike B. Kroemer Anne D. Kroemer Hoffman
3. Design for Ergonomics by Francesca Tosi
4. Cognitive Ergonomics: The Design of Human-Computer Interaction by Andrew D. Hollands and D. J. M. K. van der Voordt
5. Designing the User Experience: Patterns for Effective Interaction Design by David R. Benyon
6. Workstation Design: A Guide to Ergonomics by Michael L. Smith.
7. Inclusive Design: Design for the Whole Population by P. A. Langdon, J. Clarkson, and P. Robinson

References:

1. Human Factors in Engineering and Design by Mark S. Sanders and Ernest J. McCormick
2. Anthropometry and Biomechanics in Ergonomics by Paul A. T. H. Alphan
3. The Psychology of Human-Computer Interaction by Stuart K. Card, Thomas P. Moran, and Allen Newell
4. Environmental Ergonomics: A Review of the Literature by Peter M. D. Smith
5. Ergonomics for Special Populations by Janis L. McCarthy

E – Resources:

1. NPTEL Course – Human Factors and Engineering Ergonomics https://onlinecourses.nptel.ac.in/
2. Open Educational Resource – Ergonomics and Human Factors Engineering by MIT OpenCourseWare https://ocw.mit.edu/
3. Online Resource – Ergonomics Guidelines and Workplace Design by Occupational Safety and Health Administration https://www.osha.gov/

	Description of CO	**PO2**	**PO3**
CO1	Basic understanding of ergonomics concepts and ability to recognise human factors in design	1	1
CO2	Knowledge of cognitive, physical, and environmental ergonomics and ability to consider user needs	2	3
CO3	Ability to design ergonomic workspaces with an overall understanding of modern design trends.	3	3

UC25H02	தமிழர்களும் தொழில்நுட்பமும்	L	T	P	C
		1	0	0	1

நெசவு மற்றும் பானைத் தொழில்நுட்பம்: சங்க காலத்தில் நெசவுத் தொழில், பானைத் தொழில்நுட்பம், கருப்பு சிவப்பு பாண்டங்கள், பாண்டங்களில் கீறல் குறியீடுகள்.

வடிவமைப்பு மற்றும் கட்டிடத் தொழில்நுட்பம்: சங்க காலத்தில் வடிவமைப்பு மற்றும் கட்டுமானங்கள் & சங்க காலத்தில் வீட்டுப் பொருட்களில் வடிவமைப்பு, சங்க காலத்தில் கட்டுமான பொருட்களும் நடுகல்லும் – சிலப்பதிகாரத்தில் மேடை அமைப்பு பற்றிய விவரங்கள், மாமல்லபுரச் சிற்பங்களும், கோவில்களும், சோழர் காலத்துப் பெருங்கோயில்கள் மற்றும் பிற வழிபாட்டுத் தலங்கள் – நாயக்கர் காலக் கோயில்கள், மாதிரி கட்டமைப்புகள் பற்றி அறிதல், மதுரை மீனாட்சி அம்மன் ஆலயம் மற்றும் திருமலை நாயக்கர் மஹால் – செட்டிநாட்டு வீடுகள், பிரிட்டிஷ் காலத்தில் சென்னையில் இந்தோ, சாரோசெனிக் கட்டிடக் கலை.

உற்பத்தித் தொழில் நுட்பம்: கப்பல் கட்டும் கலை, உலோகவியல், இரும்புத் தொழிற்சாலை, இரும்பை உருக்குதல், எஃகு, வரலாற்றுச் சான்றுகளாக செம்பு மற்றும் தங்க நாணயங்கள், நாணயங்கள் அச்சடித்தல், மணி உருவாக்கும் தொழிற்சாலைகள், கல்மணிகள், கண்ணாடி மணிகள், சுடுமண் மணிகள், சங்கு மணிகள், எலும்புத்துண்டுகள், தொல்லியல் சான்றுகள், சிலப்பதிகாரத்தில் மணிகளின் வகைகள்.

வேளாண்மை மற்றும் நீர்ப்பாசனத் தொழில் நுட்பம்: அணை, ஏரி, குளங்கள், மதகு, சோழர்காலக் குமுழித் தூம்பின் முக்கியத்துவம், கால்நடை பராமரிப்பு, கால்நடைகளுக்காக வடிவமைக்கப்பட்ட கிணறுகள், வேளாண்மை மற்றும் வேளாண்மைச் சார்ந்த செயல்பாடுகள், கடல்சார் அறிவு, மீன்வளம், முத்து மற்றும் முத்துக்குளித்தல், பெருங்கடல் குறித்த பண்டைய அறிவு, அறிவுசார் சமூகம்.

அறிவியல் தமிழ் மற்றும் கணித்தமிழ்: அறிவியல் தமிழின் வளர்ச்சி, கணித்தமிழ் வளர்ச்சி, தமிழ் நூல்களை மின்பதிப்பு செய்தல், தமிழ் மென்பொருட்கள் உருவாக்கம், தமிழ் இணையக் கல்விக்கழகம், தமிழ் மின் நூலகம், இணையத்தில் தமிழ் அகராதிகள், சொற்குவைத் திட்டம்.

References

1. தமிழக வரலாறு, மக்களும் பண்பாடும், கே.கே. பிள்ளை (வெளியீடு: தமிழ்நாடு பாடநூல் மற்றும் கல்வியியல் பணிகள் கழகம்).
2. கணினித் தமிழ் – முனைவர் இல. சுந்தரம். (விகடன் பிரசுரம்).
3. கீழடி – வைகை நதிக்கரையில் சங்ககால நகர நாகரிகம் (தொல்லியல் துறை வெளியீடு)
4. பொருநை, ஆற்றங்கரை நாகரிகம். (தொல்லியல் துறை வெளியீடு)
5. Social Life of Tamils (Dr.K.K.Pillay) A joint publication of TNTB & ESC and RMRL – (in print)
6. Social Life of the Tamils – The Classical Period (Dr.S.Singaravelu) (Published by: International Institute of Tamil Studies.
7. Historical Heritage of the Tamils (Dr.S.V.Subatamanian, Dr.K.D. Thirunavukkarasu) (Published by: International Institute of Tamil Studies).
8. The Contributions of the Tamils to Indian Culture (Dr.M.Valarmathi) (Published by: International Institute of Tamil Studies.)
9. Keeladi – 'Sangam City C ivilization on the banks of river Vaigai' (Jointly Published by: Department ofArchaeology & Tamil Nadu Text Book and Educational Services Corporation, Tamil Nadu)
10. Studies in the History of India with Special Reference to Tamil Nadu (Dr.K.K.Pillay) (Publishedby: The Author)
11. Porunai Civilization (Jointly Published by: Department of Archaeology & Tamil Nadu Text Bookand Educational Services Corporation, Tamil Nadu)
12. Journey of Civilization Indus to Vaigai (R.Balakrishnan) (Published by: RMRL) – Reference Book.

UC25H02	Tamils and Technology	L	T	P	C
		1	0	0	1

Weaving and Ceramic Technology: Weaving Industry during Sangam Age, Ceramic technology, Black and Red Ware Potteries (BRW), Graffiti on Potteries.

Design and Construction Technology: Designing and Structural construction House & Designs in household materials during Sangam Age, Building materials and Hero stones of Sangam age, Details of Stage Constructions in Silappathikaram, Sculptures and Temples of Mamallapuram, Great Temples of Cholas and other worship places,Temples of Nayaka Period, Type study (Madurai Meenakshi Temple), Thirumalai Nayaka rMahal, Chetti Nadu Houses, Indo, Saracenic architecture at Madras during British Period.

Manufacturing Technology: Art of Ship Building, Metallurgical studies, Iron industry, Iron smelting, steel, Copper and gold Coins as source of history - Minting of Coins, Beads making, industries Stonebeads, Glass beads, Terracotta beads, Shell beads / bone beats, Archeological evidences, Gem stone types described in Silappathikaram.

Agriculture and Irrigation Technology: Dam, Tank, ponds, Sluice, Significance of Kumizhi Thoompuof Chola Period, Animal Husbandry - Wells designed for cattle use , Agriculture and Agro Processing -Knowledge of Sea -Fisheries, Pearl, Conche diving, Ancient Knowledge of Ocean -Knowledge Specific Society.

Scientific Tamil & Tamil Computing: Development of Scientific Tamil, Tamil computing, Digitalization of Tamil Books, Development of Tamil Software, Tamil Virtual Academy, Tamil Digital Library, Online Tamil Dictionaries, Sorkuvai Project.

