AMRITA SCHOOL OF ARCHITECTURE

BACHELOR OF ARCHITECTURE (B. Arch)
CURRICULUM 2025

(2025 Onwards)

GENERAL INFORMATION

Introduction

The Bachelor of Architecture (B.Arch) program offered by the School of Architecture at Amrita Vishwa Vidyapeetham is a **five-year professional program** structured in accordance with the Council of Architecture (COA) Minimum Standards of Architectural Education and the National Education Policy. The program is envisioned to develop architects who are ethically grounded, socially responsive, environmentally conscious, and intellectually rigorous, capable of addressing the evolving challenges of the built environment in India and across the globe.

Rooted strongly in **Indian Knowledge Systems (IKS)**, the curriculum foregrounds India's rich architectural heritage, vernacular wisdom, cultural philosophies, and traditional construction practices as living knowledge systems rather than historical references alone. Courses in history, culture, art appreciation, Vedic and vernacular traditions, Vastu Shilpashastra, conservation, and dedicated open electives on Indian Knowledge Systems enable students to critically engage with indigenous spatial logic, climate-responsive design, sacred geometry, craft traditions, and region-specific building practices. This grounding allows students to reinterpret traditional wisdom in dialogue with contemporary architectural challenges. **Sustainability** forms a core and continuous theme across the five-year curriculum, rather than a standalone concern. Principles of environmental design, building physics, energy modelling, integrated building systems, sustainable materials, disaster resilience, and ecological ethics are embedded within design studios, building sciences, and professional electives. Students are trained to approach architecture as a humane and responsible act—balancing environmental stewardship, social equity, resource efficiency, and long-term resilience.

The program spans ten semesters, progressing from foundation studios that develop design thinking, visual communication, and material sensibility, to advanced architectural design studios that integrate technology, research, urban issues, and professional practice. The curriculum is structured around **Foundation Courses, Professional Core Courses, Building Sciences and Applied Engineering Courses, Professional and Open Electives, Skill and Ability Enhancement Courses, and Value-Added Courses. Studio-based learning** remains central, supported by theory, research, hands-on workshops, field studies, and a mandatory professional training semester.

Emphasizing interdisciplinary integration, critical inquiry, ethical responsibility, and research-based design, the B.Arch program prepares graduates for professional practice, higher studies, research, and leadership roles. By harmonizing tradition with innovation, Indian knowledge with global perspectives, and sustainability with technological advancement, the curriculum aims to nurture architects capable of shaping resilient, inclusive, and future-ready built environments.

Abbreviations

L	-	Lecture
T	-	Tutorial
P	-	Practical
PO	-	Program Outcome
PSO	-	Program Specific Outcome
CO	-	Course Outcome
C	-	Credit
S	-	Studio
PC	-	Professional Core
BSAE	-	Building Sciences & Applied Engineering
PE	-	Professional Elective
OE	-	Open Elective
PAEC	-	Professional Ability Enhancement Course
SEC	-	Skill-enhancement Course
VAC	-	Value-added Course

Course Outcome (CO) – Statements that describe what students are expected to know and are able to do at the end of each course. These relate to the skills, knowledge and behaviour that students acquire in their progress through the course.

Program Outcomes (PO) – Statements that describe what students are expected to know and be able to do upon graduating from the program. These relate to the skills, knowledge, attitude and behaviour that students acquire through the program.

Program Outcomes for B.Arch. (Bachelor of Architecture)

PO1 **Domain specific Knowledge** - develop a comprehensive understanding of the foundational philosophy and essential principles that inform the multidimensional and multifaceted nature of architecture.

PO2 **Contextual and Regional Understanding** - understand and respond to regional diversities, vernacular traditions and indigenous practices, especially drawing from Indian Knowledge Systems.

PO3 **Innovation and Adaptability** - embrace change as a catalyst for creative thinking, innovation and reinterpretation of architectural practices to meet evolving societal needs.

PO4 **Sustainable and Humane Design** - evaluate and apply sustainable practices, technological advancements and ecological principles with a critical understanding of their socio-cultural and ethical implications.

PO5 **Interdisciplinary Integration** - integrate knowledge from diverse disciplines such as ecology, philosophy, history, social sciences and Indian Knowledge Systems to address complex architectural and urban challenges.

PO6 **Critical and Reflective Thinking** - apply critical inquiry, philosophical reasoning and reflective thinking to question conventional norms and develop a deeper understanding of architecture and demonstrate the ability to identify, analyse and solve complex design problems with informed judgment and creativity.

PO7 **Ethical Responsibility and Compassion** - embody ethical awareness, compassion and social responsibility in all design decisions, contributing to inclusive, equitable and just environments.

PO8 **Communication, Collaboration and Teamwork** - communicate ideas effectively through multiple mediums and work collaboratively and respectfully in multidisciplinary teams to co-create innovative and contextually responsive design solutions.

PO9 **Lifelong and Independent Learning** - cultivate habits of self-directed, lifelong learning and develop the capacity to learn continuously through curiosity, experimentation and exploration.

PO10 **Vision for the Future** - develop a forward-looking vision for architecture that balances tradition, innovation and cutting-edge technology, rooted in compassion, sustainability and human well-being.

PO11 **Research and Evidence-Based Practice** – Engage in rigorous inquiry and utilize qualitative and quantitative research methods to inform design decisions, assess performance, and contribute to the evolving body of architectural knowledge.

Program-Specific Outcomes

PSO1. Design Excellence through Indian Knowledge Systems

Demonstrate the ability to create contextually responsive and sustainable architectural solutions by drawing from Indian Knowledge Systems, vernacular traditions and regional practices, blending cultural sensitivity with innovative spatial thinking.

PSO2. Technological and Technical Proficiency

Integrate traditional construction knowledge with emerging digital tools, building sciences, and smart technologies to develop accurate architectural documentation, performance-based design solutions and context-sensitive applications of cutting-edge systems.

PSO3. Ethical and Future-Ready Professional Practice
Apply principles of ethical practice, project management and participatory design while envisioning an architectural future that harmonizes tradition, sustainability and global innovation with compassion and social responsibility.

General Framework by Council of Architecture, India

(Appendix A of Minimum Standards of Architectural Education Regulations, 2020)

Category	Description	Suggested Weightage in Credits	Weightage given in syllabus
Professional Core Course (PC)	A course, which should compulsorily be studied by a candidate as a core requirement is termed as a Core course	50%	60%
Building Sciences and Applied Engineering Course (BSAE)	A course which informs the Professional core and should compulsorily be studied.	20%	14%
Professional Elective (PE)	A course which may be very specific or specialized or advanced or supportive to the discipline or subject of study or which provides an extended scope	10%	6%
Open Elective (OE)	A course which enables an exposure to some other discipline or subject or domain or nurtures the candidate‘s proficiency or skill. Can be replaced by Professional Elective.	5% (can be included in PE also)	3%
Professional Ability Enhancement Course (PAEC)	A type of Employability Enhancement Course	10%	12%
Skill Enhancement Course (SEC)	A type of Employability Enhancement Course	5%	5%

SEMESTER I

S.No.	Cat.	Code	Title	L T P	Credit
1	PC	25ARC101	Foundation Design Studio – I	2-4-16	14
2	PC	25ARC102	History & Culture - I	2-0-0	2
3	PC	25ARC103	Art Appreciation	2-0-0	2
4	VAC/SEC	22ADM101	Foundations of Indian Heritage	2-0-1	2
5	VAC/SEC	22AVP103	Mastery Over Mind	1-0-2	2
			TOTAL	31	22

SEMESTER II

S.No.	Cat.	Code	Title	L T P	Credit
1	PC	25ARC111	Foundation Design Studio – II	2-4-16	14
2	BSAE	25ARC112	Building Materials & Technology - I	1-0-2	2
3	PC	25ARC113	History & Culture - II	2-0-0	2
4	BSAE	25ARC114	Structural Systems in Design - I	1-1-0	2
5	VAC/SEC	22ADM111	Glimpses of Glorious India	2-0-1	2
			TOTAL	31	22

SEMESTER III

S.No.	Cat.	Code	Title	L T P	Credit
1	PC	25ARC201	Architectural Design Studio – I	2-4-16	14
2	BSAE	25ARC202	Building Materials & Technology - II	3-0-2	4
3	PC	25ARC203	History & Culture - III	2-0-0	2
4	BSAE	25ARC204	Principles of Environmental Design	2-0-0	2
5	VAC/SEC	22ADM211	Leadership lessons from Ramayana	1 0 0	1
6	HUM	26LSA201	Life Skills for Architects I	1-0-2	2
7	VAC	26CUL200	Integrated Amrita Meditation Technique	0 0 2	1
			TOTAL	35	26

SEMESTER IV

S.No.	Cat.	Code	Title	L T P	Credit
1	PC	25ARC211	Architectural Design Studio – II	2-4-16	14
2	BSAE	25ARC212	Integrated Building Systems - I	2-1-2	4
3	PC	25ARC213	History & Culture - IV	2-0-0	2
4	BSAE	25ARC214	Structural Systems in Design - II	1-1-0	2
5	VAC/SEC	22ADM201	Strategic Lessons from Mahabharata	1-0-0	1
6	HUM	26LSA211	Life Skills for Architects II	1-0-2	2
			TOTAL	35	25

SEMESTER V

S.No.	Cat.	Code	Title	L T P	Credit
1	PC	25ARC301	Architectural Design Studio – III	2-4-16	14
2	BSAE	25ARC302	Architectural Working Drawing	2-0-4	4
3	BSAE	25ARC303	Structural Systems in Design - III	1-1-0	2
4	BSAE	25ARC304	Building Physics & Energy Modelling	1-1-0	2
5	PE		Professional Elective – I		2
6	HUM	26LSA301	Life Skills for Architects III	1-0-2	2
			TOTAL	37	26

SEMESTER VI

S.No.	Cat.	Code	Title	L T P	Credit
1	PC	25ARC311	Architectural Design Studio – IV	2-4-16	14
2	BSAE	25ARC312	Integrated Building Systems - II	2-1-2	4
3	BSAE	25ARC313	Structural Systems in Design - IV	1-1-0	2
4	BSAE	25ARC314	Advanced Building Construction	1-1-0	2
5	PE		Professional Elective – II		2
6	HUM	26LSA311	Life Skills for Architects IV	1-0-2	2
			TOTAL	36	26

SEMESTER VII

S.No.	Cat.	Code	Title	L T P	Credit
1	PAEC	25ARC498	Professional Training		20
			TOTAL		20

SEMESTER VIII

S.No.	Cat.	Code	Title	L T P	Credit
1	PC	25ARC411	Architectural Design Studio – V	2-4-16	14
2	PAEC	25ARC412	Research in Architecture	1-1-0	2
3	PAEC	25ARC413	Architectural Project Management	2-0-0	2
4	PE		Professional Elective – III		2
5	OE		*Open Elective – IV	3-0-0	3
			TOTAL	31	23

SEMESTER IX

S.No.	Cat.	Code	Title	L T P	Credit
1	PC	25ARC501	Architecture Design Studio – VI	2-4-16	14
2	PAEC	25ARC502	Research Writing	1-1-0	2
3	SEC	25ARC503	Design Entrepreneurship	2-0-0	2
4	PE		Professional Elective – V		2
5	PE		Professional Elective – VI		2
			TOTAL	30	22

SEMESTER X

S.No.	Cat.	Code	Title	L T P	Credit
1	PC	25ARC511	Architectural Design Thesis	2-4-20	16
2	PAEC	25ARC512	Architectural Practice & Business Management	2-0-0	2
3	OE		*Open Elective – VII	3-0-0	3
			TOTAL	31	21

TOTAL CREDITS	**233**

Professional Electives Themes

A. Design Technology & Innovation

- AI & Emerging Technologies in Design
- Product Design
- Disaster Resilience and Management
- Advanced Materials and Digital Fabrication

B. Theory, Research & Communication

- Design Journalism
- Architectural Theory
- Retail and Visual Merchandising in Interiors
- Immersive Technologies for Space Visualization

C. Professional Practice & Spatial Specializations

- Building Information Modelling (BIM) for Designers
- Furniture Design
- Advanced Landscaping
- Lighting Design
- Vastu Shilpashastra
- Architectural Conservation

Professional Elective - I

Course Code	Title	L-T-P	Credits
25ARC331	AI & Emerging Technologies in Design	1-0-2	2
25ARC332	Building Information Modelling (BIM) for Designers	1-0-2	2
26ARC334	Vastu Shilpashastra	1-0-2	2

Professional Elective - II

Course Code	Title	L-T-P	Credits
25ARC341	Product Design	1-0-2	2
25ARC342	Architectural Theory	2-0-0	2
25ARC343	Furniture Design	1-0-2	2

Professional Elective - III

Course Code	Title	L-T-P	Credits
25ARC431	Retail and Visual Merchandising in Interiors	1-0-2	2
25ARC432	Disaster Resilience and Management	1-0-2	2
25ARC433	Advanced Landscaping	1-0-2	2

Open Elective - IV

Course Code	Title	L-T-P	Credits
26OEL431	Open Elective - Introduction to Architectural Science	3-0-0	3

Professional Elective - V

Course Code	Title	L-T-P	Credits
25ARC531	Lighting Design	2-0-0	2
25ARC532	Immersive Technologies for Space Visualization	1-0-2	2
25ARC533	Advanced Materials and Digital Fabrication	1-0-2	2

Professional Elective - VI

Course Code	Title	L-T-P	Credits
25ARC541	Architectural Conservation	1-0-2	2
26ARC542	Design Journalism	1-0-2	2

Open Elective – VII

Course Code	Title	L-T-P	Credits
26OEL531	Open Elective- Indian knowledge systems in architecture	3-0-0	3

* Open Electives - This will include courses offered by other Schools of Amrita Vishwa Vidyapeetham and MOOC courses. The list of MOOC courses will be informed to the students well in advance.

SYLLABUS

SEMESTER 1

25ARC101	Foundation Design Studio – I	L – T – P–C	2-4-16-14

Course Objectives

- To develop fundamental skills in visual representation
- To nurture material exploration and model-making abilities
- To provide a conceptual foundation in design theory
- To initiate critical thinking through basic design exercises
- To develop clarity in design thinking through writing and verbal articulation

Course Outcomes

After completing this course, students will be able to:

CO1 : Observe, analyse and represent form, space and structure using appropriate modes of visual communication, including freehand sketching and orthographic drawing

CO2 : Apply hands-on skills in material handling and model-making to explore spatial relationships, form, structure and scale using basic materials and techniques

CO3 : Explain and apply foundational design principles, elements of design and relevant theories that influence spatial perception and aesthetics, demonstrating an informed design sensibility

CO4 : Engage in and apply iterative design processes to solve introductory design problems, demonstrating an understanding of abstraction, composition, spatial logic and user-centred design

CO5 : Communicate design ideas and critical reflections effectively through structured written documentation and coherent verbal presentation

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	–	1	2	3	–	3	2	–	–	2	3	–
CO2	3	1	–	2	2	2	–	2	2	–	–	2	3	2
CO3	3	3	–	2	3	3	2	2	2	–	–	3	2	2
CO4	3	2	–	2	3	3	2	3	2	2	–	3	2	2
CO5	2	–	2	–	1	2	1	3	3	–	–	2	–	1

Module 1: Visual Representation

Freehand sketching; introduction to drawing and work culture; scale (metric and imperial); plane geometry; orthographic projections and solid geometry; surface development; visual communication techniques; objects and their assembly

Module 2: Material Exploration

Working with different architectural materials such as paper, plaster, clay, fabric etc.; studio work culture; assembly techniques; tools

Module 3: Theory of Design

Elements of design; principles of design; colour theory; nature as a primary reference in design; introduction to design

Module 4: Basic Design

Exploration of 2D and 3D compositions; application of colour theory; space illustrations and creative expression; designs in nature

Module 5: Writing
Descriptive writing, reflective writing, building a design vocabulary, introduction to verbal presentations

Reading Material

1. *Francis D.K. Ching, Architectural Graphics, Sixth Edition, John Wiley & Sons, 2015*
2. *Arthur L. Guptill, Rendering in Pen and Ink, Watson Guptill Publications, 1983*
3. *Paolo Belardi, Why Architects Still Draw, The MIT Press, 2014*
4. *Yatin Pandya, Elements of Space Making, Mapin Publishing Pvt. Ltd., 2007*
5. *Francis D.K. Ching, Architecture - Form, Space, and Order, John Wiley & Sons, 1979*
6. *David W. Orr, The Nature of Design: Ecology, Culture, and Human Intention, Oxford University Press, 2002*
7. *Rudolf Arnheim, Visual Thinking, University of California Press, 1969*
8. *Kimberly Elam, Geometry of Design: Studies in Proportion and Composition, Princeton Architectural Press, 2001*
9. *Francis D.K. Ching & Steven P. Juroszek, Design Drawing, Second Edition, John Wiley & Sons, 2010*
10. *Don Norman, The Psychology of Everyday Things, Basic Books, 1988*
11. *Matthew Frederick, 101 Things I Learned in Architecture School, The MIT Press, 2007*

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term jury	Internal	20%
End-semester jury	External	50%

25ARC102	History & Culture – I	L– T – P-C	2 – 0 – 0-2

Course Objectives

- To develop an understanding of culture as a critical driver in shaping the built environment
- To provide a comprehensive understanding of the key knowledge systems, cultural movements, and sociological changes that have influenced design styles across different civilizations.
- To understand the relationship between human beings and nature throughout history and how it has shaped design practices.
- To introduce students to the historical evolution of architecture and interior spaces across civilizations

Course Outcomes

After completing this course, students will be able to:

CO1 : Explain how worldviews, rituals, traditions, crafts and cultural practices are manifested in architecture, spatial organization and interior environments.