References

1. தமிழக வரலாறு, மக்களும் பண்பாடும், கே.கே. பிள்ளை (வெளியீடு: தமிழ்நாடு பாடநூல் மற்றும் கல்வியியல் பணிகள் கழகம்).
2. கணினித் தமிழ், முனைவர் இல. சுந்தரம். (விகடன் பிரசுரம்).
3. கீழடி, வைகை நதிக்கரையில் சங்ககால நகர நாகரிகம் (தொல்லியல் துறை வெளியீடு)
4. பொருநை, ஆற்றங்கரை நாகரிகம். (தொல்லியல் துறை வெளியீடு)
5. Social Life of Tamils (Dr.K.K.Pillay) A joint publication of TNTB & ESC and RMRL – (in print)
6. Social Life of the Tamils, The Classical Period (Dr.S.Singaravelu) (Published by: International Institute of Tamil Studies.
7. Historical Heritage of the Tamils (Dr.S.V.Subatamanian, Dr.K.D. Thirunavukkarasu) (Published by: International Institute of Tamil Studies).
8. The Contributions of the Tamils to Indian Culture (Dr.M.Valarmathi) (Published by: International Institute of Tamil Studies.)
9. Keeladi , 'Sangam City C ivilization on the banks of river Vaigai' (Jointly Published by: Department of Archaeology & Tamil Nadu Text Book and Educational Services Corporation, Tamil Nadu)
10. Studies in the History of India with Special Reference to Tamil Nadu (Dr.K.K.Pillay) (Published by: The Author)
11. Porunai Civilization (Jointly Published by: Department of Archaeology & Tamil Nadu Text Book and Educational Services Corporation, Tamil Nadu)
12. Journey of Civilization Indus to Vaigai (R.Balakrishnan) (Published by: RMRL) – Reference Book.

BS25203	Visual Arts and Crafts – II	L	T	P	C
		1	0	4	3

Course Objectives:

- To understand the diversity and significance of traditional crafts in India, including techniques, materials, and cultural contexts.
- To examine the major art movements in Western art history and their influence on artistic expression and techniques.
- To analyze the differences and similarities between Indian crafts and Western art, considering cultural and historical influences.
- To cultivate a critical appreciation of artworks through visual analysis and contextual understanding.

Introduction to Crafts – India: Outline the characteristics of exemplary crafts in India across the ages, including living folk traditions. Exercises in understanding historical aspects of the Craft Sector, Decoding Systems, and Transformation through Time. Case studies- crafts from north and south India - Bagh, Dhokra, Bidriware, Kantha, Meenakari, Saharanpur Wood Carving, Terracotta Pottery, Blue Pottery, Kondapalli Dolls.

20 Periods

Works of The Western Artists – Arts: Leonardo da Vinci- Michelangelo- Vincent van Gogh- Pablo Picasso - Claude Monet - Georgia O'Keeffe **-** Jackson Pollock - Andy Warhol- Frida Kahlo - Henri Matisse.

20 Periods

Works of The Western Artists – Crafts: Woodworks and Furniture Design - Gustav Stickley, Thomas Chippendale, George Nakashima, Charles and Ray Eames, Sam Maloof. Metalworks - Paul Revere, David Smith. Ceramics and Textiles - Bernard Leach, William Morris, Lucy Rie, Maria Martinez, Anni Albers, Kaffe Fassett, Sheila Hicks. Glass- Louis Comfort Tiffany, Dale Chihuly.

20 Periods

Workshop: Hands-on workshop – Woodworking – Furniture – Ceramics & Glass.

15 Periods

Total: 75 Periods

Weightage: Continuous Internal Assessment: 50%, End Semester Examinations: 50%.

Assessment Methodology: Two Assessments with equal weightage.

One Assessment as Internal written Test /Examination (50%), second as Assignment (50%) of any mode such as study, seminar, and or a combination of modes, etc.

Required Reading:

1. Jaitly, Jaya. “The Craft Traditions of India”, Lustre Press Pvt.Ltd, New Delhi, 1990.
2. Jaitly Jaya. “Crafts Atlas of India”, Niyogi Books, N.Delhi, 2012.
3. *The Story of Art* by E.H. Gombrich
4. *Art: A World History* by Robert Cumming
5. Art in Theory 1900-2000: An Anthology of Changing Ideas edited by Charles Harrison and Paul Wood
6. The Shock of the New: Art and the Century of Change by Robert Hughes

References:

1. Traditional Indian art and culture by P. C. Jain
2. Crafts of India: A Comprehensive Guide by D. R. K. Bhattacharya
3. Indian Handicrafts by M. A. K. Karamchandani Western Art: A History by Andrew Graham Dixon
4. The Lives of the Artists by Giorgio Vasari
5. Art Since 1900: Modernism, Antimodernism, Postmodernism by Hal Foster et al.
6. The Art Book by Phaidon Press

E – Resources:

1. NPTEL Course – *Indian Art and Craft Traditions* https://onlinecourses.nptel.ac.in/
2. Online Course – *Modern Art & Ideas* by The Museum of Modern Art (Coursera) https://www.coursera.org/
3. Open Educational Resource – *Art History: Western Art Movements* by MIT OpenCourseWare https://ocw.mit.edu/
4. Online Resource – *Indian Crafts and Cultural Heritage* by Google Arts & Culture https://artsandculture.google.com/
5. Open Resource – *Art Techniques, Materials and Craft Practices* by Victoria and Albert Museum https://www.vam.ac.uk/

	Description of CO	**PO1**	**PO10**
CO1	Basic understanding of traditional Indian crafts, materials, and techniques.	1	2
CO2	Knowledge of major Western artists, art movements, and craft practices.	2	1
CO3	Awareness of similarities, differences, and cultural influences in Indian and Western art.	2	3
CO4	Develop the ability to analyse and appreciate artworks through visual observation and cultural understanding.	2	2

BS25204	Geometrical Drawing II	L	T	P	C
		1	0	4	3

Course Objectives:

- To explore the fundamental principles of perspective in drawing, focusing on solid forms and their spatial representation.
- To explore the fundamental principles of perspective in drawing, focusing on solid forms and their spatial representation.
- To gain proficiency in measured drawing techniques, emphasizing accuracy in proportions and dimensions of objects.
- To integrate perspective drawing skills into design projects, effectively communicating three-dimensional concepts.

Perspective – Solids: Introduction to Perspective- One-point, Two-point & Three-point perspective of Solids- cube, cuboids, cylinders, prisms, pyramids, spheres, cones.

20 Periods

Perspective – Spaces & Buildings: One-Point Perspective for Interiors, Understanding the vanishing point and horizon line in interior spaces. Simple interior layouts, rooms, furniture using one-point perspective. Two-Point Perspective for Buildings, Two vanishing points for exterior views, Building facades and street views. Three-Point Perspective, Three-point perspective for dramatic viewpoints (high/low).

20 Periods

Fast Techniques for perspective Drawings: One-Point Perspective, Simplified approach to one-point perspective. Practice quick sketches of simple interiors and objects. Two-Point Perspective, Rapid techniques for two-point perspective, Using Grid Systems for Speed. Expressive Line Work, Using loose, expressive lines to convey perspective Light and Shadow in Perspective, Adding light and shadow in sketches.

20 Periods

Measured Drawing: Measured drawings of interior spaces, including furniture and fixtures, and measured drawings of small-scale buildings.

15 Periods

Total: 75 Periods

Weightage: Continuous Internal Assessment: 50%, End Semester Examinations: 50%.

Assessment Methodology: Two Assessments with equal weightage.

One Assessment as Internal written Test /Examination (50%), second as Assignment (50%) of any mode such as study, seminar, and or a combination of modes, etc.

Required Reading:

1. The Art of Perspective: The Ultimate Guide for Artists in Every Medium by Phil
2. Robert S. Oliver, "Perspective Drawing: A Step-by-Step Handbook," Dover Publications, 1995.
3. Perspective Made Easy by Ernest R. Norling
4. Drawing Perspective: How to See It and How to Draw It by Barbara A. D. Reynolds
5. Sketching for Architecture + Interior Design by Stephanie S. Travis

References:

1. Perspective for Artists *by Rex Vicat Cole*
2. The Complete Guide to Perspective *by William F. Powell*
3. Architectural Drawing: A Visual Compendium of Types and Methods *by David D. L. McCarthy*
4. Architectural Graphics *by Francis D. K. Ching*

E – Resources:

1. NPTEL Course – *Engineering Drawing and Perspective Projections* https://onlinecourses.nptel.ac.in/
2. Online Course – *Architectural Drawing and Sketching* by Autodesk https://www.autodesk.com/education
3. Open Educational Resource – *Perspective Drawing and Visual Representation* by MIT OpenCourseWare https://ocw.mit.edu/
4. Online Resource – *Linear Perspective and Drawing Techniques* by Khan Academy https://www.khanacademy.org/

	Description of CO	**PO5**	**PO10**
CO1	Familiarity with perspective drawing methods for solids, interiors, and buildings.	2	1
CO2	An overall understanding of measured drawing and spatial representation.	3	2
CO3	Ability to consider light, shadow, and expressive techniques in perspective sketches.	2	3
CO4	Develop the ability to create accurate perspective and measured drawings for communicating three-dimensional forms.	3	3

BS25205	Computer Modelling and Simulation Techniques - I	L	T	P	C
		1	0	4	3

Course Objectives:

- To introduce computer operation principles and explore image editing through software.
- To impart training in computer-aided 2D drafting and 3D modelling through projects.
- To enable the 3use of computer applications to develop a design from the initial stages to the outcome.
- To enable the rendering of a building to create a photo-realistic image.

The Basics of Modelling: Introduction - Overview of CAD applications, Interface and basic drawing tools, Advanced Techniques, Project Work, Geometric Patterns, Stained Glass Window Design, Abstract Shapes, Mosaic Design, and Perspective Drawing.

15 Periods

Introduction to 3D modelling: Interface overview and navigation, Basic drawing tools. Components and Materials, Managing components and group. Applying textures and materials for efficient 3D modeling. Using layers and scenes, importing models from 3D Warehouse and using plugins.

25 Periods

Rendering: Rendering and scene setting to create a photo-realistic picture, understanding material mapping, Environment setting and image-filling. Understanding bitmap images and vector graphics, image size and resolution. Basic tools for editing and creating graphics.

15 Periods

Design and Detailing Using Software: Design and detailing exercise using software. Exercises - Illustrative Map - Sculptural Forms, Experiment with curves and shapes to make unique 3D forms. Interior Space Design, Model the interior paying attention to layout, furniture, and lighting. Use textures to enhance the atmosphere. Custom Furniture Design - Create a unique piece of furniture that incorporates both function and aesthetics. Consider ergonomic design principles. Visual Storytelling, Design a scene that tells a story. Art Installation Design, Create a conceptual design for an art installation.

20 Periods

Total: 75 Periods

Weightage: Continuous Internal Assessment: 50%, End Semester Examinations: 50%.

Assessment Methodology: Two Assessments with equal weightage.
One Assessment as Internal written Test /Examination (50%), second as Assignment (50%) of any mode such as study, seminar, and or a combination of modes, etc.

References:

1. Photoshop for Designers: A Comprehensive Guide” by Andrew Faulkner
2. AutoCAD 2024 for the Interior Designer” by Dean Muccio

3. Mastering AutoCAD 2024 and AutoCAD LT 2024" by Brian C. Benton
4. SketchUp Pro 2024: A Comprehensive Guide" by Darlene W. H.
5. "Vector Basic Training: A Systematic Creative Process for Building Precision Vector Artwork" by Von Glitschka
6. Adobe Photoshop Classroom in a Book" by Conrad Chavez and Andrew Faulkner
7. "AutoCAD 2024: A Power Guide for Beginners and Intermediate Users" by John Carline
8. "Mastering AutoCAD 2024 and AutoCAD LT 2024" by Brian C. Benton
9. "SketchUp for Dummies" by Bill Fane and Ted Gargiulo
10. "Adobe Illustrator Classroom in a Book" by Brian Wood
11. "Illustrator CC: Visual QuickStart Guide" by Elaine Weinmann and Peter Lourekas.

E-Resources:

1. NPTEL Course – Computer Aided Design and Drafting https://onlinecourses.nptel.ac.in/
2. Online Learning – AutoCAD and 3D Modelling Courses by Autodesk https://www.autodesk.com/education
3. Online Resource – Adobe Creative Cloud Tutorials (Photoshop & Illustrator) by Adobe https://helpx.adobe.com/
4. Open Resource – SketchUp Training and 3D Warehouse by SketchUp https://www.sketchup.com/

	Description of CO	**PO5**
CO1	Basic understanding of, Ability to recognise CAD interfaces, tools, and modelling techniques.	1
CO2	Knowledge of rendering methods, materials, and graphic editing concepts.	2
CO3	Awareness of design applications from concept to final output using software.	3
CO4	Develop the ability to create 2D drawings, 3D models, and rendered visualisations using computer software.	3

BS25206	Studio II - Foundation Design Studio	L	T	P/S	C
		0	0	10	5

Course Objectives:

- To foster creativity in generating innovative product ideas for daily use, focusing on personal products, homeware, gifts and stationery.
- To equip students with essential skills in sketching, prototyping, and using design software.
- To teach students how to conduct user research and incorporate feedback into their designs to meet real-world needs.
- To instill knowledge about sustainable design practices and material selection for everyday products through model making.
- To engage in discussion and analytical thinking through seminars/ workshops.
- To develop effective presentation skills to communicate design concepts clearly to diverse audiences.

Prototype / project typology: Design of simple products - daily use, commonly used, stationaries, simple furniture like bookrack with prototype models.

Areas of focus/ concern:

- Aesthetic and useability in terms of scale, colour, texture, etc.
- Function and need: user requirements, anthropometrics, and ergonomics.
- Detailing of the product image and symbolism.

Total: 150 Periods

Weightage: Continuous Internal Assessment:50%, End Semester Examinations: 50%.

Assessment Methodology:

Three Assessments with equal weightage (approx.33.33% each).
Each assessment shall incorporate continuous marking of the work and performance during the particular assessment period.

References:

4. The Design of Everyday Things" by Don Norman.
5. "Design Basics" by David A. Lauer and Stephen M. Pentak
6. "Cradle to Cradle: Remaking the Way We Make Things" by William McDonough and Michael Braungart
7. "Designing for Sustainability: A Guide to Building Greener Digital Products" by Tom Giannattasio
8. *The Art of Innovation* by Tom Kelley.
9. Will Jones; Architects Sketch books; Thames & Hudson; 2011.
10. "Creative Confidence: Unleashing the Creative Potential Within Us All" by Tom Kelley and David Kelley
11. "Design Thinking: Understanding How Designers Think and Work" by Peter G. Rowe

E – Resources:

4. NPTEL Course – *Product Design and Development* https://onlinecourses.nptel.ac.in/
5. Online Course – *Design Thinking for Innovation* by University of Virginia

(Coursera) https://www.coursera.org/

6. Open Educational Resource – *Product Design and Development* by MIT OpenCourseWare https://ocw.mit.edu/
7. Online Resource – *Human-Centered Design Toolkit* by IDEO https://www.ideo.com/

	Description of CO	**PO1**	**PO2**	**PO10**
CO1	Ability to recognise product design concepts, aesthetics, and usability.	1	1	2
CO2	Knowledge of sketching, prototyping, and user research methods.	2	3	2
CO3	Awareness of sustainable practices, materials, and presentation techniques.	2	2	3
CO4	Develop the ability to generate creative product ideas for everyday use.	3	2	2
CO5	Build the ability to apply user feedback and research in product development.	2	3	2
CO6	Develop confidence in presenting and communicating design concepts effectively.	1	2	3

Semester III

BS25301	Applied Science for Interior Environments	L	T	P	C
		3	0	0	3

Course Objectives:

- To introduce the fundamental scientific principles relevant to interior spaces and materials.
- To explore the role of natural and physical sciences in human-centric design.
- To analyze environmental and climatic factors influencing interior comfort and health.
- To understand lighting, acoustics, and thermal performance for efficient space planning.
- To develop an understanding of environmental performance factors and their application in creating comfortable, efficient, and sustainable interior environments.

Introduction to Applied Science in Interiors: Role of science in interior design. Human body-environment relationship. Basics of environmental science. Introduction to comfort parameters (thermal, visual, acoustic)

9 Periods

Light and Illumination: Nature and properties of light. Lumen, lux, glare, CRI, color temperature, color rendering index, and lighting terminology. Lighting standards for different spaces. Energy-efficient lighting solutions. Day lighting vs artificial lighting. Relevant provisions of NBC.

9 Periods

Acoustics in Interior Spaces: Basics of sound: frequency, amplitude, decibel. Sound behavior in enclosed spaces. Materials for sound absorption, insulation, and diffusion. Relevant provisions of NBC.

9 Periods

Thermal Comfort and Indoor Climate: Heat transfer mechanisms: conduction, convection, radiation. Thermal insulation and building materials. Indoor air quality. Passive design strategies for thermal comfort.

9 Periods

Environmental Psychology and space

Interiors as a catalyst to physical, physiological and psychological well being – creation of positive and efficient working with social and psychological calculation needs of occupants – Lighting, color configuration, scale, proportion, acoustics and materials addressing the senses of the individual and generate a spectrum of feelings and practices. Case studies of selected residential, commercial interiors focusing on environmental comfort and performance – Analysis of exemplary projects with respect to lighting design, acoustics, thermal comfort, ventilation, and indoor environmental quality.

9 Periods

Total: 45 Periods

Weightage: Continuous Internal Assessment: 40%, End Semester Examinations: 60%.

Assessment Methodology: Two Assessments with equal weightage.

One Assessment as Internal written Test /Examination (50%), second as Assignment (50%) of any mode such as study, seminar, and or a combination of modes, etc.

References

1. “Time-Saver Standards for Interior Design and Space Planning” by Joseph DeChiara, Julius Panero, and Martin Zelnik
2. “Human Dimension and Interior Space” by Julius Panero and Martin Zelnik
3. “Interior Design Illustrated” by Francis D.K. Ching
4. “Lighting for Interior Design” by Malcolm Innes
5. “Building Construction Illustrated” by Francis D.K. Ching
6. IS Codes and NBC (National Building Code) sections related to lighting, ventilation, and acoustics.