CO2 : Identify and interpret key knowledge systems, philosophical ideas, cultural movements and sociological shifts that have influenced design expressions, styles and construction practices across civilizations.

CO3 : Examine the evolving relationship between human societies and nature, and explain how this interaction has influenced architectural and interior design features.

CO4 : Describe and contextualize major architectural and interior design developments across global civilizations by recognizing stylistic features, construction techniques, spatial typologies and their socio-political contexts.

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PS O1	PS O2	PSO 3
CO 1	2	3	–	2	2	3	3	2	1	–	–	3	–	2
CO 2	3	3	–	1	3	3	2	1	1	–	2	3	–	2
CO 3	2	2	–	3	3	2	2	–	1	–	2	2	–	3
CO 4	3	2	–	2	3	3	1	2	1	–	2	3	–	2

Module 1: Self and the Ancestry

Introduction to the idea of personal identity in design; how ancestry, culture, and geography shape design thinking; overview of regional architecture: influences of climate, materials, and history; guide to researching family history and genealogy; identification of regional design styles; reflection on how personal history and ancestry have shaped one's perception of design.

Module 2: Origins of Design Thinking

Introduction to human evolution and its relevance to design thinking; cognitive revolution; agricultural revolution; early human settlements and their evolution.

Module 3: Relationship between Human and Nature

Evolving relationship between human beings and nature through architecture; early sustainable design principles inspired by nature; exploration of ancient buildings designed with natural elements.

Module 4: Chronology of Architecture

Evolution of architecture across civilizations; influence of religion, politics, and cultural synthesis on Indian architecture; exploration of key architectural periods in India and rest of the world

Reading Material

1. *Yuval Noah Harari, Sapiens: A Brief History of Humankind, Harper, 2014*
2. *Spiro Kostof, A History of Architecture: Settings and Rituals, Oxford University Press, 1985*
3. *Patrick Nuttgens, The Story of Architecture, Phaidon Press Ltd., 1983*
4. *Takeo Kamiya, The Guide to the Architecture of the Indian Subcontinent, Architecture Autonomous, 2003*
5. *Christopher Alexander, The Timeless Way of Building, Oxford University Press, 1979*
6. *Francis D.K. Ching, Mark Jarzombek, and Vikramaditya Prakash, A Global History of Architecture, John Wiley & Sons, 2007*

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term examination	Internal	20%
End-semester examination	External	50%

25ARC103	Art Appreciation	L – T – P-C	2 – 0 – 0-2

Course Objectives

- To introduce students to the philosophical and aesthetic foundations of Indian art and its inter-disciplinary nature.
- To provide students with historical insights into the emergence of art in ancient India and its connection to texts, rituals and performance.
- To familiarize students with the diverse sculptural and painting traditions of India and their role in shaping regional and cultural identities.
- To develop an appreciation for modern and contemporary aesthetic discourses in Indian and Western art

Course Outcomes

After completing this course, students will be able to:

CO1 : Explain the core aesthetic concepts and philosophical frameworks that inform Indian art.

CO2 : Identify and explain the key features and cultural significance of prehistoric, proto-historic and early classical Indian art traditions.

CO3 : Analyse the formal, material and narrative aspects of Indian sculpture and painting traditions, ranging from ancient cave murals to classical and vernacular regional forms, by interpreting their contextual, stylistic and symbolic dimensions.

CO4 : Compare, critique and evaluate key ideas of modern Indian aestheticians and Western art philosophers, and articulate how contemporary and cross-cultural discourses influence present-day aesthetic and design sensibilities.

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PS O1	PS O2	PSO3
CO 1	3	3	–	1	2	3	2	1	2	–	2	3	–	1
CO 2	3	3	–	–	2	2	2	–	1	–	1	3	–	–
CO 3	3	3	–	2	3	3	2	–	1	–	2	3	–	2
CO 4	3	2	–	1	3	3	2	2	2	2	2	3	–	1

Module 1: Foundations of Indian Art and Aesthetics

Foundations of Indian art - aesthetics and philosophical foundations; inter-disciplinarity of Indian arts; art as yoga (Kalāyoga); six limbs of Indian Painting (Ṣaḍaṅga); Kāmasūtra of Vātsyāyana and the Sixty-Four Arts (Chatuḥṣaṣṭi Kalāḥ); symbolism and iconography in Indian Art; Rasa theory

Module 2: Early and Classical Indian Art Traditions

Prehistoric and Proto-historic Art of India; Indus Valley Civilization; Birth of Art - episodes from the Viṣṇudharmottara Purāṇa and Citralakṣaṇa; Introduction to the Nāṭyaśāstra of Bharatamuni: The Foundational Text

Module 3: Indian Sculpture and Painting

Indian sculptural art - forms, materials and narratives; Indian painting traditions- from cave paintings (Ajanta, Bagh) to Pahari, Mughal, Rajput Schools to Thanka paintings and regional folk traditions (Mithila, Gond, Warli, Kalamkari, Pattachitra, Kalighat, etc.)

Module 4: Contemporary Discourses in Art

Modern Indian aestheticians - Rabindranath Tagore, Ananda K. Coomaraswamy, Govind Chandra Pandey, Kanti Chandra Pandey, Kapila Vatsyayan; introduction to western art philosophies, principles of modern and contemporary art

Reading Material

1. *Ananda Coomaraswamy, The Dance of Siva, Gyan Publishing House (2023)*
2. *Arindam Chakrabarti, The Bloomsbury Research Handbook of Indian Aesthetics and the Philosophy of Art, Bloomsbury Academic (Bloomsbury Publishing PLC), 2016*
3. *K. Krishnamoorthy, Some Thoughts on Indian Aesthetics and Literary Criticism (Special lectures, University of Mysore), University of Mysore, 1968*
4. *Susan L. Huntington (and John C. Huntington), The Art of Ancient India: Buddhist, Hindu, Jain, Weatherhill, 1985*
5. *H. Harvard Arnason and Elizabeth C. Mansfield, History of Modern Art, Seventh Edition, Pearson, 2013*

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term examination	Internal	20%
End-semester examination	External	50%

22ADM101	Foundations of Indian Heritage	L-T-P-C	2-0-1-2

Course Objectives

- To introduce students to the depths and richness of the Indian heritage and knowledge traditions, and to enable them to obtain a synoptic view of the grandiose achievements of India in diverse fields.
- To equip students with a knowledge of their country and its eternal values.

Course Outcomes

After completing this course, students will be able to:

CO1 : Be able to enhance the understanding of true essence of India's cultural and spiritual heritage through learning analytically what it amounts to living a happy life, and about the richness of India's education system, while pondering on the serious damage caused by colonialism in India alongside learning about the means of decolonization and knowing about the early timeline of Indian subcontinent.

CO2 : Learn about the sublime value of selflessness and final freedom alongside understanding the concept of circle of life and Indian approach toward it while delving into the means of celebrating life.

CO3 : Familiarize on the topic of what true love is, by way of understanding the immense compassion of mahātmas, and Mātā Amṛtānandamayī's Amma's gospel on compassion, the role of metaphors and tropes whereafter focussing personality development through Yoga both theoretically and
Practically

CO4 : Appreciate the discussion on what it takes to be a strategic thinker, how India was glorified by various scholars and travellers and how strong a human being's association with nature should be alongside getting introduced to the glimpses of Indian traditions like Advaita Vedanta: the theory of oneness.

Module 1
Chapters 1-4
Decolonisation, Windows to the Universe: Indian Darśanas, Ancient Wisdom for Modern Challenges, Pañcamahāyajña, Epistemology of Indian Philosophies

Module 2
Chapters 5- 8
A Vedantic Modelling of Human Personality, The Wake-Up Call from Upaniṣads, Goals of Life, The Six Ingredients of Success.

Module 3
Chapters 9 -11
Making Sense of Dharma, Ancestral Anchors: The Indian Family, Decoding the Idea of India.

Module 4
Chapters 12 -14
Nation Builders of Bhāratavarṣa, Civilisational Bridges: India and the World, Kindness

Reading Material

1. *Amrita University. (n.d.). Foundations of Indian Heritage. In-house publication.*
2. *Dharampal. (1983). The Beautiful Tree: Indigenous Indian Education in the Eighteenth Century. Other India Press.*

3. *William Pinch. (1996). Peasants and Monks in British India. University of California Press.*
4. *J. Sai Deepak. (2021). India, That Is Bharat: Coloniality, Civilisation, Constitution. Bloomsbury India.*
5. *Mata Amritanandamayi. (2018). Awaken, Children: Dialogues with Mata Amritanandamayi. MAM Publications.*
6. *Mata Amritanandamayi Devi. (1995). Man and Nature. MAM Publications.*
7. *Divine Life Society. (n.d.). What Becomes of the Soul After Death. The Divine Life Society.*

Evaluation Pattern

Assessment	**Internal/External**	**Weightage**
Continuous Assessment	Internal	30%
Mid-term jury	Internal	30%
End-semester jury	External	40%

22AVP103	Mastery Over Mind	L-T-P-C	1-0-2-2

Course Objectives:

- Mastery Over Mind (MaOM) is an Amrita initiative to implement schemes and organize university- wide programs to enhance health and wellbeing of all faculty, staff, and students (UN SDG -3)
- It gives an introduction to immediate and long-term benefits of MA OM meditation and equips every attendee to manage stressful emotions and anxiety, in turn facilitating inner peace and harmony.
- This course will enhance the understanding of experiential learning based on the University's mission: "Education for Life along with Education for Living" and is aimed to allow learners to realize and rediscover the infinite potential of one's true Being and the fulfilment of life's goals.

Course Outcomes:

After successful completion of the course, students will be able to:		
S.No.	**Course Outcomes**	**Knowledge level [Bloom's Taxonomy]**
1	Describe what meditation is and to understand its health benefits. (CO1)	L2 Understand
2	Understand the science of meditation. (CO2)	L2 Understand
3	To understand the causes of stress and how meditation improves well-being. (CO3)	L2 Understand
4	Learn and practice MAOM meditation in daily life. (CO4)	L3 Apply
5	Analyze how meditation improves communication and relationships. (CO5)	L4 Analyze
6	Apply the power of meditation to compassion-	L3 Apply

	driven action. (CO6)	

CO-PO Mapping: [affinity#: 3 – high; 2- moderate; 1- slightly]

COs	Program Outcomes (PO)												Program Specific Outcomes (PSO)			
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4
1	-	-	-	-	-	-	2	-	2	-	-	-	-	-	-	-
2	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
3	-	-	-	-	-	2	2	-	2	-	-	2	-	-	-	-
4	-	-	-	-	-	3	1	-	3	-	-	3	-	-	-	-
5	-	-	-	-	-	1	-	2	3	2	-	3	-	-	-	-
6	-	-	-	-	-	3	3	2	3	3	-	3	-	-	-	-

Syllabus

Unit 1: Describe Meditation and Understand its Benefits (CO1)

A: Importance of meditation. How does meditation help to overcome obstacles in life

Reading 1: Why Meditate? (Swami Shubamritananda ji)

Video Resource: Pre-recorded Video with Swami Shubhamritananda Puri

Unit 2: The Science of Meditation (CO2)

A: A preliminary understanding of the Science of meditation. What can modern science tell us about this tradition-based method?

B: How meditation helps humanity according to what we know from scientific research *Reading 1:* Does Meditation Aid Brain and Mental Health (Dr Shyam Diwakar) *Reading 2:* 'Science and Spirituality.' Chapter 85 in Amritam Gamaya (2022). Mata Amritanandamayi Mission Trust.

Video Resource: Pre-recorded Video with Dr. Shyam Diwakar

Unit 3: Causes of Stress and How Meditation Improves Well-being (CO2,CO3)

A: Learn how to prepare for meditation. Understand the aids that can help in effectively practicing meditation. Understand the role of sleep, physical activity, and a balanced diet in supporting meditation. B: Causes of Stress. The problem of not being relaxed. Effects of stress on health. How meditation helps to relieve stress. Basics of stress management at home and the workplace.

Reading 1: Mayo Clinic Staff (2022, April 29). *Meditation: A Simple, Fast Way to Reduce Stress.* Mayo Clinic. https://www.mayoclinic.org/tests-procedures/meditation/in-depth/meditation/art- 20045858 (PDF provided)

Reading 2: 'Efficient Action.' Chapter 28 in *Amritam Gamaya* (2022). Mata Amritanandamayi Mission Trust.

Video Resource: Pre-recorded Video with Dr. Ram Manohar

Video Resource: Pre-recorded Video with Prof. Udhayakumar

Unit 4: Practicing MA OM Meditation in Daily Life (CO4)

Guided Meditation Sessions following scripts provided (Level One to Level Five)

Reading 1: MA OM and White Flower Meditation: A Brief Note (Swami Atmananda Puri) *Reading 2:* 'Live in the Present Moment.' Chapter 71 in *Amritam Gamaya* (2022). Mata Amritanandamayi Mission Trust.

Video Resource: Pre-recorded Video with Swami Atmananda Puri

Unit 5: Improving Communication and Relationships (CO5)

How meditation and mindfulness influence interpersonal communication. The role

ofmeditation in improving relationship quality in the family, at the university and in theworkplace.

Reading 1: Seppala E (2022, June 30th) *5 Unexpected Ways Meditation Improves Relationships a Lot.* Psychology Today. https://www.psychologytoday.com/intl/blog/feeling- it/202206/5-unexpected-ways- meditation-improves-relationships-lot

Reading 2: 'Attitude.' Chapter 53 in *Amritam Gamaya* (2022). Mata AmritanandamayiMission Trust.

Video Resource: Pre-recorded Video with Dr. Shobhana Madhavan

Unit 6 Meditation and Compassion-driven Action (CO6)

Understand how meditation can help to motivate compassion-driven action. *(Pre-recorded video with Dr Shobhana Madhavan)*

Reading 1: Schindler, S., & Friese, M. (2022). The relation of mindfulness and prosocial behavior:What do we (not) know? *Current Opinion in Psychology*, *44*, 151-156.

Reading 2: 'Sympathy and Compassion.' Chapter 100 in *Amritam Gamaya* (2022). Mata Amritanandamyi Mission Trust.

Video Resource: Pre-recorded Video with Dr.Shobhana Madhavan

Course Assessment Specification Table:

		CO1	CO2	CO3	CO4	CO5	CO6	Total
1	**Individual Reflective Exercise/Journal**			10		10		20
2	**Class Participation during meditation**				40			40
3	**Compassion in Action Project**						20	20
5	**End-Term**	2	3	5		5	5	20
	Total	2	3	15	40	15	25	100

Internal-60 marks

Reflective Essay/Journal (20 marks): (Individual student exercise)
Reflective Essay on Learning and Practicing Mindfulness and Meditation

Class Participation during Meditation session (40 marks):

- Attendance during meditation
- Quality of Class Participation (Level of engagement during the class)

External-40 marks

Compassion in Action Group Project (20 marks):
Compassion-in-Action Live Project. Student Groups can do any act of compassion within or outside campus. The project will comprise three parts:

- Idea: 2.5 marks
- Implementation and Presentation 12.5 marks
- Report: 5 marks (including photos)

Faculty can have flexibility in type of project and type of presentation. (Students can also present through role-play).

End-Term Exam (20 marks)

The aim of the exam is to test concepts covered in class.

SEMESTER 2

25ARC111	**Foundation Design Studio – II**	**L – T – P-C**	**2-4-16-14**

Course Objectives

- To strengthen advanced skills in visual representation using both manual and digital tools.
- To develop precision and craftsmanship through hands-on model-making with diverse materials and techniques.
- To introduce students to fundamental design principles rooted in human perception, anthropometry, proportion, and Universal Design.
- To cultivate cultural sensitivity and contextual awareness through tour-based architectural documentation.
- To develop an experiential understanding of human-scaled space by engaging with the design of built environments, and to introduce the basic concepts of materials, structure, and iterative design processes.
- To develop clarity in design thinking through writing and verbal articulation.

Course Outcomes

After completing this course, students will be able to:

CO1 : Produce and apply accurate isometric, axonometric and perspective drawings using appropriate sciography and rendering techniques, including basic digital representation tools.

CO2 : Construct detailed scaled models, including sectional and presentation models, using materials such as acrylic, wood and glass, and demonstrate basic familiarity with 3D printing technologies

CO3 : Apply anthropometric data and principles of perception to spatial design, and analyse the design philosophies of notable architects and designers.

CO4 : Document and interpret traditional built forms representing regional cultural heritage, demonstrating understanding of local materials, crafts and spatial practices.

CO5 : Design a built space responsive to human scale by integrating materiality, structural logic and the conceptual progression of the design process from idea to spatial articulation.

CO6 : Organize and communicate design intent by structuring arguments, writing design statements and delivering clear written and verbal presentations

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	1	–	2	2	2	–	2	2	2	–	2	3	2
CO2	3	–	–	2	1	–	–	–	2	–	–	1	3	2
CO3	3	2	–	2	3	2	2	–	–	–	2	3	2	2
CO4	2	3	–	2	3	2	2	2	1	–	2	3	–	2
CO5	3	2	–	3	2	3	2	2	2	2	–	2	2	3
CO6	2	1	3	–	–	2	2	3	2	–	–	1	1	–

Module 1: Advanced Visual Representation
Isometric and axonometric views, perspective views, sciography, rendering techniques, drawing a building, introduction to digital tools for representation

Module 2: Model-making Workshop
Use of materials such as acrylic, wood, glass etc.; development of scaled models; presentation models; landscapes and interior details in models; sectional models; introduction to 3D printing

Module 3: Theory of Design
Human perception and spatial design; anthropometry; proportioning systems; concept of space-making; articulation of form and space; works of notable architects and designers.

Module 4: Tour Studies
Documentation of a traditional building symbolising the cultural heritage of a region; exposure to regional artistic, cultural and built traditions.