E-Resources:

1. Open Educational Resource – Building Technology and Indoor Environmental Quality by MIT OpenCourseWare https://ocw.mit.edu/
2. Online Resource – Lighting Design Basics and Standards by Illuminating Engineering Society https://www.ies.org/
3. Open Resource – Indoor Air Quality and Thermal Comfort Guidelines by World Health Organization https://www.who.int/

	Description of CO	**PO1**	**PO2**	**PO7**
CO1	Familiarity with scientific principles related to lighting, acoustics, and thermal comfort in interiors	2	1	1
CO2	Ability to consider environmental factors, ergonomics, and user comfort in space planning.	2	3	2
CO3	An overall understanding of material properties and sustainable interior design solutions.	2	2	3
CO4	Develop awareness of climatic and environmental influences on interior spaces.	2	2	2
CO5	Apply scientific reasoning in designing healthy and efficient interior environments.	3	3	3

BS25302	Product Form Design	L	T	P	C
		3	0	0	3

Course Objectives:

- To understand the aesthetics and semantics of product form in the context of function and user experience.
- To explore the evolution and trends in product form across cultures and design movements.
- To develop the ability to analyze, conceptualize, and articulate form in relation to material, manufacturing, and ergonomics.
- To learn methods to ideate and iterate forms through sketching, prototyping, and digital tools.
- To evaluate product forms based on visual harmony, emotional appeal, and market relevance.

Introduction to Form in Product Design: Definition of form in design: shape, contour, volume, silhouette. Form vs Function: Understanding balance and tension Historical overview of product form evolution. Iconic product forms from Bauhaus to Contemporary design. Introduction to form language and design semantics. Expressive vs restrained forms – emotional vs rational design.

9 Periods

Form, Structure and Material: Structural implications of form. Influence of material choice on form and vice versa. Visual and tactile qualities of materials (wood, metal, plastic, glass, composites). Manufacturing processes and constraints on form generation. Case studies: Classic products where form follows material. Design for durability, assembly, and disassembly.

9 Periods

Form Development and Exploration Techniques: 2D and 3D form ideation techniques: sketching, foam modelling, CAD. Principles of form: symmetry, asymmetry, hierarchy, rhythm, contrast. Organic vs geometric forms. Exploring form through abstraction and metaphor. Exercises in form transformation: addition, subtraction, rotation, mirroring. Exploring visual weight, balance, and orientation in design.

11 Periods

User Perception and Behavior of Form: User perception and behavioral response to Form: visual appeal, emotional connection, and intuitive use – Usability and user interaction - Influence of color, texture, material finish, and proportion on perception of Form. Case studies of iconic product designs and contemporary design innovations.

7 Periods

Form Strategy and Contemporary Practice: Form as brand identity – language, consistency, signature styles. Form and sustainability: minimalism, dematerialization, repairable design. Trends in product form: biomimicry, modularity, smart products. Critiquing and presenting product form: visual boards, models, mock-ups. Form

development within interdisciplinary team. Case studies: Successful product redesigns based on form evolution.

9 Periods

Total: 45 Periods

Weightage: Continuous Internal Assessment: 40%, End Semester Examinations: 60%.

Assessment Methodology: Two Assessments with equal weightage.

One Assessment as Internal written Test /Examination (50%), second as Assignment (50%) of any mode such as study, seminar, and or a combination of modes, etc.

References:

1. "Industrial Design" – John Heskett, Thames & Hudson – 1980.
2. "Universal Principles of Design" – William Lidwell, Rockport Publishers – Revised Edition, 2010.
3. "Designing for People" – Henry Dreyfuss, Allworth Press – Reprint Edition, 2003.
4. "Materials and Design: The Art and Science of Material Selection in Product Design" – M.F. Ashby, Kara Johnson, Butterworth-Heinemann – 2nd Edition, 2010.
5. "The Meanings of Modern Design" – Peter Dormer, Thames & Hudson – 1990.

E-Resources:

1. NPTEL Course – Product Design and Innovation https://onlinecourses.nptel.ac.in/
2. Online Course – Design Thinking for Innovation by University of Virginia (Coursera) https://www.coursera.org/
3. Open Educational Resource – Product Design and Development by MIT OpenCourseWare https://ocw.mit.edu/
4. Online Resource – Design Process and Form Development by IDEO https://www.ideo.com/

	Description of CO	**PO1**	**PO2**	**PO3**
CO1	An overall understanding of product form, design principles, and visual aesthetics.	1	1	2
CO2	Knowledge of form exploration techniques, materials, and manufacturing processes.	2	2	2
CO3	Awareness of ergonomics, user interaction, and contemporary design trends.	2	3	3
CO4	Develop the ability to create and communicate product forms through sketching and prototyping.	2	2	3
CO5	Evaluate product forms based on function, aesthetics, and user experience.	3	3	3

BS25303	Materials and Manufacturing I	L	T	P	C
		3	0	0	3

Course Objectives:

- To introduce students to the physical, chemical, and mechanical properties of traditional building materials like brick, stone, and timber.
- To study the methods and technologies involved in the production and processing of natural and processed construction materials.
- To enable students to evaluate and select appropriate materials based on environmental conditions, functional requirements, and sustainability.
- To develop the ability to incorporate material knowledge into functional and aesthetic aspects of architectural and product design.

Brick in the Built Environment: Brick as key architectural materials, examining their history, properties, sourcing, and manufacturing processes. Traditional and modern techniques, types of brick, joints, finishes, usage in building components and assess environmental impacts. Integrating these materials into sustainable, interdisciplinary design solutions for contemporary environments using relevant architectural and interior case studies.

9 Periods

Stone in Built Environment: Stone as key architectural materials, examining their history, properties, sourcing, and manufacturing processes. Traditional and modern techniques, types of stone, joints, finishes, usage in building components and assess environmental impact. Integrating these materials into sustainable, interdisciplinary design solutions for contemporary environments using relevant architectural and interior case studies.

9 Periods

Natural Timber in Built Environment: Outline of timber as a key material, examining their history, properties, sourcing, and manufacturing processes. Traditional techniques-Vernacular Indian design, Scandinavian, Japanese etc., and Contemporary techniques. Types of wood, joints, finishes, usage in building components-door windows false ceiling partitions, paneling, flooring. Introduction to types of tools and safe handling of hand and power tools. Orientation for operating different types of machines.

9 Periods

Processed Timber in Built Environment: Outline of processed timber like plywood, MDF, particle board, laminated wood, laminated veneer lumber, composite board etc. as a key material, examining their history, properties, sourcing, and manufacturing processes. Contemporary techniques. Types of joints, finishes, usage in building components-door windows, false ceiling, partitions, paneling, furniture, storage &flooring. Introduction to types of tools and safe handling of hand and power tools. Orientation for operating different types of machines.

9 Periods

Interior Cladding & Bamboo: Outline of applied finishes and their techniques like floor tiling- ceramic, vitrified, terracotta, mosaic, Athangudi; wall cladding- stone and stone based, terracotta, stucco, wood and wood based, terracotta. Sustainability, durability and versatility of bamboo as an interior material for wall cladding, flooring and furniture. Studied also through relevant case studies

9 Periods

Total: 45 Periods

Weightage: Continuous Internal Assessment: 40%, End Semester Examinations: 60%.

Assessment Methodology: Two Assessments with equal weightage.
One Assessment as Internal written Test /Examination (50%), second as Assignment (50%) of any mode such as study, seminar, and or a combination of modes, etc.

References:

1. S. C. Rangwala, 'Engineering Materials', Charotar Publishing House India, 2015.
2. Roy Chudley, Roger Greeno, 'Building Construction Handbook', Routledge, 2017.

E-Resources:

1. Online Course – Materials in Construction by University of Michigan (Coursera) https://www.coursera.org/
2. Online Resource – Construction Materials and Methods by The Constructor https://theconstructor.org/
3. Open Resource – Sustainable Materials and Green Building by World Green Building Council https://www.worldgbc.org/

Required Reading:

1. Ashby, Michael, Johnson, Kara, ‘Materials and Design: The Art and Science of Material Selection in Product Design’, Butterworth-Heinemann, 2002.
2. Thompson R, ‘Manufacturing process for design professionals’, Thames and Hudson, London, 2007. Garratt J, ‘Design and Technology’, Cambridge University Press, UK, 2004.
3. American Institute of Timber Construction (AITC), 'Timber Construction Manual', Wiley Publishers, 2004.
4. Willis H Wagner and Howard Bud Smith, 'Modern Carpentry', Good Heart–Wilcox Publishers, Portland, 2007.

	Description of CO	**PO1**	**PO5**	**PO7**
CO1	Familiarity with properties, types, and applications of brick, stone, timber, and finishes.	1	1	1
CO2	Ability to consider material selection based on function, environment, and sustainability.	2	2	3
CO3	An overall understanding of material processing, construction techniques, and design integration.	2	3	2
CO4	Develop awareness of the relationship between materials, manufacturing processes, and design applications.	2	2	2

BS25304	Digital Illustrations	L	T	P	C
		1	0	4	3

Course Objectives:

- To demonstrate proficiency in digital illustration tools and software.
- To apply principles of drawing, color, composition, and storytelling to digital media.
- To create original illustrations for a variety of real-world applications.
- To develop and present a professional illustration portfolio.

Digital Tools & Drawing Foundations: Introduction to digital illustration and its interdisciplinary relevance using Illustrator, Raster vs. vector graphics (Photoshop vs. Illustrator), Digital drawing tools and techniques (line, shape, value, brushes), Pressure sensitivity, tablets, and file setup. Composition and basic color theory.

20 Periods

Visual Language – Color, Texture & Form: Advanced color theory psychological impact. Principles of composition, balance visual hierarchy and mood creation. Brush settings, texture creation, pattern and layering techniques. Light, shadow, and volume in digital illustration. Stylization and building a visual language developing a personal visual style. Preparation of a poster using the above tools.

20 Periods

Storytelling, Characters & Contextual Illustration: Narrative structures and their application in illustration. Character and environment design. Creating environments and backgrounds to support storytelling. Narrative illustration: storyboards, editorial illustration. Integrating text and image in editorial and advertising contexts. Preparation of an Illustration for branding, packaging, products, and UX/UI.

20 Periods

Portfolio Development: Understanding the professional applications of digital illustration in various industries. Preparing illustrations for different media: print, web, and mobile. Creating a cohesive portfolio showcasing a previous semester academic work with digital illustration.

15 Periods

Total: 75 Periods

Weightage: Continuous Internal Assessment: 50%, End Semester Examinations: 50%.

Assessment Methodology: Two Assessments with equal weightage.

One Assessment as Internal written Test /Examination (50%), second as Assignment (50%) of any mode such as study, seminar, and or a combination of modes, etc.

References:

1. The Illustrator's Guide to Procreate: How to Make Art on an iPad – Ruth Burrows
2. Creative Illustration – Andrew Loomis
3. Drawing on the Right Side of the Brain – Betty Edwards
4. Illustration Now! – Julius Wiedemann (TASCHEN)

E-Resources:

1. NPTEL Course – Digital Image Processing and Graphics https://onlinecourses.nptel.ac.in/
2. Online Learning – Adobe Creative Cloud Tutorials (Photoshop & Illustrator) by Adobe https://helpx.adobe.com/
3. Online Resource – Digital Illustration and Design Techniques by Canva Design School https://www.canva.com/learn/
4. Open Resource – Color Theory and Visual Storytelling by Interaction Design Foundation https://www.interaction-design.org/

Required Reading:

1. Digital Painting Techniques: Practical Techniques of Digital Art Masters– 3DTotal Publishing.
2. Illustration That Works: Professional Techniques for Artistic & Commercial Success – Greg Houston.
3. Adobe Photoshop Classroom in a Book – Conrad Chavez & Andrew Faulkner (Adobe Press).
4. Vector Basic Training: A Systematic Creative Process for Building Precision Vector Artwork – Von Glitschka.

	Description of CO	**PO3**	**PO5**	**PO7**
CO1	Familiarity with digital illustration tools, techniques, and visual language.	1	2	1
CO2	Knowledge of color theory, composition, and storytelling in illustration.	2	2	3
CO3	An overall understanding of portfolio creation and industry applications.	3	3	3
CO4	Develop the ability to create original digital illustrations for communication and design applications.	3	3	2

BS25305	Computer Modelling and Simulation Techniques - II	L	T	P	C
		0	0	6	3

Objectives:

- To introduce the fundamentals of digital modelling and Building Information Modelling (BIM).
- To develop basic skills in 3D modelling, drafting, and digital visualization.
- To understand parametric modelling concepts and their application in design development.
- To enable the preparation of digital models, presentations, and documentation through computer-based workflows.

Introduction to Digital Modelling and BIM: Overview of digital drafting, modelling, and BIM concepts. Difference between conventional drafting and information-based modelling workflows. Introduction to coordinate systems, modelling workspace, navigation tools, layers, and object organization. Understanding the role of digital modelling in design communication and documentation.

20 Periods

Basic 3D and Parametric Modelling: Introduction to 3D modelling tools and commands. Creation of basic forms, surfaces, and geometric compositions. Editing and transformation techniques. Introduction to parametric modelling concepts and simple rule-based form generation. Modelling exercises involving spatial forms, furniture elements, and product components.

20 Periods

Visualization and Documentation: Introduction to materials, textures, lighting, and rendering concepts. Basic visualization techniques for digital presentation. Preparation of drawings, layouts, annotations, schedules, and simple documentation methods. Understanding presentation workflows and portfolio preparation.

20 Periods

Applied Digital Design Studio: Development of a design project using digital modelling and BIM workflows. Exercises involving modelling, visualization, and documentation. Exploration of form, scale, spatial arrangement, and presentation techniques. Final digital presentation and portfolio submission.

30 Periods

Total: 90 Periods

Weightage: Continuous Internal Assessment: 50%, End Semester Examinations: 50%.

Assessment Methodology: Two Assessments with equal weightage.
One Assessment as Internal written Test /Examination (50%), second as Assignment (50%) of any mode such as study, seminar, and or a combination of modes, etc.

References:

1. Eastman, C., Teicholz, P., Sacks, R., & Liston, K. (2018). BIM Handbook: A Guide to Building Information Modelling (3rd Edition). Wiley Publications.
2. Yori, R., Kim, M., & Kirby, L. (2023). Mastering Autodesk Revit 2024. Sybex Publications.
3. Seidler, D. R. (2018). Digital Drawing for Designers. Fairchild Books.

4. Jabi, W. (2013). Parametric Design for Architecture. Laurence King Publishing.
5. Pottmann, H., Asper, A., Hofer, M., & Kilian, A. (2007). Architectural Geometry. Bentley Institute Press.
6. Ching, F. D. K. (2020). Design Drawing (3rd Edition). Wiley Publications.

E-Resources:

1. NPTEL Course – Building Information Modeling (BIM) in Construction https://onlinecourses.nptel.ac.in/
2. Online Learning – BIM and Revit Courses by Autodesk https://www.autodesk.com/education
3. Online Resource – BIM Standards and Collaboration Tools by buildingSMART International https://www.buildingsmart.org/
4. Official free tutorials for modelling, rendering, drafting, SubD, and Grasshopper. https://www.rhino3d.com/learn/

	Description of CO	**PO5**	**PO10**	**PO11**
CO1	Understand the fundamentals of digital drafting, 3D modelling, and BIM workflows.	2	1	1
CO2	Develop basic digital models using geometric and parametric modelling techniques.	3	1	2
CO3	Apply visualization and documentation methods for digital presentation.	3	3	2
CO4	Produce a digital design project integrating modelling, rendering, and documentation workflows.	3	3	3

BS25306	Studio III – Interior Space Design Studio	L	T	P/S	C
		0	0	10	5

Course Objectives:

- To enable the understanding of the qualitative and quantitative aspects of basic space design for human use.
- To facilitate exploration of ways to address timeless aspects involved in the design of interior in a residential scale.
- To enable a sensitivity towards the cultural, particular and temporal aspects of interior architecture

The creation and organization of spaces and forms are fundamental to human life and activity. Interior environments are shaped by various factors, including anthropometric requirements, functional needs, spatial relationships, social and cultural influences, environmental responsiveness, psychological well-being, lighting, ventilation, structure, symbolism, and economy. Interior design, as a discipline, synthesizes these qualitative and quantitative aspects into a coherent spatial framework through a conscious and systematic design process. This process involves the study and analysis of existing conditions while exploring future possibilities through critical thinking and creative intervention.

In the Studio, the focus would be on simple interior design projects that would enable the learning of the fundamentals of space with respect to all the above. The projects would be based on small, everyday situations involving simple circulation, materials and use in project such as residence, farm house, apartment etc. Detailing of living room/ bedroom/ kitchen/ toilets/ storage/ study including furniture design.

Total: 150 Periods

Weightage: Continuous Internal Assessment:50%, End Semester Examinations: 50%.

Assessment Methodology:

Three Assessments with equal weightage (approx.33.33% each).
Each assessment shall incorporate continuous marking of the work and performance during the particular assessment period.

References:

1. Kent C. Bloomer, Charles W. Moore, ‘Body, Memory and Architecture’, Yale, 1977.
2. Gaston Bachelard, ‘Poetics of Space’, Beacon Press, 1994.
3. Juhani Pallasmaa, 'The Eyes of the Skin - Architecture and the Senses', John Wiley,2012.
4. Joseph De Chiara, Michael J Crosbie, ‘Time Saver Standards for Building Types’, McGraw Hill Professional 2001.
5. Julius Panero, Martin Zelnik, ‘Human Dimension and Interior Space,’ Whitney Library of Design, 1975.
6. Joseph De Chiara, Julius Panero, Martin Zelnik, Time Saver Standards for Interior Design and Space Planning, McGraw Hill 2017.

7. Hideaki Hareguchi, A Comparative Analysis of 20th Century Houses, Academy Editions, 1988.
8. Sam F.Miller, Design Process: A Primer for Architectural and Interior Design, Van Nostrand Reinhold, 1995.
9. Ernst Neuferts Architects Data, Wiley, 2012.
10. Philip Plowright, 'Revealing Architectural Design: Methods, Frameworks and Tools', Routledge, 2014.