Module 5: Space Exploration
Understanding of human body in space; design of a built space of a size relatable to the human body; basic concepts of materials and structures in design; understanding of design process.

Module 6: Structured Analytical and Conceptual Writing
Structuring an argument, comparative writing, writing a design statement/intent, verbal presentation techniques

Reading Material

1. Alain de Botton, The Architecture of Happiness, Pantheon Books, 2006
2. *Francis D.K. Ching, Architectural Graphics, Sixth Edition, John Wiley & Sons, 2015*
3. *Yatin Pandya, Elements of Space Making, Mapin Publishing Pvt. Ltd., 2007*
4. *Francis D.K. Ching, Architecture - Form, Space, and Order, John Wiley & Sons, 1979*
5. *Gaston Bachelard, The Poetics of Space, Beacon Press, 1964*
6. *David W. Orr, The Nature of Design: Ecology, Culture, and Human Intention, Oxford University Press, 2002*
7. *Rudolf Arnheim, Visual Thinking, University of California Press, 1969*
8. *Kimberly Elam, Geometry of Design: Studies in Proportion and Composition, Princeton Architectural Press, 2001*
9. *Francis D.K. Ching & Steven P. Juroszek, Design Drawing, Second Edition, John Wiley & Sons,*

2010

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term jury	Internal	20%
End-semester jury	External	50%

25ARC112	Building Materials & Technology - I	L – T – P-C	1 – 0 – 2-2

Course Objectives

- To introduce students to the basic elements of buildings, their functional and structural roles
- To familiarize students with construction drawing standards, conventions and representation techniques
- To introduce students to natural and manufactured building materials, their properties, applications, and selection criteria, with emphasis on contextual appropriateness and sustainability.

Course Outcomes

After completing this course, students will be able to:

CO1 : Identify and explain the functions of substructure and superstructure elements, differentiate between load-bearing and framed structural systems, and analyse visually real buildings from foundation to roof.

CO2 : Prepare accurate measured drawings by applying standard drafting conventions, and represent basic building elements and construction details using appropriate drawing techniques

CO3 : Describe and evaluate the properties and uses of common building materials based on structural and environmental criteria, and recommend suitable material choices in relation to context and sustainability.

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PS O1	PS O2	PSO 3
CO 1	3	2	–	2	2	2	–	1	1	–	–	2	2	2
CO 2	3	–	–	–	2	2	–	2	1	–	–	1	3	1
CO 3	3	2	–	3	2	2	2	–	1	–	2	3	2	3

Module 1: Elements of Buildings

Substructure and superstructure components and their functions; introduction to structural paradigms – loadbearing and frame; study of buildings from foundation to roof through case studies and/or live site visits.

Module 2: Introduction to Building Construction Drawing Practices and Conventions

Introduction to standard conventions; measured drawing; study of building details; techniques of presenting construction drawings.

Module 3: Introduction to Building Materials

Natural and artificial materials and applications; contextual relevance; properties of materials; structural aspect; selection criteria of materials; introduction to sustainable materials; site/factory visits; hands-on workshop with materials; market survey of materials and creation of material library.

Reading Material

1. *Francis D.K. Ching, Building Construction Illustrated, John Wiley & Sons, 2020*
2. *Paul Oliver, Encyclopedia of Vernacular Architecture of the World, Cambridge University Press, 1997*
3. *Ross Spiegel & Dru Meadows, Green Building Materials: A Guide to Product Selection and Specification, John Wiley & Sons, Inc., 1999*

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term examination	Internal	20%
End-semester Jury	External/Internal	50%

25ARC113	History & Culture – II	L – T – P-C	2 – 0 – 0-2

Course Objectives

- To introduce students to the socio-cultural, religious, climatic, and political factors that influenced the development of architecture and urbanism in ancient river-valley civilizaitons.
- To explore the historical, aesthetic and philosophical foundations of Classical Greek and Roman architecture.
- To develop an understanding of the cultural, cosmological and metaphysical foundations of Vedic architecture.

Course Outcomes

After completing this course, students will be able to:

CO1 : Analyse the architectural forms, planning strategies and material practices of ancient river-valley civilizations by examining their belief systems, social hierarchies, environmental contexts and technological capabilities.

CO2 : Identify and interpret the architectural features, construction systems and civic spaces of Classical Greece and Rome, and evaluate their design philosophies and influence on subsequent architectural movements.

CO3 : Explain the philosophical and symbolic foundations of Vedic architecture, and analyse the spatial patterns, design principles and sacred geometries employed in early Indian architectural practices.

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PS O1	PS O2	PSO3
CO 1	3	3	–	2	2	3	2	–	1	–	2	3	–	2
CO 2	3	2	–	–	2	3	–	–	1	–	2	2	–	1
CO 3	3	3	–	2	2	3	2	–	1	–	2	3	–	2

Module 1: River-valley Civilizations

Study of socio-cultural, religious and political systems, people's beliefs, climate and other factors influencing the design of the built form of ancient river-valley civilizations along Nile, Tigirs, Euphrates and Sindhu.

Module 2: Classical Greece and Rome

Historical and cultural context; classical Greek and Roman architecture and design features; materials and techniques; aesthetics and design philosophy; global influence

Module 3: Vedic Period

Cultural and philosophical context; sacred geometry; spatial orientation and cosmology; early built forms and spatial patterns; design philosophy and symbolism

Reading Material

1. *Francis D.K. Ching, Mark Jarzombek, and Vikramaditya Prakash, A Global History of Architecture, John Wiley & Sons, 2007*
2. *Banister Fletcher, A History of Architecture, 1996*
3. *Ananda Coomaraswamy, The Dance of Siva, Gyan Publishing House (2023)*

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term examination	Internal	20%
End-semester examination	External	50%

25ARC114	Structural Systems in Design - I	L – T – P-C	1 – 1 – 0-2

Course Objectives

- To develop an understanding of geometric, trigonometric, and mathematical principles—such as the Golden Ratio and fractal theory—as tools to inform design thinking and spatial organization.
- To explore the historical evolution of structural systems from ancient to industrial eras and understand their cultural, material, and technological influences.
- To introduce fundamental structural principles and forms while building intuitive understanding of how structures support loads and achieve stability.
- To familiarize students with structural systems, their components, and basic techniques of load analysis in architectural design.

Course Outcomes

After completing this course, students will be able to:

CO1 : Apply mathematical principles and patterns to strengthen structural logic and enhance aesthetic expression in design.

CO2 : Identify and analyse the historical development of structural systems and examine their contextual relevance across different periods.

CO3 : Explain and apply fundamental structural principles to assess the stability and logical behaviour of structural forms in design.

CO4 : Analyse the behaviour of structural components and evaluate load distribution in simple built forms.

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PS O1	PS O2	PSO 3
CO 1	3	2	–	2	3	2	–	–	2	2	–	2	3	3
CO 2	3	3	–	2	2	3	–	–	1	–	–	2	2	2
CO 3	3	2	–	3	3	2	–	–	2	–	2	2	3	3
CO 4	3	1	–	3	3	2	–	–	1	–	2	2	3	3

Module 1: Mathematics in Design

Basic geometry in design; trigonometry in structural analysis; Golden ratio; Fractal theory

Module 2: Evolution of Structural Design

Evolution of structural systems from ancient to modern times − monolithic rock-cut forms, trabeated and arcuate construction methods, vaults, flying buttresses, tent structures, masted systems and bridges; Post-Industrial developments − modular construction techniques for large-span and suspension structures using steel and concrete.

Module 3: Structural Design Principles

Introduction to structural design; understanding structural forms and elements in architecture and design; types of loads; principles governing behaviour of external loads; understanding structural identity- why don't things fall down?

Module 4: Structural Components & Load Analysis

Structural systems; types and functions of structural components; types of loads; analysis of structural loads and their distribution

Reading Material

1. *Mario Salvadori, Why Buildings Stand Up: The Strength of Architecture, W. W. Norton & Company, 2002*
2. *J. E. Gordon, Structures: Or Why Things Don't Fall Down, Da Capo Press, 2003*
3. *Martin Walter, Mathematics for the Environment, Chapman and Hall, 2011*
4. *Mario Livio, The Golden Ratio: The Story of Phi, the World's Most Astonishing Number, Broadway Books, 2002*
5. *Mario Salvadori, Robert A. Heller & Deborah Oakley, Structure in Architecture: The Building of Buildings, Pearson, 2016*
6. *Matila Ghyka, The Geometry of Art and Life, Dover Publications, 1977*

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term examination	Internal	20%
End-semester examination	External	50%

22ADM111	Glimpses of Glorious India	L – T – P-C	2 – 0 – 1-2

Course Objectives

The course aims at introducing Bhārath in nutshell to the student, which includes the sources of Indian thoughts, eminent personalities who shaped various disciplines, India's significant contribution to the man kind, the current stature of Indian in the geopolitics and Indian approach to science and ecology.

Course Outcomes

After completing this course, students will be able to:

CO1 : Will be able to recognise the call of Upanishads and outstanding personalities for confronting the wicked in the real world while admiring the valour, pursuit and divinity in both classical and historical female characters of India.

CO2 : Will get introduced to Acharya Chanakya, his works, and his views on polity and nation to find synchrony between public and personal life, alongside understanding India's cultural nuances and uniqueness concerning the comprehension of God across major global communities.

CO3 : Will be able to appreciate Bhagavad Gita as the source of the Indian worldview through the various Yogic lessons enshrined in it, making it one of India's numerous soft powers, and also understand the faith-oriented mechanism of preserving nature.

CO4 : Will be informed about the enormous contribution of Indian civilisation over two and a half millennia to humanity and develop awareness about India's approach toward science, devoid of dogmas and rooted in humanism.

Module 1

Vision and Mission of IKS, Unveiling the Roots of Fear: Pathways to Fearlessness, Chanakya – Architect of a Greater India, Bhagavadgita – From Soldier to Samsarin to Sadhaka.

Module 2

Lessons in Yoga from Bhagavadgita, Ultimate Reality: Different Perspectives, Weaving a New Future Using Ancient Threads, Legacy of Knowledge & Learning in India, Ayurveda: Evolution and Relevance for Health & Well-Being, Indian Calendar Systems.

Module 3

In the Mirror of Culture: Understanding Gender in India, Revisiting Indian Historiography, A Glimpse into Yoga, Ashtanga Yoga, Illuminating Innovations: India's Contributions to Science & Technology, Science and Spirituality

Reading Material

1. *Amrita University. (n.d.). Glimpses of Glorious India. In-house publication.*
2. *Swami Tathagatananda. (2003). Fear Not: Be Strong. Advaita Ashrama.*
3. *Sri Aurobindo. (1997). Essays on the Gita. Sri Aurobindo Ashram.*
4. *Vijnana Bharati. (n.d.). Indian Contribution to Science. Vijnana Bharati Publication.*
5. *D. D. Kosambi. (1965). The Culture and Civilisation of Ancient India in Historical Outline. Vikas Publishing House.*
6. *Chanakya. (1972). The Kautilya Arthaśāstra (R. P. Kangle, Trans. with critical and explanatory notes). Motilal Banarsidass.*
7. *Radhakrishnan Pillai. (2020). Chanakya Neeti: Strategies for Success. Jaico Publishing House.*
8. *Swami Ranganathananda. (2000). Universal Message of the Bhagavad Gita: An Exposition of the Gita in the Light of Modern Thought and Modern Needs. Advaita Ashrama.*
9. *D. M. Bose, S. N. Sen, & B. V. Subbarayappa. (1971). A Concise History of Science in India. The Indian National Science Academy.*

10. *Michel Danino. (2011). Indian Culture and India's Future. D. K. Printworld (P) Ltd.*

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term jury	Internal	30%
End-semester jury	External	40%

SEMESTER 3

25ARC201	Architectural Design Studio – I	L-T-P-C	2-4-16-14

Course Objectives

- To introduce students to climate-responsive architectural design and integrate environmental parameters into design thinking.
- To develop the ability to document, analyze, and interpret built environments through drawing, measurement, and observation.
- To sensitize students to the spatial, material, and cultural dynamics of rural and semi-urban settlements through field immersion and participatory design, with consideration to Universal Design principles.
- To inculcate values of service (Seva), empathy, and ethical responsibility in architectural practice through community engagement.
- To foster writing and reflective thinking as tools for architectural inquiry, documentation, and critique.

Course Outcomes

After completing this course, students will be able to:

CO1: Design contextually responsive architectural solutions by integrating climatic conditions, cultural contexts and user needs.

CO2 : Analyse and document existing buildings and settlements using drawings, photographs and structured written narratives.

CO3: Develop conceptually sound rural design interventions informed by fieldwork, user interactions and community needs.

CO4: Demonstrate empathy, ethical awareness and professional responsibility in design decision-making through real-world applications.

CO5: Communicate design ideas clearly and effectively through verbal, visual and written modes, including narratives, reports and sketches

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	1	-	-	1	2	-	3	1	-	2	2	-	-
CO2	3	2	-	-	1	-	-	3	1	-	3	3	-	-
CO3	3	1	3	2	2	3	-	-	-	1	3	-	2	3
CO4	2	-	3	-	-	3	-	3	1	2	-	-	-	3
CO5	3	2	2	-	1	3	-	2	3	2	-	-	-	-

Module 1: Climate & Architecture Theory

Introduction to climatic zones in India; passive design strategies: shading, ventilation, orientation; case studies of climate-responsive buildings

Module 2: Building Documentation

Measured drawing techniques; on-site study and documentation of rural/vernacular buildings; documentation techniques (photographic, drawings, material mapping, questionnaire survey); building analysis and conclusion/recommendations

Module 3: Rural Design Studio

Understanding socio-cultural dynamics of a rural context; identification of issues and design problem based on participatory methods; conceptual and schematic design through models and sketches; context-specific material, climate and technology applications; design development; presentation

Module 4: Seva and Community Engagement
Site immersion and Seva-based learning (participation in a local build/repair/clean-up effort); reflection on role of architects in social transformation.
Module 5: Architectural Writing and Reflection
Introduction to architectural writing formats: descriptive, analytical, narrative; writing about buildings, people, and places; critiquing one's own design work and peer feedback

Reading Material:

1. *V. Olgyay, Design with Climate, Princeton University Press, 1963.*
2. *Amos Rapoport. (1969). House Form and Culture. Prentice-Hall.*
3. *Laurie Baker. (1991). Architecture for the People.*
4. *Charles Correa. A Place in the Shade. Penguin Books.*
5. *Christopher Alexander. (1977). A Pattern Language. Oxford University Press.*
6. *Hassan Fathy. (1973). Architecture for the Poor. University of Chicago Press.*
7. *Arvind Krishan et al. Climate Responsive Architecture – A Design Handbook for Energy Efficient Buildings. TERI.*

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term jury	Internal	20%
End-semester jury	External	50%

25ARC202	Building Materials & Technology - II	L-T-P-C	3-0-2-4

Course Objectives

- To introduce students to the properties, characteristics, and applications of timber and masonry as building materials in traditional and contemporary construction.
- To develop understanding of material behavior in structural and envelope systems, especially in rural and vernacular architecture.
- To equip students with the ability to analyze, draw, and detail construction methods involving timber joinery and masonry bonding.
- To link material knowledge with the building documentation work carried out in the parallel Architectural Design Studio.

Course Outcomes

After completing this course, students will be able to:

CO1: Evaluate the performance of timber and masonry materials in various building components and contextual conditions.

CO2 : Document and illustrate construction techniques of timber and masonry buildings through sketches, drawings and site-based studies.

CO3: Create detailed construction drawings and specifications based on site documentation and material understanding.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	-	3	2	2	-	2	2	-	2	-	2	-
CO2	3	-	2	-	-	3	2	2	2	-	3	-	3	-
CO3	3	2	2	2	2	3	2	2	3	2	-	1	2	-

Module 1: Timber as a Building Material

Types of timber – softwood, hardwood, engineered wood; Seasoning, treatment, defects and decay; Timber as structural and joinery material; Vernacular and modern use of timber

Module 2: Timber Construction Techniques

Traditional carpentry and joinery methods; Modern prefabricated systems (glulam, CLT); Timber roofs, floors, door/window frames; Structural detailing in timber; Hands-on Workshop

Module 3: Masonry Materials and Types

Brick, stone, compressed earth blocks, stabilized earth blocks; mortar types, proportions and workability; load-bearing and non-load bearing systems; sustainability and local sourcing

Module 4: Masonry Construction Techniques

Bonds: English, Flemish, Rat-trap; Arches, vaults, domes; Foundations and wall types; Construction details; other masonry materials

Reading Material

1. *Francis D.K. Ching, Building Construction Illustrated, John Wiley & Sons, Inc., 2020*
2. *Francis D. K. Ching, Materials for Design, John Wiley & Sons, Inc., 2014*
3. *Bindu G. & S. V. Deodhar, Construction Technology: Theory and Practice, I.K. International Pvt Ltd., 2014*
4. *Elizabeth Baker, The Other Side of Laurie Baker, D.C. Books, 2007*
5. *Gernot Minke, Building with Earth: Design and Technology of a Sustainable Architecture,*

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term Examination	Internal	20%
End-semester jury	External/Internal	50%

25ARC203	History & Culture – III	L-T-P-C	2-0-0-2

Course Objectives

- To provide a comprehensive understanding of the evolution of architecture, art, and urbanism from Late Antiquity to early Modern periods, across Europe, West Asia, and India.
- To explore the socio-political, religious, philosophical, and technological contexts that shaped diverse architectural forms and aesthetic expressions.
- To critically examine the reciprocal influence of Eastern and Western architecture through colonization, conquests, and cultural exchange.
- To encourage comparative analysis and reflection on indigenous and global traditions in architecture and their relevance today.

Course Outcomes

After completing this course, students will be able to:

CO1: Identify and explain major architectural movements, styles and periods in Indian and global contexts by examining their origins and defining characteristics.