E – Resources:

1. NPTEL Course – Introduction to Architecture and Interior Design
   https://onlinecourses.nptel.ac.in/
2. Open Educational Resource – Architecture Design Studio: Space and Form by MIT OpenCourseWare
   https://ocw.mit.edu/
3. Online Resource – Interior Design Case Studies and Projects by ArchDaily
   https://www.archdaily.com/
4. Open Resource – Human-Centered Design and Spatial Experience by Interaction Design Foundation
   https://www.interaction-design.org/

	Description of CO	**PO2**	**PO3**	**PO10**
CO1	Basic understanding of anthropometrics, spatial requirements, and human-centered interior design principles.	2	1	2
CO2	Ability to design simple residential interior spaces considering circulation, function, and furniture integration.	3	3	2
CO3	Awareness of cultural, environmental, and psychological factors influencing interior architecture.	2	2	3

Semester IV

BS25401	Professional Ethics and Law	L	T	P	C
		3	0	0	3

Course Objectives:

- To introduce the foundations of design ethics and professional practice, including office management, professional conduct, and fee structures in interior design.
- To familiarise students with legal frameworks governing design practice in India, including intellectual property rights, contracts, and professional obligations.
- To develop competency in managing designer–client relationships, contracts, and tender processes, ensuring ethical decision-making and professional accountability.
- To enhance the ability to integrate ethical, legal, and professional practices into real-world design scenarios through case-based understanding.

Foundations of Professional Ethics and Practice: Introduction to ethics, values, and responsibilities in professional practice. Understanding professional conduct, workplace behavior, accountability, and decision-making in creative and technical fields. Concepts of office organization, teamwork, communication, documentation, and management practices. Overview of professional fees, contracts, labor welfare provisions, and workplace responsibilities. Introduction to legal awareness, professional obligations, and ethical issues through case-based discussions and practical examples.

9 Periods

Designer Client Relationship, Contract and Tender: Designer-client relationships, handling conflicts, and understanding professional accountability in the Indian market. How to ensure ethical decision-making in design practice, avoiding exploitation, and respecting traditional and indigenous knowledge. Drafting basic contracts and understanding design-related legal documentation in the Indian context.

9 Periods

Legal Frameworks for Designers in India: Introduction to Indian Intellectual Property Rights (IPR) – Overview of copyright laws, trademarks, patents, and design rights under the Indian Copyright Act, 1957, Indian Patents Act, 1970, and Design Act, 2000 – Protection of creative works and industrial designs and their implications for designers – Role and functions of professional bodies and agencies such as the Indian Institute of Interior Designers (IIID) and Bureau of Indian Standards (BIS) – Understanding contracts and agreements in professional design practice with clients, consultants, collaborators, and manufacturers.

9 Periods

Ethical and Legal Challenges in Digital and Emerging Design in India: Ethics in Digital Design in India: Understanding user privacy, data protection, and the ethics of digital platforms in India, with references to The Information Technology Act, 2000 and Data Protection Law. Emerging Technologies and Ethics in Indian Design: Ethical considerations in the use of emerging technologies like AI, AR/VR, and block chain in Indian contexts.

9 Periods

Social Responsibility, Sustainability, and Inclusivity in Indian Design: Exploring the role of design in addressing Indian societal issues, such as poverty, accessibility, and marginalization. Examining India's environmental challenges and how design can contribute to sustainability (e.g., use of local materials, waste management). Addressing design for differently-abled users, elderly, and other marginalized communities in India. Socially responsible design projects, including design for rural India, urban planning for the under privileged, and eco-friendly initiatives.

9 Periods

Total: 45 Periods

Weightage: Continuous Internal Assessment: 40%, End Semester Examinations: 60%.

Assessment Methodology: Two Assessments with equal weightage.
One Assessment as Internal written Test /Examination (50%), second as Assignment (50%) of any mode such as study, seminar, and or a combination of modes, etc.

References:

1. "Intellectual Property Rights and the Law" – N.S. Gopalakrishnan & T.G. Agitha Roshan, Nanavati,
2. "Design and the Law" – Prof. A. R. M. Ramaswamy
3. "Design Ethics" – Prof. R. S. Bawa
4. "Design for Social Change: New Approaches to Design and Ethics" – A. S. Tiwari
5. Contract Law for Designers" – P. Kumar
6. The Patents Act, 1970 – Government of India, The Patents Act, 1970.
7. The Designs Act, 2000 – Government of India, The Designs Act, 2000.
8. Indian Institute of Interior Designers publications and professional practice guidelines.
9. Bureau of Indian Standards standards and codes related to design and construction practices.

E-Resources:

1. NPTEL Course – Ethics in Engineering Practice https://onlinecourses.nptel.ac.in/
2. Online Course – Intellectual Property Law by University of Pennsylvania (Coursera) https://www.coursera.org/
3. Open Educational Resource – Law and Ethics in Design and Technology by MIT OpenCourseWare https://ocw.mit.edu/
4. Online Resource – Indian Intellectual Property Rights (IPR) Portal by Government of India https://ipindia.gov.in/

	Description of CO	PO1	PO3	PO10
CO1	Knowledge of professional practice, tender processes, contracts, and legal frameworks in interior design.	3	1	2
CO2	Ability to consider ethical, social, and sustainability aspects in design practice within the Indian context	2	2	2
CO3	Familiarity with materials, estimation techniques, and office management in interior projects.	2	3	3
CO4	Understand the role of socially responsible, sustainable, and inclusive design practices in addressing societal, environmental, and accessibility challenges within the Indian context.	3	2	2

BS25402	Interior Landscape Design	L	T	P	C
		3	0	0	3

Course Objectives:

- To understand the role and importance of plants in enhancing interior environments and user well-being.
- To introduce interior landscape styles and landscape design approaches used in various interior spaces.
- To familiarise students with the elements and principles of design applied in interior landscaping and spatial planning.
- To provide knowledge of softscape, hardscape, lighting, irrigation, and maintenance systems used in interior landscapes.
- To develop the ability to design sustainable, functional, and aesthetically responsive interior landscape solutions through case studies and design-based learning approaches.

Role of plants in interior landscape: Introduction to interior landscape design – History and evolution of interior landscaping – Importance of plants in interior environments – Psychological, physiological, and environmental benefits of plants – Role of plants in enhancing indoor air quality and user well-being – Concept of biophilic design and human-nature relationship – Plant selection based on light, humidity, maintenance, and spatial requirements.

9 Periods

Interior landscape styles and design approaches: Interior landscape styles and themes – Contemporary, tropical, zen, minimalist, ecological, and sustainable landscape approaches – Concept of xeriscape and low-maintenance landscapes – Residential, commercial, hospitality, and wellness-oriented interior landscapes – Vertical gardens, green walls, atriums, indoor courtyards, terrariums, rooftop conservatories, and hanging gardens – Modern trends and innovations in interior landscape design – Case studies of contemporary interior landscape projects.

9 Periods

Elements and principles of design in interior landscapes: Elements of design: line, form, texture, colour, scale, and proportion in landscape composition – Principles of design: balance, rhythm, harmony, emphasis, unity, and contrast – Spatial planning with greenery – Color, texture, and scale in plant selection – Integration of planters, green partitions, and hanging gardens within interior spaces – Design applications for residential, commercial, hospitality, and wellness interiors – Case studies of award-winning interior landscape projects.

9 Periods

Softscape, Hardscape, Lighting and services: Introduction to softscape and hardscape elements – Softscape materials: plants, lawns, shrubs, creepers, and planting media – Hardscape materials: stone, wood, pebbles, paving, water features, planters, and screens – Irrigation systems: manual watering, drip irrigation, and self-watering systems – Lighting systems for interior landscapes including natural lighting and LED grow lights – Drainage systems, humidity considerations, and maintenance strategies – Integration of landscape services within interior spaces.

9 Periods

Sustainable landscape design and case studies

Principles of sustainable landscape design – Water conservation and rainwater harvesting – Use of native and adaptive plant species – Study and analysis of residential, commercial, and hospitality interior landscape projects – Documentation and case studies of modern sustainable interior landscape designs.

9 Periods

Total: 45 Periods

Weightage: Continuous Internal Assessment: 40%, End Semester Examinations: 60%.

Assessment Methodology: Two Assessments with equal weightage.
One Assessment as Internal written Test /Examination (50%), second as Assignment (50%) of any mode such as study, seminar, and or a combination of modes, etc.

References

1. April Philips. Designing Urban Agriculture: A Complete Guide to the Planning, Design, Construction, and Maintenance of Edible Landscapes. Wiley.
2. Linda Chalker-Scott. The Informed Gardener. University of Washington Press.
3. Susan E. Taylor. Indoor Garden Design. Timber Press.
4. Stephen Anderton. Gardening Indoors: Creative Design Ideas for Indoor Green Spaces. Dorling Kindersley.
5. Robin Horton (Editor). Biophilic Design: The Theory, Science, and Practice of Bringing Buildings to Life. Wiley.

E-Resources:

1. NPTEL Course – Landscape Architecture and Urban Design https://onlinecourses.nptel.ac.in/
2. Open Educational Resource – Landscape Design and Environmental Planning by MIT OpenCourseWare https://ocw.mit.edu/
3. Online Resource – Biophilic Design and Green Interiors by Terrapin Bright Green https://www.terrapinbrightgreen.com/

	Description of CO	**PO1**	**PO3**	**PO7**
CO1	Understand the role of plants and biophilic principles in enhancing the environmental, psychological, and functional quality of interior spaces.	2	1	3
CO2	Identify different interior landscape styles and sustainable landscape approaches.	2	2	3
CO3	Apply elements and principles of design in interior landscape planning.	2	3	2
CO4	Understand the use of softscape, hardscape, lighting, irrigation, and maintenance systems in interior landscapes.	3	2	3
CO5	Develop simple and sustainable interior landscape design solutions for different interior spaces.	2	3	3

BS25403	Interior Services I	L	T	P	C
		3	0	0	3

Course Objectives:

- To introduce the fundamentals of electrical, lighting, water supply, and sanitation systems used in interior environments.
- To develop an understanding of lighting principles and lighting design techniques for enhancing functionality, comfort, and visual quality in interior spaces.
- To familiarise students with plumbing, water distribution, drainage, and sanitation systems in accordance with relevant building standards and regulations such as NBC and ECBC.
- To enable students to prepare and interpret service layouts, lighting plans, and plumbing drawings for residential and commercial interior projects.
- To develop the ability to integrate interior services effectively within the overall design framework, ensuring safety, efficiency, sustainability, and user comfort.

Electrical systems for interiors: Introduction to electrical systems in buildings – Fundamentals of power supply and distribution – Electrical wiring systems, circuits, earthing, and safety measures – Transformers, generators, UPS, and emergency power systems – Electrical layouts for residential and commercial interiors – Switches, sockets, conduits, and cable management – Integration of electrical systems within interior spaces – Energy-efficient electrical systems – Relevant provisions of National Building Code (NBC) related to electrical safety and installations.

9 Periods

Fundamentals of lighting: Principles of illumination – Visual comfort and glare control – Natural and artificial lighting – Types of lighting: ambient, task, accent, decorative, and architectural lighting – Types of lamps, luminaires, and lighting fixtures – Daylighting strategies and energy-efficient lighting systems – Relevant provisions of NBC and Energy Conservation Building Code (ECBC) related to interior illumination and energy efficiency.

9 Periods

Lighting design for interiors: Lighting design process and techniques – Lighting calculations and layout preparation – Lighting design for residential, commercial, hospitality, retail, and workspace interiors – Mood creation and spatial enhancement through lighting – Integration of lighting with interior materials, finishes, and furniture – Smart lighting controls and automation systems – Sustainable and energy-conscious lighting design – Preparation of lighting plans and reflected ceiling plans (RCP).

9 Periods

Water supply systems: Introduction to water supply systems in buildings – Sources and storage of water – Hot and cold water supply systems – Plumbing fixtures, fittings, valves, pumps, and piping materials – Water distribution methods for residential and commercial interiors – Kitchen and toilet plumbing layouts – Rainwater harvesting and water conservation techniques – Sustainable water management practices – Preparation

of plumbing and water supply drawings – Relevant standards and regulations from NBC related to water supply systems - Model making and design-based learning through case studies, site visits, documentation, and presentations. **9 Periods**

Sanitation systems

Principles of sanitation and drainage – Study of Soil, waste, vent pipe system, single stack, and double stack systems used in low-rise and high-rise buildings– Drainage layouts and sewage disposal systems – Inspection chambers and traps – Solid waste management systems – Plumbing integration in service-intensive spaces such as kitchens and toilets – Maintenance and hygiene considerations – Sustainable sanitation systems and wastewater management – Preparation of sanitation and drainage drawings – NBC guidelines related to sanitation, drainage, and public health requirements - Model making and design-based learning through case studies, site visits, documentation, and presentations.

9 Periods

Total: 45 Periods

Weightage: Continuous Internal Assessment: 40%, End Semester Examinations: 60%.

Assessment Methodology: Two Assessments with equal weightage.
One Assessment as Internal written Test /Examination (50%), second as Assignment (50%) of any mode such as study, seminar, and or a combination of modes, etc.

References

1. R. Chudley – Building Construction Handbook – BLPD, London 1990.
2. Charangith shah, Water supply and sanitary engineering, Galgotia Publishers.
3. William. J. Guinness; Mechanical and Electrical Systems for Buildings.
4. M.H. Lulla, Air conditioning.
5. Peter Templeton & Saunders – Detailing for Architectural Acoustics – Architectural press, 1994.
6. TTT Institute (Madras), Environmental Engineering, Tata McGraw – Hill publishing Company Limited.
7. V.K. Jain, Fire Safety in Buildings.
8. Godsey, Lisa. Interior design materials and specifications. A&C Black, 2012.
9. Mehta, Madan, Building construction: Principles, materials, and systems. Pearson Prentice Hall, 2008.
10. Bindra, S.P. and Arora, Building Construction: Planning Techniques and methods of Construction.
11. J. Rosemary Riggs: Materials and Components of Interior Architecture.

E-Resources:

1. NPTEL Course – Building Services and Environmental Engineering https://onlinecourses.nptel.ac.in/
2. Online Course – Construction Management and Building Systems by Columbia University (Coursera) https://www.coursera.org/
3. Open Educational Resource – Building Technology and Services (HVAC, Electrical, Plumbing) by MIT OpenCourseWare https://ocw.mit.edu/

4. Open Resource – HVAC and Building Services Guidelines by Indian Society of Heating Refrigerating and Air Conditioning Engineers https://ishrae.in/

	Description of CO	PO1	PO2	PO5	PO7
CO1	Understand the fundamentals of electrical systems, lighting, water supply, and sanitation systems used in interior environments.	3	1	2	1
CO2	Analyse lighting principles and apply lighting design techniques to create functional and aesthetically responsive interior spaces.	2	3	2	2
CO3	Apply principles of water supply, plumbing, drainage, and sanitation systems in residential and commercial interior projects.	3	2	2	3
CO4	Prepare electrical layouts, lighting plans, plumbing drawings, and sanitation layouts in accordance with relevant standards and regulations such as NBC and ECBC.	2	2	3	2
CO5	Develop integrated interior service solutions that ensure safety, efficiency, sustainability, and user comfort within interior spaces.	2	3	2	3

BS25404	Materials and Manufacturing II	L	T	P	C
		3	0	0	3

Course Objectives:

- To introduce the properties, manufacturing processes, and applications of key building materials such as steel, aluminium, plastics, and glass in interior design.
- To develop an understanding of material selection, types, and performance characteristics, including strength, durability, corrosion resistance, and fire protection.
- To familiarise students with construction techniques, joining methods, and finishing processes such as welding, riveting, coating, anodizing, adhesives, and sealants.
- To enable students to analyse the application of materials in building components such as doors, windows, partitions, ceilings, cladding, and interior finishes.
- To develop knowledge of modern materials, innovations, and sustainable practices, including advanced glass systems, metal profiles, polymers, and eco-friendly finishes.

Steel and its applications: Outline of metal as a key material, examining their history, properties, sourcing, and manufacturing processes. Types of metal – Ferrous and non-ferrous, joints- welding, riveting, bolting, finishes, usage in building components-door windows false ceiling partitions, paneling, flooring. Outline of manufacture of steel and steel alloys. Their properties, types, uses, protection and finishes. Corrosion of ferrous metals and its prevention. Fire protection of steel. Steel sections and products for structural and non-structural use including current innovations. Metal profiles -processes, typical products, joining profiles. (Welding, Adhesives, fasteners, etc.,) Finishes- (Plating, Printing, polishing, coating, etc.,). Preparation of plates to understand their usage in building components and finishes.

9 Periods

Aluminium: Properties, Alloys, Fabrication, and Applications: Aluminum as a key construction material, covering its history, properties, sourcing, and manufacturing. Aluminum types and alloys, joining methods (welding, riveting, adhesives), and surface finishes (anodizing, coating, polishing). Applications in building components such as doors, windows, ceilings, partitions, and cladding. aluminum profiles used in architectural and structural elements, emphasizing fabrication techniques and current innovations for efficient and sustainable building design.

9 Periods

Plastic as a building and furniture material: Plastic as a building and furniture material – brief history, manufacture, properties, types, uses, and applications in interiors and furniture design. Study of plastic furniture, molded furniture systems, and contemporary applications in residential and commercial spaces. Different types of adhesives and sealants. Plastic joints. Plastic based materials for roofs such as fibre glass, etc., Specific materials such as polymers, polycarbonate sheet and Teflon. Understanding of product literature and site visits with documentation in the form of sketches/ photos for all the above.

9 Periods

Glass in Building Design: Glass as a building material. Brief history, manufacture, properties and uses of glass. Types of glass - float glass, cast glass, glass blocks, foamed glass, solar control, toughened glass, wired glass, laminated glass, fire-resistant glass, glass blocks, etc. Current innovations in the application of Glass in interiors.

9 Periods

Interior Finishes and its application: Introduction to interior finishes. Different types of paints, their composition, characteristics and uses. Types to include enamels, distemper, plastic emulsion, polyurethane, special paints such as fire retardant, luminous and bituminous paints. Preparation of surface and application for different paints/ textured finishes. Gypsum and POP finishes. Adhesives and sealants. Understanding of product literature. Understanding construction techniques through site visits/ case studies.

9 Periods

Total: 45 Periods

Weightage: Continuous Internal Assessment: 40%, End Semester Examinations: 60%.

Assessment Methodology: Two Assessments with equal weightage.
One Assessment as Internal written Test /Examination (50%), second as Assignment (50%) of any mode such as study, seminar, and or a combination of modes, etc.