CO2 : Analyse the socio-cultural and technological forces that have shaped architectural expressions across different civilizations.

CO3: Evaluate the legacy, adaptation and transformation of built heritage in response to religion, power, patronage, colonization and modernity.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	3	2	2	2	3	2	2	2	2	-	2	-	-
CO2	3	3	3	3	3	3	2	2	2	3	-	3	3	1
CO3	3	2	2	3	2	3	2	2	2	3	2	3	2	1

Module 1: Sacred Orders and Imperial Dreams

Indian timeline: Mahajanapadas → Mauryas & Guptas → Ashokan legacy; Rock-cut architecture, Hellenistic/Persian influences; Shaivite-Vaishnavite traditions and early temples

Western timeline: Fall of Roman Empire → Rise of Christianity → Holy Roman Empire; Early Christian & Byzantine Architecture; Romanesque, Gothic, Crusades and Islamic Influences

Module 2: Bhakti, Baroque and Renaissance Period

Indian timeline: Temple towns & temple forms (Nagara, Dravida, Vesara); Timber temples of Kerala & Himachal; Vijayanagara Empire & evolution of secular/state architecture

Western timeline: The Italian Renaissance and Humanism; Masters of the Renaissance: Brunelleschi, Michelangelo, Leonardo; Reformation & Counter-Reformation → Baroque

Module 3: Empires, Encounters & Exchanges

Indian timeline: Sultanates (Delhi, Gujarat, Deccan); Mughals: Babar to Aurangzeb – syncretic styles & Karkhanas; Rajput architecture and regional schools

Western timeline: The Age of Discovery, Colonization & Enlightenment; American & French Revolutions, Scientific Rationalism; Urban change and architectural reform

Module 4: Modernity, Movements & Memory

Indian timeline: Colonial port cities: Madras, Bombay, Calcutta; Neo-Classical, Neo-Gothic, Indo-Saracenic, Art Deco in Bombay, early Indian practices, modernism pre-1947,

Western timeline: Industrial Revolution: new materials, new typologies; Neo-Classicism, Neo-Gothic,

Arts & Crafts, Art Nouveau, Art Deco; Early modernism in architecture

Reading Material

1. *Banister Fletcher, A History of Architecture, 21st Edition, Bloomsbury Publishing, 2019*
2. *Spiro Kostof, A History of Architecture: Settings and Rituals, Revised Edition, Oxford University Press, 1995.*
3. *Satish Grover, The Architecture of India: Buddhist and Hindu, Vikas Publishing House, 1980.*
4. *Percy Brown, Indian Architecture: Islamic and Hindu Periods, 6th Edition, D. B. Taraporevala Sons & Co. Pvt. Ltd., 2013.*
5. *Christopher Tadgell, The History of Architecture in India, Revised Edition, Phaidon Press, 2002.*
6. *Kenneth Frampton, Modern Architecture: A Critical History, 5th Edition, Thames & Hudson, 2020.*
7. *Takeo Kamiya, Architecture of the Indian Subcontinent, [Online Resource], available at: http://www.indoarch.org*

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term examination	Internal	20%
End-semester examination	External	50%

25ARC204	Principles of Environmental Design	L-T-P-C	2-0-0-2

Course Objectives

- To develop an understanding of the natural environment, ecology, ecosystems, biodiversity, and their relevance to architecture and human settlements.
- To analyze the impact of architecture on the environment with respect to the use of natural resources such as water, land, forests, minerals, and energy.
- To introduce students to the principles of climatology, micro/macro climate, and their role in determining human thermal comfort in buildings.
- To equip students with knowledge of passive design strategies and traditional environmental responses for achieving comfort through architecture.

Course Outcomes

After completing this course, students will be able to:

CO1 : Interpret the relationship between built and natural environments, and assess the impact of architectural interventions on ecological systems.

CO2 : Apply basic climatological concepts, human comfort criteria, and passive design strategies in architectural design decisions

CO3 : Explain and evaluate the relevance of traditional knowledge systems and sustainable practices in contemporary environmental design

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	3	2	3	2	2	3	–	2	–	3	3	2	3
CO2	3	2	2	3	3	3	2	–	2	–	2	2	3	3
CO3	3	3	2	3	2	2	3	–	2	–	3	3	2	3

Module 1: Natural Environment, Ecology & Resources

Natural resources; concepts of ecosystems, biodiversity and balance; coexistence of natural and built environments; resource use in the built environment

Module 2: Climatology and Macro-Micro Climate

Global climate types and classification; macro and micro-climate; site planning for climate responsiveness; solar geometry; solar radiation; earth-sun relationship; energy flow in buildings – gain, loss and balance

Module 3: Human Comfort and Thermal Environment

Human thermal comfort and factors impacting it – temperature, humidity, air movement, radiation etc; bioclimatic chart and comfort zones; traditional methods for comfort across Indian regions; airflow patterns, orientation, layout of comfort

Module 4: Passive Design and Resource Conservation

Passive cooling, heating, daylighting and ventilation techniques; natural ventilation – stack, cross, induced; shading, orientation, insulation, thermal mass; conservation strategies – water harvesting, renewable energy, energy-efficient layouts.

Reading Material

1. *Koenigsberger, O.H., Ingersoll, T.G., Mayhew, A., Manual of Tropical Housing and Building, First Edition, Orient Blackswan, 1974.*

2. Givoni, B., Climate Considerations in Building and Urban Design, First Edition, Van Nostrand Reinhold (now Wiley), 1998.

3. Olgyay, Victor, Design with Climate: Bioclimatic Approach to Architectural Regionalism, Updated

Edition, Princeton University Press, 2015 (original 1963).
4. Arvind Krishan, S.V. Szokolay, Shirish Beri, et al., Climate Responsive Architecture: A Design Handbook for Energy Efficient Buildings, Second Edition, TERI Press, 2017.
5. Edward Ng (Editor), Designing for Daylight, First Edition, Earthscan (Routledge), 2010.
6. UNEP, Reports on Sustainable Architecture and Natural Resource Use, Various Reports, United Nations Environment Programme, Latest Editions (Accessed 2025), www.unep.org.
7. TERI, CEPT University, IGBC, WRI, Building Science Articles and Reports on Sustainable Architecture, Various Publications

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term examination	Internal	20%
End-semester examination	External	50%

22ADM211	Leadership Lessons From Ramayana	L – T – P-C	1 – 0 – 0-1

Course Objectives

To introduce students to the depths and richness of the Indian culture and knowledge traditions. Memorize and retrieve significant characters and events, demonstrating a foundational understanding of the Ramayana. Through a study of the Rāmāyaṇa, the student should gain a deeper understanding of the ethical grandeur of Indian culture and be inspired to follow the ideals of the characters depicted therein. Aligned with the Indian Knowledge Systems (IKS) framework outlined in the National Education Policy, this course serves as an introduction to the vast reservoir of wisdom and knowledge rooted in Indian heritage.

Course Outcomes

CO	Course Outcomes
CO01	**Recall key characters and events from the Ramayana.** Statement: Memorize and retrieve significant characters and events, demonstrating a foundational understanding of the Ramayana narrative.
CO02	**Explain the ethical challenges faced by characters in the Ramayana and their repercussions.** Statement: Comprehend the moral dilemmas encountered by Ramayana characters and articulate the effects of their decisions on the storyline
CO03	**Apply leadership principles from the Ramayana to real-life leadership situations**. Statement: Utilize insights gleaned from the Ramayana to solve contemporary leadership predicaments, adapting its teachings to modern contexts.
CO04	**Analyze the diverse leadership styles portrayed by characters in the Ramayana and their impacts**. Statement: Examine the multifaceted leadership approaches of Ramayana's characters, assessing their effectiveness and unravelling the factors shaping their outcomes.
CO05	**Evaluate the enduring relevance of Ramayana's leadership lessons in the present day.** Statement: Assess the ongoing significance of the Ramayana's leadership wisdom, gauging its applicability and worth within contemporary leadership landscapes
CO06	**Develop a comprehensive leadership framework by synthesizing lessons from the Ramayana.** Statement: Formulate an innovative leadership model by integrating and reimagining the diverse teachings extracted from the Ramayana, fostering a novel approach to effective leadership.

Module 1

Introduction to Rāmāyaṇa, A Concise Retelling of Rāmāyaṇa (Part 1), A Concise Retelling of Rāmāyaṇa (Part 2) A Concise Retelling of Rāmāyaṇa (Part 3)

Module 2

The Message of Rāmāyaṇa, Becoming Śrī Rāma (Part 1), Becoming Śrī Rāma (Part 2), Principles of Rāmāyaṇa, Legacy of Hanumān: Insights for Exceptional Leadership, Rāmāyaṇa Parikramaṇa – Through the Trails of Sītādevī

Module 3

Sītā – An Enduring Tale of Love, Faith, and Courage, Decoding Dharma in Rāmāyaṇa, The Rise & Fall of Rāvaṇa, Rājaneeti in Ayodhyā, Footprints of Rāmāyaṇa, Śrī Rāma – The Supreme Leader

Reading Material

1. *C. Rajagopalachari. (1957). The Ramayana. Bharatiya Vidya Bhavan.*
2. *Vālmīki. (n.d.). The Ramayana. Gita Press.*
3. *Vyāsa. (n.d.). Skanda Purana. Motilal Banarsidass.*
4. *Christopher Key Chapple & Mary Evelyn Tucker (Eds.). (2000). Hinduism and Ecology: The Intersection of Earth, Sky, and Water. Harvard University Press.*

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term jury	Internal	30%
End-semester jury	External	40%

26LSA201	Life Skills for Architects I	L – T – P-C	1 – 0 – 2-2

Course Objectives

- Assist students in inculcating Soft Skills and developing a strong personality
- Help them improve their presentation skills
- Support them in developing their problem solving and reasoning skills
- Facilitate the enhancement of their communication skills

Course Outcomes

CO1 – Demonstrate and regulate emotional intelligence by managing emotions, sustaining positive morale, and maintaining a confident attitude in real-life professional situations such as the placement process
CO2 – Design and deliver impactful content by applying effective presentation techniques, appropriate body language, and strategies to manage nervousness in presentations, group discussions, and interviews.
CO3 – Analyze and apply appropriate problem-solving methods to accurately solve arithmetic and algebraic problems.
CO4 – Investigate, select, and apply suitable analytical techniques to solve problems involving logical reasoning and data analysis..
CO5 – Infer and apply word meanings accurately in context and apply grammatical knowledge to construct clear and accurate sentences.
CO6 – Analyze and synthesize relationships between words and generate, organize, and communicate ideas effectively in oral and written forms

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1								2	3	3		3
CO2									2	3		3
CO3		3		2								
CO4		3		2								
CO5										3		3
CO6									3	3		3

Syllabus

Soft Skills
Soft Skills and its importance: Pleasure and pains of transition from an academic environment to work-environment. New-age challenges and distractions. Learning to benefit from constructive criticisms and feedback, Need for change in mindset and up-skilling to keep oneself competent in the professional world.
Managing Self: Knowing oneself, Self-perception, Importance of positive attitude, Building and displaying confidence, Avoiding being overconfident, Managing emotions, stress, fear. Developing Resilience and handling failures. Self-motivation, Self-learning, and continuous knowledge up-gradation / Life-long learning. Personal productivity - Goal setting and its importance in career planning, Self-discipline, Importance of values, ethics and integrity, Universal Human Values.

Aptitude

Problem Solving I
Numbers: Types, Power Cycles, Divisibility, Prime, Factors & Multiples, HCF & LCM, Surds, Indices, Square roots, Cube Roots and Simplification.
Percentage: Basics, Profit, Loss & Discount, and Simple & Compound Interest.
Ratio, Proportion & Variation: Basics, Alligations, Mixtures, and Partnership.

Averages: Basics, and Weighted Average.
Data Interpretation: Tables, Bar Diagrams, Venn Diagrams, Line Graphs, Pie Charts, Caselets, Mixed Varieties, Network Diagrams and other forms of data representation.

Verbal

Vocabulary: Familiarize students with the etymology of words, help them realize the relevance of word analysis and enable them to answer synonym and antonym questions. Create an awareness about the frequently misused words, commonly confused words and wrong form of words in English.
Grammar (Basic): Help students learn the usage of structural words and facilitate students to identify errors and correct them.
Reasoning: Stress the importance of understanding the relationship between words through analogy questions.
Speaking Skills: Make students conscious of the relevance of effective communication in today's world through various individual speaking activities.

References:

1. Students" Career Planning Guide, Corporate & Industry Relations, Amrita Vishwa Vidyapeetham.
2. Soft Skill Handbook, Corporate & Industry Relations, Amrita Vishwa Vidyapeetham.
3. Adair. J., (1986), "Effective Team Building: How to make * winning team", London, U.K
4. Gulati. S., (1006) "Corporate Soft Skills", New Delhi, India: Rupa & Co.
5. The hard truth about Soft Skills, by Amazon Publication.
6. Verbal Skills Activity Book, CIR, AVVP
7. English Grammar & Composition, Wren & Martin
8. Nova's GRE Prep Course, Jeff Kolby, Scott Thornburg & Kathleen Pierce
9. Cracking the New GRE 2012
10. Kaplan's – GRE Comprehensive Programme
11. Student Workbook: Quantitative Aptitude & Reasoning, Corporate & Industry Relations, Amrita Vishwa Vidyapeetham.
12. Quantitative Aptitude for All Competitive Examinations, Abhijit Guha.
13. How to Prepare for Quantitative Aptitude for the CAT, Arun Sharma.
14. How to Prepare for Data Interpretation for the CAT, Arun Sharma.

Evaluation Pattern

Assessment	Internal	External
Continuous Assessment (CA)* – Soft Skills	30	-
Continuous Assessment (CA)* – Aptitude	10	25
Continuous Assessment (CA)* – Verbal	10	25
Total	50	50

*CA - Can be **presentations, speaking activities and tests.**

26CUL200 INTEGRATED AMRITA MEDITATION TECHNIQUE L-T-P-C 0-0-2-1

A. Nature of Course: Lab/Practical

B. Course Description:

The course introduces students to the Integrated Amrita Meditation Technique (IAM 20), a structured practice that combines yogic stretches, regulated breathing (pranayama), and guided meditation. The course integrates both theoretical understanding and experiential practice to enhance emotional balance, stress resilience, concentration, and overall holistic development.

Aligned with United Nations Sustainable Development Goal 3 (SDG 3): Good Health and Well-Being, the course promotes preventive mental health care, emotional well-being, and sustainable lifestyle practices among students. By fostering inner stability, self-awareness, and self-regulation, the programme supports academic excellence and contributes to the development of healthy individuals and communities.

The course is expected to improve student well-being, enhance academic focus and cognitive clarity, reduce stress-related indicators, and promote compassionate and emotionally supportive culture.

C. Course Objectives:

- To promote overall health and well-being of students.
- To train students in the structured practice of IAM 20.
- To develop emotional regulation and stress management skills.
- To encourage reflective awareness and compassionate living.

D. Course Outcomes:

After successful completion of the course, students will be able to:

CO	Course Outcomes	owledge Level oom's Taxonomy)
1	plain principles and components of IAM 20	derstand (L2)
2	monstrate and correct meditation practice independently	ply (L3)
3	alyze personal stress patterns using meditation insights	alyse (L4)
4	aluate personal growth through daily practice	aluate (L5)

E. CO-PO Mapping: [affinity: 3 – high; 2- moderate; 1- slightly]

CO's	Program Outcomes (PO's)											ogram Specific Outcomes (PSF's)		
	1	2	3	4	5	6	7	8	9	10	11	O1	O2	O3
1	-	-	-	-	-	1	-	2	-	-	1	-	-	-
2	-	-	-	-	-	2	2	1	1	-	1	-	-	-
3	-	-	-	-	-	1	1	2	-	-	1	-	-	-
4	-	-	-	-	-	1	1	1	1	-	1	-	-	-

F. Syllabus

Unit 1: Foundations of Meditation (CO1)

- Meaning and purpose of meditation
- Demonstration and supervised training
- Overview of structure of IAM
- Guidance for safe and effective practice
- Importance of mental health

Unit 2: Theoretical Foundations (CO2)

- Structure and components of IAM: yogic stretches, regulated breathing, and guided meditation
- Breath–mind connection
- Integration of IAM practice into daily routine and academic life
- Application of IAM for stress management, concentration, and holistic student development

Unit 3: IAM Practical Training (CO3)

- Preparatory stretches
- Pranayama components
- Guided meditation sequence
- Corrections and common challenges

Unit 4: Integration and Transformation (CO4)

- Building daily discipline
- Research evidence in higher education
- Compassion and mindful communication

G. Evaluation Pattern:

sessment	**ernal (60)**	**ernal (40)**
endance	Marks	
ss Participation	Marks	
tivity	Marks	
ctical Demonstration		Marks
a		Marks

SEMESTER 4

25ARC211	Architectural Design Studio – II	L-T-P-C	2-4-16-14

Course Objectives

- To build advanced skills in site planning and landscape integration through design interventions for rural and semi-urban contexts.
- To develop the ability to undertake survey research, field studies, and documentation of built and natural environments.
- To design community spaces and clusters responding to socio-cultural patterns, ecological contexts, local lifestyles, and principles of Universal Design.
- To inculcate sensitivity towards climate-responsive, resource-efficient, and low-impact design using local materials and traditional practices.
- To enhance students' abilities in analytical writing, reflective thinking, and visual storytelling through design narratives and reports.

Course Outcomes

After completing this course, students will be able to:

CO1: Conduct site surveys, analyze findings, and document case studies to inform site-specific design strategies.

CO2: Design land- and building-based interventions for rural and semi-urban contexts that incorporate community needs and promote spatial equity.

CO3: Integrate principles of landscape design and ecological conservation in spatial planning.

CO4: Apply climate-responsive and low-energy design strategies using local materials and vernacular knowledge.

CO5: Communicate design ideas effectively through drawings, physical models, written documents, and oral presentations.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10	PO11	PSO1	PSO2	PSO3
CO1	3	3	2	2	2	3	2	2	3	2	3	1	-	1
CO2	3	3	2	3	2	3	3	3	2	3	2	-	2	3
CO3	3	2	2	3	2	3	2	2	2	3	1	-	-	-
CO4	3	3	2	3	2	2	3	2	2	3	-	2	2	-
CO5	3	2	2	2	2	3	2	3	3	3	-	-	-	-

Module 1: Site Analysis, Documentation & Research Methods

Survey techniques: topography, vegetation, access, orientation, hydrology; site inventory and mapping (manual and digital tools); case study methodology and comparative matrix; study of rural/semi-urban settlements and their evolution; socio-cultural mapping: user behavior, traditions, community dynamics; tour studies and documentation presentations

Module 2: Site Planning & Landscape Design Theory

Principles of site zoning, land use distribution, circulation; Landscape elements: terrain, vegetation, water, shade, and wind flow; Built–unbuilt relationships, thresholds, edges, transitions; Water-sensitive design: drainage, harvesting, reuse; Landscape as narrative and memory: cultural, symbolic, and ecological meanings.

Module 3: Land & Building Design Studio

Site-responsive massing and clustering strategies; Design of community spaces: health, education, public

gathering; Integration of infrastructure: sanitation, water supply, energy; Use of local materials, construction techniques, and spatial typologies; Design of built and unbuilt spaces as a cohesive system

Module 4: Writing, Communication & Reflection
Design narratives: writing about process, context, and intent; Visual documentation: diagrams, annotated drawings, collages; Reflective journals: learning from community, tradition, and site; Oral presentation skills and review preparation; Integration of writing with portfolio and report submissions

Reading Material

1. *Simon Swaffield, Theory in Landscape Architecture: A Reader, First Edition, University of Pennsylvania Press, 2002.*
2. *J.B. Jackson, Discovering the Vernacular Landscape, First Edition, Yale University Press, 1984.*
3. *Elizabeth Baker, The Other Side of Laurie Baker, First Edition, COSTFORD, 1991.*
4. *Amos Rapoport, House Form and Culture, First Edition, Prentice-Hall, 1969.*
5. *Brian Hackett, Landscape Design: A Historical Survey, First Edition, A & C Black Publishers, 1971.*
6. *Regional case studies from INTACH, HUDCO, WRI, and local development agencies*

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term jury	Internal	20%
End-semester jury	External	50%

25ARC212	Integrated Building Systems - I	L-T-P-C	2-1-2-4

Course Objectives

- To introduce basic concepts and functional design of sanitation and water supply systems in buildings, including their connection to external municipal services.
- To develop competency in designing building-level drainage systems, including inspection chambers, manholes, and rainwater harvesting systems.
- To understand and design basic electrical supply and distribution systems, including safety components and internal wiring.
- To introduce students to lighting and acoustics as integrated building services, focusing on user comfort and performance standards.

Course Outcomes

After completion of the course, students will be able to:

CO1: Design integrated water supply and sanitation layouts for buildings, including storage and drainage systems.

CO2: Develop electrical layout plans by applying knowledge of circuits, safety requirements, and energy-efficient lighting strategies.

CO3: Analyze the impact of acoustics and artificial lighting on spatial performance and integrate appropriate strategies to enhance user comfort.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	3	3	2	-	-	-	1	2	-	-	-	-
CO2	3	2	3	3	2	-	-	-	1	2	-	-	-	-
CO3	3	2	3	3	2	-	-	-	1	2	1	-	2	-

Module 1: Water Supply and Sanitation

Types of sanitary appliances and user space requirements; Types of traps and fixtures used in plumbing; Systems: direct and indirect water supply; Municipal water connection: ferrule, water meter; Water storage tank sizing and down-take pipe design; Taps, valves, appliances – market study

Module 2: Building Drainage and External Sanitation Systems

Building drainage systems: inspection chamber, disconnecting chamber; Underground drainage: pipe gradients, sewer connection; Vent pipes, drop manholes, vent shafts; Site-level drainage and surface runoff

Rainwater harvesting systems; Sewage disposal for small projects

Module 3: Electricity and Electrical Layout

Basics: current types, single/three-phase supply; Site supply and distribution system; Internal distribution: open vs concealed wiring, wires and accessories; Layouts for interior spaces: lighting and power circuits; Safety: earthing, MCB, ELCB, lightning conductor

Module 4: Lighting and Acoustics

Lighting: direct/indirect, types of lamps (incandescent, CFL, LED), luminance levels; Daylight vs artificial light integration; Acoustics: key terminology, sound propagation; Reverberation, absorption, and reflection principles; Acoustical treatment for classrooms, lecture halls, and auditoriums

Reading Material

1. *P. C. Varghese, Building Services, First Edition, PHI Learning Pvt. Ltd., 2009.*
2. *R. G. Hopkinson and P. Petherbridge, Lighting for Architects, First Edition, Macmillan Press, 1966*
3. *Bureau of Indian Standards, National Building Code of India 2016, Volume 2: Building Services (Plumbing, Electrical, Lighting and Ventilation), Latest Edition, Bureau of Indian Standards, 2016*

4. *A. K. Jain, Environmental Design: An Introduction for Architects and Engineers, First Edition, Khanna Publishers, 2003*
5. *Housing & Urban Development Corporation (HUDCO) / HBC India, Manual on Water Supply and Treatment, 3rd Edition (Revised), Central Public Health and Environmental Engineering Organisation (CPHEEO), Ministry of Urban Development, Government of India, 1999.*
6. *V. N. Mittle, Electrical Wiring, Estimating & Costing, Revised Edition, Standard Publishers Distributors, 2012.*
7. *David M. Egan, Architectural Acoustics, Revised Edition, McGraw-Hill, 1988.*

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-semester Examination	Internal	20%
End-semester jury	External/Internal	50%

25ARC213	History & Culture - IV	L-T-P-C	2-0-0-2

Course Objectives

- To critically examine modern, postmodern, and contemporary art and architectural movements in relation to global and Indian contexts.
- To explore technological, philosophical, and cultural influences on architecture from the early 20th century to the present.
- To study the impacts of urbanization and globalization on built environments, societies, and public health in India and abroad.
- To sensitize students to issues of accessibility, heritage, public housing, and infrastructure in the context of rapid urban change.

Course Outcomes

After completing this course, students will be able to:

CO1: Interpret major art and architectural movements from the modern to postmodern and contemporary periods, including their Indian parallels.

CO2: Analyze the influence of socio-political, cultural, and philosophical ideas on architectural practice and discourse.

CO3: Examine the challenges posed by urbanization and globalization on architecture, planning, and public life

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	3	2	2	3	2	2	2	3	2	3	-	-
CO2	3	2	2	2	3	3	2	2	2	3	3	3	-	1
CO3	3	3	2	3	2	2	3	2	2	3	3	2	2	2

Module 1: Modern, Postmodern and Late-Modern Movements

Evolution of architecture between the World Wars and after Technological advancements and structural innovations; Modernist ideologies: Functionalism, Brutalism, International Style; Postmodernism and Late-Modern responses; Art movements: Abstract, Expressionism, Dadaism, Surrealism, Bauhaus

Module 2: Contemporary Critiques & RegionalResponses

Critical Regionalism: Kenneth Frampton and global adaptations; Deconstruction and its expression in architecture; Art and architecture in the digital age (2000s onward); Environmental concerns, sustainability in contemporary design; Indian context: Vistara exhibition, validation of the vernacular

Module 3: Indian Architecture Post-Independence

Post-independence era and architecture for the State Influence of Le Corbusier and Louis Kahn; Indian Modernists: Achyut Kanvinde, Charles Correa, B.V. Doshi, Anant Raje; Contemporary Indian architectural trends and public projects; Cultural narratives and socio-political architecture

Module 4: Urbanization, Society & Built Heritage

Global trends and patterns of urbanization; Indian context: megacities, Tier 2 towns, and peri-urban development Migration, urban poverty, housing, infrastructure, public health Public space, gendered access, transport, and real estate; Preservation of natural, built, and cultural heritage

Reading Material

1. *Kenneth Frampton, Modern Architecture: A Critical History, 5th Edition, Thames & Hudson, 2020.*
2. *William J.R. Curtis, Modern Architecture Since 1900, 3rd Edition, Phaidon Press, 1996.*
3. *Jon Lang, A Concise History of Modern Architecture in India, First Edition, Permanent Black, 2002.*
4. *Peter Hall, Cities of Tomorrow: An Intellectual History of Urban Planning and Design in the Twentieth Century, 4th Edition, Wiley-Blackwell, 2014.*

5. *K.T. Ravindran (Editor), Traditional Architecture in India: A Reader, First Edition, Mapin Publishing, 2014.*
6. *Festival of India, Vistara: The Architecture of India – Exhibition Catalogue, First Edition, The Festival of India and the National Centre for the Performing Arts (NCPA), 1986.*
7. *A.G. Krishna Menon, Essays on Urban Heritage and Indian Urbanism, First Edition, INTACH & IHC (India Habitat Centre), 2018.*

Evaluation Pattern

Assessment	**Internal/External**	**Weightage**
Continuous Assessment	Internal	30%
Mid-Semester Examination	Internal	20%
End-Semester Examination	External	50%

25ARC214	Structural Systems in Design - II	L-T-P-C	1-1-0-2

Course Objectives

- To enable students to understand and apply the theories of bending, shear, deflection, and stress analysis in structural elements.
- To familiarize students with the design principles of RCC and steel structures in low-rise building applications.
- To introduce students to material testing techniques and relate material behavior to structural design.
- To introduce the fundamentals of soil mechanics and foundation design, addressing the relationship between structure and site conditions.

Course Outcomes

After completing this course, students will be able to:

CO1: Analyze structural elements under different loading conditions using bending, deflection, and stress theories.

CO2: Apply structural design principles to timber, steel, and RCC components for small- scale buildings.

CO3: Evaluate material behavior and soil properties to guide decisions related to foundation design.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	3	3	2	3	2	2	2	2	-	-	2	-
CO2	3	2	3	3	2	3	2	2	2	2	-	-	2	-
CO3	3	2	2	3	2	3	2	2	2	2	1	-	2	-

Module 1: Structural Behavior and Design Basics

Theory of simple bending – equations and problems Design of timber and steel beams (basic); Shear stress distribution in rectangular sections; Deflection of beams: cantilever and simply supported beams; Euler's theory and introduction to Macaulay's method; Combined stresses: direct + bending (beam, column, footing); Footing plan design (dimensions only)

Module 2: RCC and Steel Design Fundamentals

RCC: grades of concrete and steel; Thumb rules for RCC slab, beam, column dimensions Steel reinforcement placement from BMD and SFD Introduction to steel sections: types and properties, planning of simple steel structures; Use of steel tables and codes (IS 456 & IS 800 - overview)

Module 3: Advanced Analysis Techniques

Short and long column analysis – Euler & Rankine Fixed beams: moment analysis for UDL and point loads; Moment distribution method: Continuous beams (2 & 3 spans), Single-storey, single-bay non-sway frames; Comparative study: simply supported, continuous, portal frame Structural idealization of 3D systems

Module 4: Soil Mechanics and Material Testing

Types of soil, compaction, consolidation, void ratio, etc.; Load-bearing capacity, water table, settlement, foundation failure; Design of simple load-bearing foundations; Soil testing methods and parameters; Material testing: cement, sand, bricks, coarse aggregate, concrete, Mangalore tiles.

Reading Material

1. *B.C. Punmia, Strength of Materials, 15th Edition, Laxmi Publications, 2017.*
2. *S. Ramamrutham, Design of Reinforced Concrete Structures, 17th Edition, Dhanpat Rai Publishing Company, 2015.*

3. *R.L. Jindal, Design of Steel Structures, 3rd Edition, Pearson Education India, 2012.*
4. *B.C. Punmia, Soil Mechanics and Foundations, 16th Edition, Laxmi Publications, 2017.*
5. *Bureau of Indian Standards, IS 456:2000 – Plain and Reinforced Concrete – Code of Practice, Latest Edition, Bureau of Indian Standards, 2000.*
6. *Bureau of Indian Standards, IS 800:2007 – General Construction in Steel – Code of Practice, Latest Edition, Bureau of Indian Standards, 2007.*
7. *Bureau of Indian Standards, National Building Code of India 2016 – Volume on Structural Design and Soils and Foundations, Latest Edition, Bureau of Indian Standards, 2016.*
8. *Various Authors, Laboratory Manuals for Structural and Soil Testing, Institutional Publications, Various Editions, Latest Accessed 2025.*

Evaluation Pattern

Assessment	**Internal/External**	**Weightage**
Continuous Assessment	Internal	30%
Mid-Semester Examination	Internal	20%
End-Semester Examination	External	50%

22ADM201	Strategic Lessons From Mahaa̅bha̅rata	L – T – P-C	1 – 0 – 0-1

Course Objectives

- This course probes into the timeless itihasa of Mahabharata to uncover valuable insights on strategy, leadership, and decision-making. This course offers a captivating exploration of the itihasa, providing students with a comprehensive understanding of its historical and cultural significance, while drawing compelling parallels to modern-day business and life challenges.
- This course equips students with the essential tools to navigate complex situations, make informed choices, and achieve success. Aligned with the Indian Knowledge Systems (IKS) framework outlined in the National Education Policy, this course serves as an introduction to the vast reservoir of wisdom and knowledge rooted in Indian heritage.
- Whether you are interested in business, politics, or personal growth, this course offers invaluable wisdom that transcends time, making it an indispensable resource for anyone seeking to master the art of strategy and leadership.

Course Outcomes:

CO	Course Outcomes
CO01	**Recall key events and characters from the Mahabharata.** Statement: Demonstrate the ability to remember and recount significant events and characters from the Mahabharata, establishing a foundational understanding of the epic.
CO02	**Explain the strategic decisions made by characters in the Mahabharata and their implications.** Statement: Comprehend the strategic choices made by characters in the Mahabharata and elucidate the consequences these decisions had on the unfolding of the narrative.
CO03	**Apply strategic principles from the Mahabharata to contemporary business scenarios.** Statement: Utilize strategic insights derived from the Mahabharata to address modern business challenges, adapting historical lessons to current organizational contexts.
CO04	**Analyze the diverse strategic approaches employed by characters in the Mahabharata**. Statement: Dissect the multifaceted strategic tactics used by Mahabharata characters, evaluating their effectiveness and dissecting the factors influencing their outcomes.
CO05	**Evaluate the enduring relevance of Mahabharata's strategic wisdom in present-day contexts.** Statement: Assess the ongoing significance of strategic lessons from the Mahabharata, appraising their applicability and value within contemporary strategic decision-making processes.
CO06	**Develop innovative strategic frameworks by synthesizing insights from the Mahabharata**. Statement: Formulate original strategic models by amalgamating and reinterpreting the diverse strategic teachings extracted from the Mahabharata, fostering novel approaches to strategic thinking.

Module 1
A Preamble to the Grand Itihāsa, Mahābhārata – A Brief Summary, Mahābhārata – Whats and Whatnots, Dharmic Insights of a Butcher, Unbroken Legacy

Module 2
A Timeless Itihāsa for Timely Needs, Pratijñā, Karṇa – The Maestro Who Went Wide of the Mark, Kingship and Polity Acumen, Mahābhārata in Adages

Module 3
Popular Regional Tales, Strategical Silhouette of an Extraordinary Peace Mission, Yājñasenī: A Woman from Fire, Death and Deathlessness, The Goal of Life

Reading Material

1. *Bibek Debroy. (2010). The Mahabharata (Trans.). Penguin Books India.*
2. *C. Rajagopalachari. (1951). The Mahabharata. Bharatiya Vidya Bhavan.*
3. *Kamala Subramaniam. (2001). Mahabharata. Bharatiya Vidya Bhavan.*
4. *Jayadayal Goyandka. (n.d.). Some Exemplary Characters of the Mahabharata. Gita Press.*

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term jury	Internal	30%
End-semester jury	External	40%

26LSA211	Life Skills for Architects II	L – T – P-C	1 – 0 –2-2

Course Objectives

- Assist students in inculcating Soft Skills and developing a strong personality
- Help them improve their presentation skills
- Aid them in developing their problem solving and reasoning skills
- Facilitate them in improving the effectiveness of their communication

Course Outcomes

CO1 – Demonstrate and regulate emotional intelligence by managing emotions, sustaining positive morale, and maintaining a confident attitude in real-life professional situations such as the placement process

CO2 – Design and deliver effective communication by applying appropriate content development, presentation techniques, body language, and strategies to manage nervousness in presentations, group discussions, and interviews

CO3 – Analyze and apply suitable problem-solving methods to accurately solve arithmetic and algebraic problems.

CO4 – Investigate, select, and apply appropriate analytical techniques to solve problems involving logical reasoning and data analysis.

CO5 – Select and apply context-appropriate vocabulary and apply knowledge of English grammar to construct clear, accurate, and effective sentences.

CO6 – Critically analyze written texts to derive logical conclusions and organize and refine spoken communication by incorporating feedback to convey ideas with clarity and coherence

PO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1								2	3	3		3
CO2									2	3		3
CO3		3		2								
CO4		3		2								
CO5										3		3
CO6									3	3		3

Syllabus

Soft Skills

Communication: Process, Language Fluency, Non-verbal, Active listening. Assertiveness vs. aggressiveness. Barriers in communication. Digital communication

Presentations: Need, importance, preparations, research and content development, structuring and ensuring flow of the presentation. Ways and means of making an effective presentation: Understanding and connecting with the audience – using storytelling technique, managing time, appropriate language, gestures, posture, facial expressions, tones, intonations and grooming. Importance of practice to make an impactful presentation.