References

1. Gorenc, Tinyou, Syam, 'Steel Designer's Handbook', CBS Publishers and Distributors, New Delhi, Bangalore, 2012.
2. P.C Vargheese, 'Building Materials', Prentice Hall of India, 2015.
3. S.K. Duggal, 'Building Materials', New Age International Publishers, 2016.
4. B.C.Punmia et al, 'Building Construction', Laxmi Publications, 2016.
5. Roy Chudley, Roger Greeno, 'Building Construction Handbook', Routledge, 2010.
6. Alan Blanc, 'Architecture and Construction in Steel', E and FN Spon, London, 1993
7. Allan Brookes, 'Cladding of Buildings', Taylor and Francis,2008.
8. Mark Lawson, Peter Trebilcock, 'Architectural Design in Steel', Taylor and Francis, 2004.
9. Terri Meyer Boake, 'Understanding Steel Design', Birkhauser, 2011.
10. R.M. Davis, 'Plastics in Building Construction', Battersea College of Technology, Blackie, London, 1966
11. Ralph Monletta, 'Plastics in Architecture– A Guide to acrylic and Polycarbonate', Marcel Dekker Inc, New York, 1989
12. 'IS 7883. Code of Practice for the Use of Glass in Buildings ', Bureau of Indian Standards,2013.
13. Billie Faircloth, 'Plastics Now: On Architecture's Relationship to a Continuously Emerging Material', Routledge, 2015.

E-Resources:

1. NPTEL – Materials & Construction Courses https://onlinecourses.nptel.ac.in/
   World Steel Association – Steel Applications https://worldsteel.org/
2. International Aluminium Institute https://www.world-aluminium.org/

3. Saint-Gobain Glass Resources https://www.saint-gobain-glass.com/
4. Bureau of Indian Standards (BIS) – NBC & Codes https://www.bis.gov.in/

	Description of CO	**PO1**	**PO3**	**PO5**
CO1	Familiarity with perspective techniques and spatial visualization of interior forms.	2	1	2
CO2	An overall understanding of construction materials and their applications in interior assemblies.	2	2	2
CO3	Ability to design interior elements incorporating appropriate materials, finishes, and detailing.	2	3	3
CO4	Understanding of construction techniques such as welding, joining, coating, and finishing processes.	3	2	2
CO5	Awareness of modern and sustainable materials and their application in contemporary interior design.	3	3	3

BS25405	Design Detailing I	L	T	P	C
		1	0	4	3

Course Objectives:

- To introduce various aspects involved in the construction of buildings through the understanding of different types of architectural and technical drawings.
- To enable the understanding of architectural design as integrating spatial and technical concerns.
- To enable development of an architectural design project into schematic drawings through integrating concerns of structure, construction and services.
- To give knowledge to create architectural drawings for construction and as a base for structures and services drawings.
- To give knowledge to design, incorporate and detail architectural and interior components of the architectural design project.

Understanding Architectural /Building Drawings: Understanding comprehensive set of drawings for any live building project, interpreting them and presenting their characteristics through seminars/ assignments. The drawings to be studied should include working drawings from macro to micro scale-interior plans, staircase details, kitchen and toilet detail of joinery, etc., structural drawings and service drawings to include electrical, plumbing, mechanical and HVAC details.

15 Periods

Schematic Design Integrating Structures &Services: Evolving a schematic design, balancing different technical considerations including appropriate structural, plumbing, electrical, mechanical and HVAC systems. Working out schematics for small to medium projects. Typology -residences (studio 3 project).

20 Periods

Interior Working Drawings: Preparation of working drawings for the resolved schematic design. Drawings to include, detailed drawings of specific areas like bedrooms, staircases and wall sections, dimensions explaining the various components, joinery schedule. Design and preparation of layouts of service intensive rooms like kitchens and toilets.

20 Periods

Detailed Drawings of Interior Components: Design and preparation of detailed drawings of joinery including doors, windows and ventilators. Design and detailing: floor, wall and ceiling finishes/ construction details.

Design and preparation of detailed drawings of built in furniture and components: counters, cabinets, wardrobes, storage, fittings and fixtures, display units, workstation etc.

20 Periods

Total: 75 Periods

Weightage: Continuous Internal Assessment: 50%, End Semester Examinations: 50%.

Assessment Methodology: Two Assessments with equal weightage.

One Assessment as Internal written Test /Examination (50%), second as Assignment (50%) of any mode such as study, seminar, and or a combination of modes, etc.

Required Reading

1. Joseph De Chiara, Michael Crosby, 'Time Saver Standards for Building Types', McGraw Hill Co, 2001.
2. Richardson Die truck, 'Big Idea and Small Building', Thames and Hudson, 2002.
3. Edward D Mills, 'Planning–The Architect's Handbook, Butterworths, 1985.
4. Roy Chudley, Roger Greeno, 'Building Construction Handbook', Routledge, 2016.
5. Susan Dawson, 'Architect's Working Details -Volume 1-10', E- Map Construct, 2004.
6. Nelson L Burbank, 'House Carpentry Simplified', McGraw Hill, 1985.
7. David Sauter, 'Landscape Construction', Delmar Publishers, 2010.
8. Grant W. Reid, 'Landscape Graphics', Watson-Gup till, 2002. 5. Francis. D. K. Ching, 'Building Construction Illustrated', John Wiley and Sons, 2014.

E-Resources:

1. NPTEL – Building Construction & Architectural Drawing https://onlinecourses.nptel.ac.in/
2. MIT OpenCourseWare – Architecture & Building Technology https://ocw.mit.edu/
3. AutoCAD Learning Resources https://knowledge.autodesk.com/
   National Building Code of India (BIS Portal) https://www.bis.gov.in/

	Description of CO	**PO3**	**PO5**	**PO11**
CO1	Familiarity with architectural and technical drawings used in building construction.	1	2	1
CO2	An overall understanding of integrating spatial, structural, and service aspects in design development.	3	2	2
CO3	Awareness of detailing interior components and preparing comprehensive working drawings.	3	3	3
CO4	Understanding of design detailing of interior components including materials and construction methods.	2	3	2
CO5	Ability to prepare schematic and working drawings integrating structure, services, and design intent.	3	3	3

BS25406	Studio IV - Design Studio I	L	T	P/S	C
		0	0	12	6

Course Objectives:

- To enable an understanding of the fundamental possibilities of architectural form and space in relation to human experience and use within the context of the immediate living environment.
- To get the above understanding through personal, first-hand exploration as well as through theoretical and literature studies.
- To use this understanding to create meaningful built environment in the context of small-scale projects that involve simple function and experience.

The design of the built environment requires the development of critical and analytical thinking with respect to both objective and subjective aspects of space and form. The study and design of small-scale projects that offer immediate spatial experiences are essential for understanding the principles of interior and architectural design. The studio process shall involve the study of human behaviour, activities, and spatial requirements, along with considerations of lighting, ventilation, materials, and construction systems through theoretical inquiry, first-principle approaches, and live case studies. Through this process, students will engage with both the qualitative and quantitative dimensions of design and develop the ability to create responsive, meaningful, and functional interior environments.

The studio shall focus on small to medium-scale hospitality projects such as cafés, restaurants, hotel lobbies, and hotel room interiors with attached toilet facilities. The projects shall include the design and detailing of interior finishes, furnishings, furniture, and the integration of building services within the overall spatial framework. Students shall complete any two projects from the specified typologies as part of the studio exercise.

Total: 180 Periods

Weightage: Continuous Internal Assessment: 50%, End Semester Examinations: 50%.

Assessment Methodology:

Three Assessments with equal weightage (approx.33.33% each).
Each assessment shall incorporate continuous marking of the work and performance during the particular assessment period.

References:

1. Joseph De Chiara, Michael J Crosbie, 'Time Saver Standards for Building Types', McGraw Hill Professional, 2001.
2. Kevin Lynch, 'Site Planning', MIT Press, Cambridge, 1967.
3. Steen Eiler Rasmussen, Experiencing Architecture, MIT Press, 1962.
4. Kent C. Bloomer and Charles W. Moore, 'Body, Memory, and Architecture', Yale University Press, 1977.
5. Juhani Pallasmaa, 'The Eyes of the Skin - Architecture and the Senses', John Wiley: New York, 2005.

6. Julius Panero, Martin Zelnik, 'Human Dimension and Interior Space', Whitney Library of Design, 1975.
7. Richard P. Dober, 'Campus Planning', Society for College and University Planning ,1996.
8. Sam F. Miller, 'Design Process: A Primer for Architectural and Interior Design', Van Nostrand Reinhold, 1995.
9. Dudek M, 'Schools and Kindergartens', Birkhauser 2007.

E - Resources:

1. The Interaction Design Foundation – Human-Centred Design

https://www.interaction-design.org/

2. Material ConneXion – Material & Experience https://materialconnexion.com/

3. MIT OpenCourseWare – Architecture Studio Learning
https://ocw.mit.edu/courses/architecture/

	Description of CO	**PO2**	**PO3**	**PO10**
CO1	Awareness of the relationship between architectural space and human experience in built environments.	2	1	3
CO2	An overall understanding of design principles through theoretical study and practical exploration.	2	2	2
CO3	Familiarity with developing small-scale projects incorporating function, materials, and environmental response.	3	3	2