Aptitude

Problem Solving II

Equations: Basics, Linear, Quadratic, Equations of Higher Degree and Problems on ages.

Logarithms, Inequalities and Modulus: Basics

Time and Work: Basics, Pipes & Cistern, and Work Equivalence. Time, Speed and Distance: Basics, Average Speed, Relative Speed, Boats & Streams, Races and Circular tracks.

Logical Reasoning: Arrangements, Sequencing, Scheduling, Venn Diagram, Network Diagrams, Binary Logic, and Logical Connectives.

Verbal

Vocabulary: Aid students learn to use their vocabulary to complete the given sentences with the right words. Usage of more appropriate words in different contexts is emphasized.
Grammar (Basic-intermediate): Help students master usage of grammatical forms and enable students to identify errors and correct them.
Reasoning: Emphasize the importance of avoiding the gap (assumption) in arguments/ statements/ communication.
Reading Comprehension (Basics): Introduce students to smart reading techniques and help them understand different tones in comprehension passages.
Speaking Skills: Make students be aware of the importance of impactful communication through individual speaking activities in class.
Writing Skills: Introduce formal written communication and keep the students informed about the etiquette of email writing.

References:

1. Students" Career Planning Guide, Corporate & Industry Relations, Amrita Vishwa Vidyapeetham.
2. Soft Skill Handbook, Corporate & Industry Relations, Amrita Vishwa Vidyapeetham.
3. Adair. J., (1986), *"Effective Team Building: How to make * winning team",* London, U.K
4. Gulati. S., (1006) "Corporate Soft Skills", New Delhi, India: Rupa & **Co.**
5. The hard truth about Soft Skills, by Amazon Publication.
6. Verbal Skills Activity Book, CIR, AVVP
7. English Grammar & Composition, Wren & Martin
8. Nova's GRE Prep Course, Jeff Kolby, Scott Thornburg & Kathleen Pierce
9. Cracking the New GRE 2012
10. Kaplan's – GRE Comprehensive Programme
11. Student Workbook: Quantitative Aptitude & Reasoning, Corporate & Industry Relations, Amrita Vishwa Vidyapeetham.
12. Quantitative Aptitude for All Competitive Examinations, Abhijit Guha.
13. How to Prepare for Quantitative Aptitude for the CAT, Arun Sharma.
14. How to Prepare for Data Interpretation for the CAT, Arun Sharma.

Evaluation Pattern

Assessment	Internal	External
Continuous Assessment (CA)* – Soft Skills	30	-
Continuous Assessment (CA)* – Aptitude	10	25
Continuous Assessment (CA)* – Verbal	10	25
Total	50	50

*CA - Can be **presentations, speaking activities and tests.**

SEMESTER 5

25ARC301	Architectural Design Studio – III	L-T-P-C	2-4-16-14

Course Objectives

- To integrate the principles of sustainable architecture and Universal Design into design thinking, encompassing environmental, social, and economic dimensions.
- To document, analyze, and interpret built environments focusing on materiality, energy flows, and ecological relationships.
- To sensitize students to community needs through participatory engagement and translate these insights into practical design solutions.
- To foster Seva (service) as a core architectural value by immersing students in collaborative and socially beneficial design and build activities.
- To strengthen the skills of visual, verbal, and written communication for effective expression of architectural ideas and reflections.

Course Outcomes

After completing this course, students will be able to:

CO1: Analyze and integrate sustainable design strategies—including energy, water, and material efficiency—and evaluate architectural projects using green building rating systems.

CO2 : Conduct comprehensive documentation of settlements/buildings emphasizing material ecology, thermal comfort, and resource cycles.

CO3: Develop community-centered design interventions that are participatory, scalable, and sustainable.

CO4: Demonstrate ethical, empathetic, and service-oriented design thinking through real-world applications.

CO5: Critically reflect on and articulate design processes through essays, reports, and visual narratives.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	1	-	-	2	2	2	3	1	-	2	3	-	2
CO2	3	2	-	-	1	2	-	3	1	-	3	3	-	-
CO3	3	2	3	2	3	3	2	2	-	1	3	-	2	3
CO4	2	1	3	-	-	3	3	3	1	2	-	-	-	3
CO5	3	2	2	-	2	3	-	2	3	2	-	-	-	2

Module 1: Theory of Sustainable Architecture

Principles & Strategies for Sustainable Architecture; Green building standards and rating systems – rating systems such as LEED, GRIHA, IGBC, WELL, credit categories and case studies; Applications and emerging practices – net-zero energy buildings, biophilic designs, smart buildings.

Module 2: Building Documentation – Ecology & Materiality

Measured drawings of vernacular and eco-sensitive buildings; photo-documentation & material mapping: locally available materials, life-cycle impacts, embodied energy; Analysis of energy and water use in documented structures

Module 3: Sustainable Architecture Studio

Development of design proposal integrating green technologies, resource management and cultural context; Application of building simulation tools (basic daylight and thermal comfort analysis);

application of sustainable design principles.

Module 4: Seva
On-ground Seva activity: Participation in construction, repair, or improvement of community assets (in collaboration with local NGOs/panchayats); Immersion in local cultural practices and their spatial manifestations; Reflecting on the role of architects in enabling social change.

Module 5: Architectural Writing & Reflection
Introduction to architectural writing: descriptive, analytical, and reflective; writing about people, places and buildings: narrative essays and critiques; peer-review and self-critique: evaluating one's own and peers' design processes

Reading Material

1. Olgyay, V. Design with Climate. Princeton University Press, 1963.
2. Laurie Baker. Architecture for the People. 1991.
3. Correa, C. A Place in the Shade. Penguin Books.
4. Fathy, H. Architecture for the Poor. University of Chicago Press, 1973.
5. Krishan, A. et al. Climate Responsive Architecture – A Design Handbook for Energy Efficient Buildings. TERI.
6. Yeang, K. Eco-Design: A Manual for Ecological Design. Wiley.

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-Semester Jury	Internal	20%
End-Semester Jury	External	50%

25ARC302	Architectural Working Drawing	L-T-P-C	2-0-4-4

Course Objectives

- To introduce students to construction documentation practices for load-bearing and composite structural systems.
- To enable students to translate conceptual designs (from the previous semester) into comprehensive working drawings for construction.
- To familiarize students with building byelaws, standards, and codes relevant to working drawings.
- To develop technical communication skills through precise representation of plans, sections, elevations, details, and schedules.
- To cultivate an understanding of coordination between architectural, structural, and services drawings for practical execution.

Course Outcomes

After completing this course, students will be able to:

CO1: Prepare complete working drawing sets for load-bearing and composite structures.
CO2 : Apply building codes, byelaws, and standards to ensure technical accuracy and compliance.
CO3: Develop detailed construction drawings for walls, foundations, openings, staircases, joinery, and roofing systems.
CO4: Demonstrate technical precision and clarity in producing drawings suitable for on-site execution
CO5: Coordinate architectural drawings with structural and basic service layouts to ensure integrated design documentation.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	3	1	3	-	-	2	2	-	3	3	-	2
CO2	3	3	-	-	3	-	-	3	-	-	2	3	-	-
CO3	3	3	2	1	3	-	-	3	-	-	3	-	2	3
CO4	3	3	-	-	3	-	-	2	-	-	-	-	-	3
CO5	3	3	2	1	3	-	-	3	-	-	2	-	-	2

Module 1: Introduction to Working Drawings

Purpose and types of working drawings; Standards, symbols, scales, and conventions (IS codes); Introduction to load-bearing & composite structures (wall-thicknesses, structural grids, integration with frame elements);

Module 2: General Arrangement Drawings

Reworking Semester 4 design into a constructible load-bearing or composite structure; Setting out plans: column grids, wall positions, openings, levels; Working plan drawings with dimensions, annotations, levels.

Module 3: Sections, Elevations & Construction Details

Building sections: cut-through load-bearing walls, beams, and slabs; detailing lintels, sills, and foundations; Elevations: façade treatment with material specifications and external levels; Key construction details: Foundation & plinth for load-bearing walls, Wall-floor-roof junctions, Openings (doors, windows with lintels, sills, and jamb details), Composite roof details (sloped RCC slab/steel + tile/cladding).

Module 4: Joinery, Stairs & Toilet Details

Door & window joinery: exploded views, schedules, and fixing details; Staircase drawings: plan, section,

and construction detailing; Toilet & wet-area detailing: layouts, waterproofing layers, slopes, fixture placements.

Module 5: Services Coordination & Site Drawings

Basic service layouts: water supply, drainage, and electrical points; Site plan: setting out, landscape elements, levels, and services connections.

Module 6: Portfolio Compilation

Integration of all drawings into a comprehensive working drawing set; Cross-checking for accuracy, readability, and constructability

Reading Material

1. W.B. McKay, *Building Construction* (Volumes 1–4).
2. Francis D.K. Ching, *Building Construction Illustrated*. Wiley.
3. Bindra & Arora, *Building Construction*. Dhanpat Rai.
4. Punmia, B.C. *Building Construction*. Laxmi Publications.
5. National Building Code of India (NBC).
6. IS 962: *Code of Practice for Architectural and Building Drawings*.

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-Semester Jury	Internal	20%
End-Semester Jury	External/Internal	50%

25ARC303	Structural Systems in Design - III	L-T-P-C	1-1-0-2

Course Objectives

- To extend students' understanding of load-bearing and composite structural systems from earlier semesters and introduce reinforced concrete and hybrid systems in mid-rise buildings.
- To familiarize students with structural design considerations for spans, load paths, lateral stability, and material integration.
- To develop the ability to interpret structural drawings, specifications, and codes.
- To introduce basic structural calculations for sizing of key elements like slabs, beams, and columns.
- To integrate structural systems with architectural design, ensuring form–structure synergy.

Course Outcomes

After completing this course, students will be able to:

CO1: Identify and analyze the behavior of composite structural systems in medium-scale buildings.
CO2 : Interpret and prepare structural drawings in line with IS codes and integrate them with design architectural design intent.
CO3: Perform basic structural calculations for RCC slabs, beams, columns, and load distribution.
CO4: Integrate structural considerations into architectural design, ensuring stability, efficiency, and spatial quality.
CO5: Critically evaluate structural decisions in precedent projects and apply code-based knowledge to inform design solutions.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	-	2	2	2	-	-	2	-	-	3	-	-
CO2	3	2	-	-	2	-	-	3	1	-	-	3	-	-
CO3	3	2	2	2	-	3	-	-	-	1	-	-	2	-
CO4	2	-	3	-	-	3	-	3	1	2	-	-	-	3
CO5	3	2	2	-	1	3	-	2	3	2	-	-	-	-

Module 1: Introduction to Composite & RCC Systems
Review of load-bearing and framed systems; Introduction to RCC systems: slabs, beams, columns, and footings; Composite structures: combining steel, timber, and RCC for efficiency;

Module 2: Load Path & Structural Behaviour
Vertical and lateral load transfer in mid-rise buildings; Behavior of slabs, beams, columns, and shear walls; Structural grids, span–depth ratios, and conceptual framing.

Module 3: RCC Design Fundamentals
Basic calculations for one-way and two-way slabs, beams, and short columns; Introduction to IS codes for RCC design (IS 456:2000); Sizing strategies and structural detailing for architectural integration.

Module 4: Structural Drawings & Detailing
Reading and interpreting structural drawings: plans, sections, reinforcement details; Detailing slabs, beams, columns, and foundations; Case study of structural drawings from a real project.

Module 5: Design Integration & Studio Application
Integrating structural systems into the students' ongoing design studio project; Evaluating structure-form synergy in selected case studies.

Reading Material

1. P.C. Varghese, *Limit State Design of Reinforced Concrete*, PHI Learning.
2. Krishna Raju, *Design of Reinforced Concrete Structures*, CBS Publishers.
3. N. Subramanian, *Design of Reinforced Concrete Structures*, Oxford University Press.
4. Francis D.K. Ching, *Building Structures Illustrated*, Wiley.
5. IS 456:2000 – Code of Practice for Plain and Reinforced Concrete.

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-Semester Examination	Internal	20%
End-Semester Examination	External	50%

25ARC304	Building Physics & Energy Modelling	L-T-P-C	1-1-0-2

Course Objectives

- To introduce students to fundamental principles of building physics including heat transfer, moisture, acoustics and daylighting.
- To develop the ability to analyze energy performance of buildings using computational modelling tools.
- To familiarize students with thermal comfort indices, daylight factors, and energy efficiency metrics.
- To train students in using energy modelling software for basic performance analysis of buildings.
- To integrate building physics insights into design decision-making for sustainable architecture.

Course Outcomes

After completing this course, students will be able to:

CO1: Analyze heat, light, sound, and moisture phenomena in buildings and assess their influence on building performance and occupant comfort.

CO2 : Analyze thermal comfort conditions using psychrometric charts and adaptive comfort models

CO3: Apply basic energy simulation tools to model building envelope performance, daylighting, and ventilation.

CO4: Evaluate energy efficiency strategies and propose appropriate design improvements to enhance building performance.

CO5: Integrate simulation outcomes into design decision-making to develop sustainable and user-responsive built environments

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	-	3	3	2	-	-	1	-	-	2	-	-
CO2	3	2	3	3	2	2	-	-	1	-	-	2	3	-
CO3	3	2	3	3	2	3	-	-	2	2	-	-	3	3
CO4	2	-	3	3	3	3	-	3	1	2	-	-	3	3
CO5	3	2	2	3	3	3	-	2	3	2	-	-	3	3

Module 1: Introduction to Building Physics

Principles of heat, light, sound, and moisture in the built environment; Understanding building envelopes and their role in performance; Energy flows in buildings: conduction, convection, radiation.

Module 2: Thermal Comfort & Energy Basics

Thermal comfort indices: PMV, PPD, adaptive comfort models; Psychrometric charts and human comfort analysis; Basic energy use in buildings: EUI, HVAC loads, passive vs. active strategies.

Module 3: Daylighting & Acoustics

Daylighting concepts: daylight factor, daylight autonomy, glare; Simple daylighting calculations for design; Basics of architectural acoustics: sound absorption, reverberation, noise control.

Module 4: Energy Modelling Tools & Applications

Introduction to energy modelling software (e.g., Climate Consultant, DesignBuilder, OpenStudio, Ladybug Tools); Modelling building envelope, shading, natural ventilation, and daylight performance; Generating energy analysis reports to inform design.

Module 5: Integration with Design Studio
Using building physics and simulation results to refine studio projects; Case studies of high-performance buildings in India and globally; Critical evaluation of design options based on performance data.

Reading Material

1. Szokolay, S.V. *Introduction to Architectural Science: The Basis of Sustainable Design*. Routledge.
2. Koenigsberger, O.H. *Manual of Tropical Housing and Building*. Orient Blackswan.
3. Arvind Krishan et al. *Climate Responsive Architecture*. TERI Press.
4. Givoni, B. *Climate Considerations in Building and Urban Design*. Wiley.
5. Reinhart, C. *Daylighting Handbook: Fundamentals and Designing with the Sun*. Solemma.
6. US DOE & NREL Manuals on EnergyPlus and OpenStudio.

Evaluation Pattern

10.

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-Semester Jury	Internal	20%
End-Semester Jury	External/Internal	50%

26LSA301	Life Skills for Architects III	L-T-P-C	1-0-2-2

Course Objectives

- Help students understand corporate culture, develop leadership qualities and become good team players
- Assist them in improving group discussion skills
- Help students to sharpen their problem solving and reasoning skills
- Empower students to communicate effectively

Course Outcomes

CO1 – Apply effective interpersonal communication and leadership skills to facilitate collaboration and achieve win–win outcomes in group discussions and team-based activities.
CO2 – Analyze and contribute effectively in group discussions by examining issues, presenting ideas, sharing perspectives, practicing active listening, brainstorming solutions, and building consensus.
CO3 – Apply appropriate problem-solving strategies to analyze and solve questions related to geometry, statistics, probability, and combinatorics.
CO4 – Analyze and apply logical reasoning methods to accurately solve problem-based questions.
CO5 – Apply precise and appropriate diction, and analyze and correct grammatical errors to produce clear and accurate written communication.
CO6 – Organize and synthesize words, phrases, and sentences logically to communicate ideas and perspectives convincingly in oral and written forms.

PO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1									3	3	2	3
CO2										3	2	2
CO3		3		2								
CO4		3		2								
CO5										3		3
CO6									3	3		3

Syllabus

Soft Skills

Professional Grooming and Practices: Basics of corporate culture, key pillars of business etiquette – online and offline: socially acceptable ways of behavior, body language, personal hygiene, professional attire and Cultural adaptability and managing diversity. Handling pressure, multi-tasking. Being enterprising. Adapting to corporate life: Emotional Management (EQ), Adversity Management, Health consciousness. People skills, Critical Thinking and Problem solving.
Group Discussions: Advantages of group discussions, Types of group discussion and Roles played in a group discussion. Personality traits evaluated in a group discussion. Initiation techniques and maintaining the flow of the discussion, how to perform well in a group discussion. Summarization/conclusion.

Aptitude

Problem Solving III
Geometry: 2D, 3D, Coordinate Geometry, and Heights & Distance.
Permutations & Combinations: Basics, Fundamental Counting Principle, Circular Arrangements, and Derangements.
Probability: Basics, Addition & Multiplication Theorems, Conditional Probability and Bayes' Theorem.
Statistics: Mean, Median, Mode, Range, Variance, Quartile Deviation and Standard Deviation.
Logical Reasoning: Blood Relations, Direction Test, Syllogisms, Series, Odd man out, Coding \& Decoding, Cryptarithmetic Problems and Input - Output Reasoning.

Verbal

Vocabulary: Create an awareness of using refined language through idioms and phrasal verbs.

Grammar (Upper Intermediate-Advanced): Train Students to comprehend the nuances of Grammar and empower them to spot errors in sentences and correct them.

Reasoning: Enable students to connect words, phrases and sentences logically.

Oral Communication Skills: Aid students in using the gift of the gab to interpret images, do a video synthesis, try a song interpretation or elaborate on a literary quote.

Writing Skills: Practice closet tests that assess basic knowledge and skills in usage and mechanics of writing such as punctuation, basic grammar and usage, sentence structure and rhetorical skills such as writing strategy, organization, and style.

References:

1. *Students" Career Planning Guide, Corporate & Industry Relations, Amrita Vishwa Vidyapeetham.*
2. *Soft Skill Handbook, Corporate & Industry Relations, Amrita Vishwa Vidyapeetham.*
3. *Adair. J., (1986), "Effective Team Building: How to make * winning team", London, U.K*
4. *Gulati. S., (1006) "Corporate Soft Skills", New Delhi, India: Rupa & Co.*
5. *The hard truth about Soft Skills, by Amazon Publication.*
6. *Verbal Skills Activity Book, CIR, AVVP*
7. *English Grammar & Composition, Wren & Martin*
8. *Public Sector – Engineer Management Trainee Recruitment Exam (General English)*
9. *Nova's GRE Prep Course, Jeff Kolby, Scott Thornburg & Kathleen Pierce*
10. *Student Workbook: Quantitative Aptitude & Reasoning, Corporate & Industry Relations, Amrita Vishwa Vidyapeetham.*
11. *Quantitative Aptitude for All Competitive Examinations, Abhijit Guha.*
12. *How to Prepare for Quantitative Aptitude for the CAT, Arun Sharma.*
13. *How to Prepare for Data Interpretation for the CAT, Arun Sharma.*
14. *How to Prepare for Logical Reasoning for the CAT, Arun Sharma.*
15. *Quantitative Aptitude for Competitive Examinations, R S Aggarwal.*
16. *A Modern Approach to Logical Reasoning, R S Aggarwal.*
17. *A Modern Approach to Verbal & Non-Verbal Reasoning, R S Aggarwal*.

Evaluation Pattern

Assessment	Internal	External
Continuous Assessment (CA)* – Soft Skills	30	-
Continuous Assessment (CA)* – Aptitude	10	25
Continuous Assessment (CA)* – Verbal	10	25
Total	50	50

*CA - Can be **presentations, speaking activities and tests.**

SEMESTER 6

25ARC311	**Architectural Design Studio - IV**	**L-T-P-C**	**2-4-16-14**

Course Objectives

- To introduce students to parametric and algorithmic thinking as a methodology for architectural design.
- To integrate digital tools (parametric modelling, environmental plugins, and fabrication techniques) into the design process.
- To foster critical evaluation of computational design through theory, case studies, and precedent analysis.
- To expose students to contemporary architecture through tour-based studies, analysing digital and complex form-making.
- To develop an advanced digital design project that addresses contextual, environmental, performative, and Universal Design parameters.

Course Outcomes

After completing this course, students will be able to:

CO1: Demonstrate understanding of parametric architecture, generative design, and computational design approaches

CO2 : Apply digital design tools such as Grasshopper, Rhino, and Revit Dynamo to generate, iterate, and evaluate architectural forms.

CO3: Analyze digitally driven and performative architectural works through tour-based case studies

CO4: Design and develop a digitally conceived architectural project by integrating environmental, structural, and user-based parameters.

CO5: Communicate and present complex design ideas using digital visualizations, fabrication outputs, and analytical diagrams

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	3	2	3	2	3	-	2	2	-	2	2	-	-
CO2	3	2	3	3	2	3	-	3	3	-	2	2	3	3
CO3	3	3	2	2	2	3	-	2	3	-	2	3	-	3
CO4	3	3	3	3	3	3	2	3	3	2	3	3	3	3
CO5	3	2	2	3	3	3	-	3	3	3	2	3	3	3

Module 1: Parametric Architecture Theory

Evolution of digital and parametric design: from CAD to algorithmic design; Key theories: topological architecture, swarm intelligence, generative systems, biomimicry; Precedent studies: works of Zaha Hadid, Patrik Schumacher, Achim Menges, Michael Hansmeyer.

Module 2: Digital Tools in Design

Introduction to Grasshopper for Rhino: parametric geometry, data trees, attractor points; Environmental plugins: Ladybug, Honeybee (solar, daylight, thermal analysis); Basics of Revit Dynamo for parametric workflows; Introduction to digital fabrication techniques: 3D printing and laser cutting.

Module 3: Tour Studies

Documentation of contemporary parametric architecture (Indian/global projects); Analytical framework: form, performance, materiality, and digital processes; On-site study/tour: parametric façades, computationally designed installations, etc.

Module 4: Digital Architecture Studio
Project brief: design a medium-scale public/institutional building using parametric methods; defining performance criteria: environmental, structural, spatial; Iteration workflows: digital form generation, evaluation, and optimization; Interdisciplinary integration: structure, services, sustainability, fabrication strategies.

Module 5: Documentation & Reflection
Writing design narratives for computational workflows; Reflection on advantages, limitations and ethics of digital architecture; Peer-review and design crits.

Reading Material

1. Schumacher, Patrik. *The Autopoiesis of Architecture, Vol. I & II*. Wiley.
2. Kolarevic, Branko. *Architecture in the Digital Age: Design and Manufacturing*. Taylor & Francis.
3. Menges, Achim & Ahlquist, Sean. *Computational Design Thinking*. Wiley.
4. Oxman, Rivka. *Theories of the Digital in Architecture*. Routledge.
5. Ching, Francis D.K. *Architectural Graphics* (for visual communication).
6. Tedeschi, Arturo. *AAD Algorithms-Aided Design*. Edizioni Le Penseur.

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-Semester Jury	Internal	20%
End-Semester Jury	External	50%

25ARC312	Integrated Building Systems - II	L-T-P-C	2-1-2-4

Course Objectives

- To extend knowledge of plumbing and electrical systems learned in Integrated Building Systems – I to include HVAC, fire safety, vertical transportation and advanced lighting systems.
- To familiarize students with building automation and smart systems for energy efficiency.
- To develop the ability to integrate building services within architectural design through coordinated layouts and detailing.
- To provide an understanding of national and international codes for mechanical, electrical and fire systems (NBC, ASHRAE basics).
- To enable students to critically analyse and design building service layouts for medium- to large-scale projects.

Course Outcomes

After completing this course, students will be able to:

CO1: Explain and interpret the principles, components, and design criteria of HVAC, fire protection, and vertical transportation systems in buildings.

CO2 : Develop coordinated building services layouts by integrating plumbing, electrical, HVAC, and fire protection systems with architectural plans.

CO3: Apply energy-efficient strategies using smart building technologies and sustainable MEP solutions..

CO4: Interpret and apply NBC and other relevant codes and standards for mechanical, electrical, and fire protection system design

CO5: Communicate building services integration effectively through annotated drawings, diagrams, and coordinated models

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	3	3	2	-	-	2	1	-	-	-	2	-
CO2	3	2	3	3	3	-	-	3	2	-	-	-	3	2
CO3	3	2	3	3	3	3	-	3	2	2	-	-	3	3
CO4	3	2	2	3	3	3	-	3	2	2	-	-	3	3
CO5	3	2	2	3	3	3	-	3	3	2	-	-	3	3

Module 1: Heating, Ventilation & Air-Conditioning (HVAC) Systems

Principles of thermal comfort and air distribution; Natural vs. mechanical ventilation: strategies for hybrid systems; Components of HVAC systems: AHU, ducts, chillers, VRF, split, and packaged units; Duct design basics: sizing, routing, and integration with false ceilings; NBC provisions for HVAC and ventilation.

Module 2: Fire Detection & Fire Protection Systems

NBC fire safety provisions for buildings by occupancy and height; Active systems: sprinklers, fire hydrants, alarms, detection systems, wet/dry risers; Passive fire protection: fireproofing materials, compartmentalization, fire exits; Integration of fire systems in architectural layouts.

Module 3: Vertical Transportation

Types of elevators: passenger, freight, hospital, and service lifts; Escalators & moving walkways: applications and integration in public spaces; Planning lift shafts: dimensions, machine rooms, and safety considerations; NBC provisions for lifts and vertical transportation.

Module 4: Advanced Electrical & Lighting Systems
Smart building technologies: IoT in MEP systems, building automation; Lighting systems: task vs ambient lighting, automated controls, daylight-linked systems; Energy efficiency in electrical design: low-energy fixtures, LED retrofits; NBC and international guidelines for lighting and electrical safety.

Module 5: Integrated Services Coordination
Clash detection and coordination: plumbing, electrical, HVAC, and structural systems; Introduction to BIM for MEP coordination (Revit or similar); Case studies of integrated service design in institutional and commercial buildings.

Reading Material

1. P.C. Varghese, *Building Services*. PHI Learning.
2. K. N. Duggal, *Building Services*. New Age International.
3. A. K. Jain, *Environmental Design: An Introduction for Architects and Engineers*. Khanna Publishers.
4. David Egan, *Architectural Acoustics* (for acoustic principles linked to HVAC).
5. *National Building Code of India, Vol. 2, Sections on Mechanical, Electrical, and Fire Safety.*
6. *ASHRAE Fundamentals Handbook (selected chapters for HVAC).*

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-Semester Examination	Internal	20%
End-Semester Jury	External/Internal	50%

25ARC313	Structural Systems in Design - IV	L-T-P-C	1-1-0-2

Course Objectives

- To introduce long-span and tall building structural systems (space frames, shells, tensile structures, tubular and core systems).
- To develop the ability to evaluate structural efficiency for large-scale architectural projects.
- To familiarize students with structural considerations in high-rise and complex geometries.
- To understand integration of architecture, structure and building services for complex buildings.
- To enable students to interpret and apply advanced structural design concepts through analytical and representational exercises.

Course Outcomes

After completing this course, students will be able to:

CO1: Explain and analyze the structural behaviour of long-span and tall building systems.

CO2 : Apply structural principles to the design of large-span roofs, tall building frames, and irregular building forms.

CO3: Perform basic structural sizing of key components in space frames, shell structures, and tall-building cores.

CO4: Integrate appropriate structural strategies into architectural design by balancing form, function, and construction feasibility.

CO5: Critically analyze case studies of long-span and tall buildings to evaluate structural innovation and performance

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	-	-	2	1	-	-	-	2	-
CO2	3	2	3	3	3	-	-	3	2	-	-	-	3	2
CO3	3	3	3	3	3	3	-	3	2	2	-	-	3	3
CO4	3	2	2	3	3	3	-	3	2	2	-	-	3	3
CO5	3	2	2	3	3	3	-	3	3	2	-	-	3	3

Module 1: Long-Span Structural Systems

Space frames: principles, applications, and detailing; Shell and folded plate structures: load distribution, curvature, and construction techniques; Tensile structures: cables, membranes and anchoring systems.

Module 2: Tall Building Structural Systems

Load paths in tall buildings: gravity and lateral load considerations; Framing systems: braced frames, shear walls, core-and-outrigger systems, tube and diagrid structures; Foundation considerations for high-rise buildings.

Module 3: Advanced Structural Concepts for Irregular & Complex Forms

Structural behavior of parametric and free-form geometries; Structural optimization techniques: form-finding, topology optimization; Integration of structure with digital design workflows (linking with the Design Studio).

Module 4: Integration of Structure with Architecture

Case studies of stadiums, airports, convention centers, and supertall towers; Strategies for integrating structure with building services and envelope; Architectural expression through structure: exoskeletons, diagrids, mega-columns.

Module 5: Applied Structural Design Exercise

Design development of a structural system for a selected large-scale building (linked to Studio project); Sketches, calculations, and models to communicate structural intent; Coordination with architectural

form and program requirements.

Reading Material

1. Salvadori, Mario. *Why Buildings Stand Up: The Strength of Architecture*. Norton.
2. Schodek, Daniel. *Structures*. Prentice Hall.
3. Chilton, John. *Space Grid Structures*. Architectural Press.
4. Allen, Edward & Iano, Joseph. *Fundamentals of Building Construction*. Wiley.
5. Taranath, Bungale. *Structural Analysis and Design of Tall Buildings*. McGraw Hill.
6. National Building Code of India (NBC): Structural design provisions.

Evaluation Pattern

Assessment	**Internal/External**	**Weightage**
Continuous Assessment	Internal	30%
Mid-Semester Examination	Internal	20%
End-Semester Examination	External	50%

25ARC314	Advanced Building Construction	L-T-P-C	1-1-0-2

Course Objectives

- To introduce students to emerging building materials and innovative construction technologies in contemporary architecture.
- To provide knowledge of industrialized construction methods such as prefabrication, modular construction and 3D printing.
- To understand the integration of advanced structural and envelope systems with building services and sustainability goals.
- To develop skills in detailing complex assemblies and translating them into working drawings and prototypes.
- To critically evaluate construction innovations through case studies of landmark projects.

Course Outcomes

After completing this course, students will be able to:

CO1: **Identify and explain** advanced materials and construction systems used in contemporary architectural practice.

CO2 : **Prepare and develop** detailed construction drawings for innovative building assemblies such as façades, structural joints, and modular units.

CO3: **Integrate and apply** prefabricated and modular construction systems into building design while ensuring performance and sustainability requirements.

CO4: **Analyze and critically evaluate** complex building systems through case studies and site visits.

CO5: **Apply** advanced construction techniques in individual design projects using physical models, detailed drawings, and prototypes.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	-	-	2	1	-	-	3	2	-
CO2	3	3	3	3	3	-	-	3	2	-	-	3	3	2
CO3	3	3	3	3	3	3	-	3	2	2	-	3	3	3
CO4	3	2	2	3	3	3	-	3	2	2	-	3	3	3
CO5	3	2	2	3	3	3	-	3	3	2	-	3	3	3

Module 1: Emerging Building Materials

High-performance concrete (HPC), self-compacting concrete, fiber-reinforced concrete; Engineered timber (CLT, glulam), composites, and advanced steel systems; Smart materials: phase-change materials, ETFE, electro-chromic glass, and aerogels.

Module 2: Advanced Structural & Envelope Systems

Curtain wall systems, double-skin façades, and kinetic façades; High-performance roofing: tensile membranes, ETFE cushions, and integrated solar roofs; Integration of façades with shading devices and building services.

Module 3: Prefabrication & Modular Construction

Off-site construction techniques: precast panels, volumetric modular units, and hybrid systems; Design and assembly of modular bathrooms, service pods, and façade panels; Logistics, transport, and installation strategies for prefabricated elements.

Module 4: 3D Printing & Digital Fabrication

Principles of additive manufacturing for buildings; Case studies of 3D-printed houses, bridges, and components; Introduction to CNC milling, laser cutting, and robotic fabrication.

Module 5: Case Studies & Integrated Applications
Case studies: Zaha Hadid Architects, BIG, Foster + Partners – advanced systems in practice; Site visits to projects using prefabrication or advanced façade technologies; Integration of advanced systems into students' own ongoing design studio projects.

Reading Material

1. Edward Allen & Joseph Iano, *Fundamentals of Building Construction: Materials and Methods*. Wiley.
2. Francis D.K. Ching, *Building Construction Illustrated*. Wiley.
3. Arthur Lyons, *Materials for Architects and Builders*. Routledge.
4. Kolarevic, Branko, *Architecture in the Digital Age: Design and Manufacturing*. Taylor & Francis.
5. National Building Code of India (NBC): Provisions for new materials & systems.
6. Recent journals & industry reports (CTBUH, ARUP, IJAC).

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-Semester Jury	Internal	20%
End-Semester Jury	External/Internal	50%

26LSA311	Life Skills for Architects IV	L-T-P-C	1-0-2-2

Course Objectives

- Help students prepare resumes and face interviews with confidence
- Support them in developing their problem-solving ability
- Assist them in improving their problem solving and reasoning skills
- Enable them to communicate confidently before an audience

Course Outcomes

CO1 - Demonstrate the ability to present oneself confidently to potential recruiters by effectively showcasing knowledge, skills, abilities, interests, practical exposure, strengths, and achievements through a resume, video resume, and personal interview.

CO2 - Apply appropriate interview preparation strategies to analyze interview questions, articulate accurate and relevant responses, and respond professionally, demonstrating proper etiquette, a positive attitude, and courteous communication to establish suitability for the role.

CO3 - Apply time-management strategies and suitable problem-solving methods to accurately solve questions related to arithmetic, algebra, and statistics

CO4 - Analyze and solve problems involving logical reasoning and data analysis by selecting and applying appropriate analytical techniques

CO5 - Use precise and concise diction and apply prior knowledge of grammar and sentence structure to identify, correct, and improve written sentences.

CO6 - Analyze arguments using inductive and deductive reasoning to arrive at logical conclusions, and generate, organize, and present ideas coherently in a manner that is clear and appropriate for the intended audience.

PO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
CO1									3	3		2
CO2								2	3	3		2
CO3		3		2								
CO4		3		2								
CO5										3		3
CO6									3	3		3

Syllabus

Soft Skills

Team Work: Value of teamwork in organizations, Definition of a team. Why team? Effective team building. Parameters for a good team, roles, empowerment and need for transparent communication, Factors affecting team effectiveness, Personal characteristics of members and its influence on team. Project Management Skills, Collaboration skills.

Leadership: Initiating and managing change, Internal problem solving, Evaluation and co-ordination, Growth and productivity, Importance of Professional Networking.

Facing an interview: Importance of verbal & aptitude competencies, strong foundation in core competencies, industry orientation / knowledge about the organization, resume writing (including cover letter, digital profile and video resume), being professional. Importance of good communication skills, etiquette to be maintained during an interview, appropriate grooming and mannerism.

Aptitude

Problem Solving II

Sequence and Series: Basics, AP, GP, HP, and Special Series.

Data Sufficiency: Introduction, 5 Options Data Sufficiency and 4 Options Data Sufficiency.

Logical reasoning: Clocks, Calendars, Cubes, Non-Verbal reasoning and Symbol based reasoning.

Campus recruitment papers: Discussion of previous year question papers of all major recruiters of Amrita Vishwa Vidyapeetham.
Competitive examination papers: Discussion of previous year question papers of CAT, GRE, GMAT, and other management entrance examinations.
Miscellaneous: Interview Puzzles, Calculation Techniques and Time Management Strategies.

Verbal

Vocabulary: Empower students to communicate effectively through one-word substitution.
Grammar: Enable students to improve sentences through a clear understanding of the rules of grammar.
Reasoning: Facilitate the student to tap his reasoning skills through Syllogisms, critical reasoning arguments and logical ordering of sentences.
Reading Comprehension (Advanced): Enlighten students on the different strategies involved in tackling reading comprehension questions.
Public Speaking Skills: Empower students to overcome glossophobia and speak effectively and confidently before an audience.
Writing Skills: Practice formal written communication through writing emails especially composing job application emails.
References:

1. Students" Career Planning Guide, Corporate & Industry Relations, Amrita Vishwa Vidyapeetham.
2. Soft Skill Handbook, Corporate & Industry Relations, Amrita Vishwa Vidyapeetham.
3. Adair. J., (1986), "Effective Team Building: How to make * winning team", London, U.K
4. Gulati. S., (1006) "Corporate Soft Skills", New Delhi, India: Rupa & Co.
5. The hard truth about Soft Skills, by Amazon Publication.
6. Verbal Skills Activity Book, CIR, AVVP
7. English Grammar & Composition, Wren & Martin
8. Public Sector – Engineer Management Trainee Recruitment Exam (General English)
9. Nova's GRE Prep Course, Jeff Kolby, Scott Thornburg & Kathleen Pierce
10. A Modern Approach to Verbal Reasoning – R.S. Aggarwal
11. Student Workbook: Quantitative Aptitude & Reasoning, Corporate & Industry Relations, Amrita Vishwa Vidyapeetham.
12. Quantitative Aptitude for All Competitive Examinations, Abhijit Guha.
13. How to Prepare for Quantitative Aptitude for the CAT, Arun Sharma.
14. How to Prepare for Data Interpretation for the CAT, Arun Sharma.
15. How to Prepare for Logical Reasoning for the CAT, Arun Sharma.
16. Quantitative Aptitude for Competitive Examinations, R S Aggarwal.
17. A Modern Approach to Logical Reasoning, R S Aggarwal.
18. A Modern Approach to Verbal & Non-Verbal Reasoning, R S Aggarwal

Evaluation Pattern

Assessment	Internal	External
Continuous Assessment (CA)* – Soft Skills	30	-
Continuous Assessment (CA)* – Aptitude	10	25
Continuous Assessment (CA)* – Verbal	10	25
Total	50	50

*CA - Can be **presentations, speaking activities and tests.**

SEMESTER 7

25ARC498	**Professional Training**	**L-T-P-C**	0-0-0-20

Course Objectives

- To provide real-world exposure to architectural practice through structured training in a professional firm.
- To enable students to apply theoretical knowledge to practical design, documentation and site processes.
- To familiarize students with project workflows: from concept to construction, including coordination with consultants and clients.
- To build professional skills: communication, teamwork, and responsibility in a practice environment.
- To develop the ability to reflect on professional experience through documentation and critical analysis.

Course Outcomes

After completing this course, students will be able to:

CO1: Apply practical knowledge of architectural design processes within a professional practice environment

CO2 : Assist in the preparation of working drawings, bills of quantities (BOQs), specifications, and tender documentation under professional guidance.

CO3: Participate effectively in client interactions and consultant coordination to support design development and decision-making

CO4: Perform regular site visits and systematically document construction progress, challenges, observations, and professional learnings.

CO5: Critically evaluate their internship experience and present insights through a comprehensive and well-organized training portfolio

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	3	3	3	-	-	2	1	-	3	3	3	-
CO2	3	3	3	3	3	-	-	3	2	-	3	3	3	2
CO3	3	3	3	3	3	3	-	3	2	2	3	3	3	3
CO4	3	3	2	3	3	3	-	3	2	2	3	3	3	3
CO5	3	2	2	3	3	3	-	3	3	2	3	3	3	3

Structure of Training

Duration: Minimum 16 weeks (full-time, 5–6 days/week).

Mentorship:

- External Mentor: Licensed Architect (by Council of Architecture, India) in the host firm (min. 10 years of professional experience).
- Internal Mentor: Faculty advisor to monitor progress and review.

Roles & Responsibilities of the Intern

Interns are expected to be actively involved in:

1. Design & Conceptual Development
    - Assisting in preparing conceptual sketches, 3D models, and design iterations.
    - Researching precedents and compiling design references.
2. Client & Consultant Coordination
    - Attending client meetings to understand project requirements.

- Assisting in liaison with consultants: structural, MEP, interior, landscape, and contractors.
- Preparing presentation drawings & reports for meetings.

3. Working Drawings & Documentation
   - Drafting architectural working drawings: plans, sections, elevations, details.
   - Assisting in preparation of BOQs, specifications, and tender documentation.
   - Understanding building by-laws and regulatory drawings.
4. Site Exposure
   - Conducting regular site visits with architects/engineers.
   - Documenting construction progress with notes and photographs.
   - Observing quality control, materials handling, and site coordination.
5. Project Management & Office Operations
   - Exposure to project scheduling, vendor interactions, and procurement processes.
   - Understanding professional ethics, contracts, and fee structures.

Deliverables during Internship

1. Daily Logbook:
   a. A record of tasks completed, meetings attended, site visits and key learnings (signed weekly by the office mentor).
2. Monthly Progress Reports:
   a. Submitted to the internal faculty mentor with summary of work completed and reflections.
3. Final Internship Portfolio:
   To be submitted at the end of training, including:
   a. Introduction to the firm: structure, specializations, notable projects.
   b. Detailed documentation of contributions: design iterations, drawings, BOQs, specifications, presentation decks.
   c. Site visit reports: with photos, sketches, and analysis.
   d. Reflections on client/consultant interactions: insights into teamwork and communication.
   e. Learning outcomes: technical, managerial, and professional growth.
4. Viva-Voce:
   a. Final evaluation based on portfolio and oral presentation to an internal jury.

Reading Material

1. Professional Practice, Roshan Namavati.
2. The Architect's Handbook of Professional Practice, AIA.
3. Construction Management and Contracting, Clough, Sears & Segner.
4. COA Guidelines for Architectural Internship.

Evaluation Pattern

5.

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	20%
End-Semester Jury	External	80%

SEMESTER 8

25ARC411	**Architectural Design Studio – V**	L-T-P-C	2-4-16-14

Course Objectives

- To provide a theoretical and practical understanding of housing, covering mass housing, mixed-income, and participatory models.
- To develop the ability to design medium- to large-scale housing projects, integrating social, cultural, economic factors, and principles of Universal Design.
- To explore technological interventions in housing design, including modular systems, smart technologies, and sustainable materials.
- To foster collaborative design thinking with integration of structure, services, and construction methods.
- To encourage research-led design through precedent studies and contextual analysis.

Course Outcomes

After completing this course, students will be able to:

CO1: Demonstrate understanding of housing typologies, policies, and theoretical frameworks relev to Indian and global contexts

CO2 : Analyze site conditions, user needs, and regulatory constraints to develop context-respons housing solutions.

CO3: Design medium- to large-scale housing projects by integrating social, cultural, economic, a environmental considerations.

CO4: Apply technological innovations such as modular construction, smart housing systems, a green infrastructure to enhance housing livability.

CO5: Communicate and present housing design proposals effectively through drawings, physi models, digital tools, and narrative documentation.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	2	3	3	3	3	2	1	-	2	3	-	-
CO2	3	3	3	3	3	3	3	3	2	-	2	3	3	3
CO3	3	3	3	3	3	3	3	3	3	2	3	3	3	3
CO4	3	3	3	3	3	3	3	3	2	2	3	3	3	3
CO5	3	2	3	3	3	3	3	3	3	3	3	3	3	3

Module 1: Housing Theory & Precedents

History and evolution of housing: from vernacular clusters to mass housing; Typologies: low-rise, mid-rise, high-rise, row housing, co-housing, rental models; Policies & guidelines: PMAY, RAY, global affordable housing frameworks; Case studies: Indian & international housing projects (e.g., Aranya, Quinta Monroy, Savonnerie).

Module 2: Site & Contextual Analysis

Site reconnaissance: physical, socio-economic, and cultural mapping; Understanding user demographics, aspirations, and community needs; Development control regulations: FAR, setbacks, density norms, parking, fire safety.

Module 3: Housing Design Studio

Medium-to-large-scale housing development (50–200 units) incorporating mixed-use and community spaces with focus on flexibility, adaptability, design for social interaction, sustainability (passive design, water-sensitive urban design, green infrastructure); technology integration: modular/precast construction, smart home systems.

Module 4: Integration of Technology in Design
Prefabrication & modular construction for housing; Digital tools: BIM for housing design coordination; Smart housing solutions: IoT integration, energy monitoring, shared utilities.

Module 5: Final Documentation & Presentation
Compilation of the entire design process, from analysis to final proposal; Preparation of a comprehensive presentation portfolio (drawings, narratives, models); Jury presentation with external experts for evaluation.

Reading Material
1. K. M. Joshi, *Housing: A Factual Analysis*.
2. Christopher Alexander, *A Pattern Language*.
3. UN-Habitat, *Global Housing Strategy*.
4. Aranya Low-Cost Housing – Charles Correa.
5. Habraken, N. J., *Supports: An Alternative to Mass Housing*.
6. Lawrence Vale, *Designing for Diversity: Housing and Urban Development*.

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-Semester Jury	Internal	20%
End-Semester Jury	External	50%

25ARC412	Research in Architecture	L-T-P-C	1-1-0-2

Course Objectives

- To introduce students to research as a structured process in architecture and allied disciplines.
- To develop skills for formulating research questions, hypotheses and objectives.
- To familiarize students with qualitative and quantitative research methods, tools and data collection techniques.
- To train students in literature review, referencing, and academic writing.
- To enable students to prepare a research proposal that can lead to a thesis, publication, or design research project.

Course Outcomes

After completing this course, students will be able to:

CO1: Explain and interpret the role and types of research in architecture

CO2 : Conduct literature reviews to formulate clear research questions and objectives.

CO3: Select and apply appropriate research methodologies, including qualitative, quantitative, and mixed-method approaches.

CO4: Analyze and interpret research data using basic analytical tools such as coding, thematic analysis, and statistical methods.

CO5: Prepare and present a structured research proposal outlining methodology, timeline, and expected outcomes.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	3	3	2	3	-	2	1	-	2	3	3	-
CO2	3	3	3	3	2	3	-	3	2	-	2	3	3	2
CO3	3	3	3	3	3	3	-	3	2	2	3	3	3	3
CO4	3	3	2	3	3	3	-	3	2	2	3	3	3	3
CO5	3	2	3	3	3	3	-	3	3	3	3	3	3	3

Module 1: Introduction to Research in Architecture

Definition, need, and scope of research in architecture; Types of research: applied, basic, exploratory, evaluative, design research; Understanding research ethics and integrity.

Module 2: Literature Review & Framing Research Questions

Conducting literature surveys: academic databases, journals, and archives; Critical reading and annotation techniques; Identifying research gaps; Formulating research questions, aims, and objectives.

Module 3: Research Design & Methodology

Qualitative methods: case studies, ethnography, interviews, focus groups; Quantitative methods: surveys, experimental research, basic statistics; Mixed methods: when and how to combine approaches; Sampling techniques, data collection tools (questionnaires, observation checklists).

Module 4: Data Analysis & Interpretation

Basics of data organization: coding qualitative data, tabulating quantitative data; Introduction to basics of software tools: NVivo (qualitative), Excel/SPSS (quantitative); Interpreting findings in relation to research objectives.

Module 5: Academic Writing & Proposal Development

Structuring a research paper: abstract, introduction, methodology, findings, conclusion; Citation and referencing styles (APA, Chicago); Writing a research proposal: objectives, rationale, methodology, timeline, expected outcomes.

Final Deliverables

- Annotated Literature Review (minimum 15 sources).
- Research Methodology Framework (aligned with topic).
- Pilot Study / Sample Data Analysis.

Reading Material

1. Groat, L. & Wang, D. *Architectural Research Methods*. Wiley.
2. Creswell, J. W. *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. Sage.
3. Zeisel, J. *Inquiry by Design: Environment/Behavior/Neuroscience in Architecture*. W.W. Norton.
4. Denscombe, M. *The Good Research Guide*. Open University Press.
5. APA Manual (7th Edition) – for academic writing and referencing.

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-Semester Jury	Internal	20%
End-Semester Jury	Internal /External	50%

25ARC413	Architectural Project Management	L-T-P-C	2-0-0-2

Course Objectives

- To introduce students to the principles, processes, and tools of project management in the context of architectural practice.
- To familiarize students with project life cycle stages: initiation, planning, execution, monitoring, and closure.
- To develop understanding of project scheduling, budgeting, resource management, and risk assessment.
- To provide knowledge of contract administration, legal frameworks, and stakeholder management.
- To enable students to apply project management strategies in academic design projects and professional practice.

Course Outcomes

After completing this course, students will be able to:

CO1: Explain and interpret the phases, processes, and stakeholder roles involved in architectural project management.

CO2 : Prepare and apply project schedules, budgets, and resource-allocation plans using standard project management tools

CO3: Understand and apply appropriate procurement strategies, contract management practices, and legal considerations in architectural projects

CO4: Assess, manage, and mitigate project risks while ensuring quality management throughout the project lifecycle.

CO5: Integrate and apply project management strategies into architectural design and execution through case studies and simulated project exercises

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	2	3	2	3	-	2	1	-	3	3	-	-
CO2	3	3	3	3	3	3	-	3	2	-	3	3	3	3
CO3	3	3	3	3	3	3	-	3	2	2	3	3	3	3
CO4	3	3	2	3	3	3	-	3	2	2	3	3	3	3
CO5	3	2	3	3	3	3	-	3	3	3	3	3	3	3

Module 1: Introduction to Project Management

Definition, scope, and importance of project management in architecture; Project life cycle: Initiation, Planning, Execution, Monitoring, and Closure; Roles of stakeholders: architect, client, consultants, contractors, and regulatory bodies.

Module 2: Project Planning & Scheduling

Work breakdown structure (WBS) and task sequencing; Project scheduling tools: Gantt charts, CPM, PERT; Introduction to software: MS Project, Primavera (basic exposure); Case study analysis of planning workflows in real projects

Module 3: Cost Estimation & Budgeting

Cost planning and estimation techniques: BOQ, cost per square meter, contingencies; Budget allocation and cash flow management; Case study of cost overruns and financial planning in a built project.

Module 4: Procurement, Contracts & Legal Framework

Types of contracts: item-rate, lump sum, design-build, EPC; Tendering process and bid evaluation; Basics of contract administration and dispute resolution; Overview of legal considerations: Building

Codes, NBC and RERA.

Module 5: Risk, Quality & Resource Management
Risk identification and mitigation strategies; Quality assurance and control in design and construction stages; Human resource management in project teams.

Reading Material
1. Choudhury, S. *Project Management for Architects and Construction Managers*.
2. Jha, K. N. *Construction Project Management: Theory and Practice*. Pearson.
3. Project Management Institute. *PMBOK Guide* (Latest Edition).
4. Roshan Namavati. *Professional Practice*.
5. National Building Code (NBC) and RERA Guidelines.

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-Semester Examination	Internal	20%
End-Semester Examination	External	50%

SEMESTER 9

25ARC501	Architecture Design Studio – VI	L-T-P-C	2-4-16-14

Course Objectives

- To introduce students to urban design theory and its role in shaping livable, resilient, and inclusive cities.
- To develop analytical and design skills for urban environments, ranging from streetscapes to district-scale interventions.
- To sensitize students to equity, inclusivity, sustainability, and principles of Universal Design in urban design.
- To foster community engagement (Seva) by involving students in participatory processes with local stakeholders.
- To integrate urban infrastructure, landscape, and mobility strategies within urban design proposals.

Course Outcomes

After completing this course, students will be able to:

CO1: Demonstrate understanding of urban design principles, historical developments, and theoretical frameworks in Indian and global contexts.

CO2 : Analyze urban morphology, public spaces, mobility networks, and community needs through on-ground surveys, field studies, and mapping exercises.

CO3: Develop and propose urban district design solutions that are contextually rooted, inclusive, and environmentally responsive.

CO4: Engage and apply community-driven design approaches (Seva) through participatory workshops and field engagement.

CO5: Communicate and present urban design concepts effectively using multi-scalar drawings, analytical diagrams, narratives, and physical/digital models

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	3	3	2	1	-	2	3	-	-
CO2	3	3	3	3	3	3	3	3	2	-	2	3	3	3
CO3	3	3	3	3	3	3	3	3	3	2	3	3	3	3
CO4	3	3	3	3	3	3	3	3	2	2	3	3	3	3
CO5	3	2	3	3	3	3	3	3	3	3	3	3	3	3

Module 1: Urban Design Theory

Introduction to urban design principles: imageability (Kevin Lynch), place-making, human scale, connectivity; History and evolution of urban design in India and globally; Theories & paradigms: Garden Cities, New Urbanism, Tactical Urbanism, Transit-Oriented Development (TOD); Precedent studies: Jan Gehl, William Whyte, Charles Correa, and Indian urban interventions.

Module 2: Urban Mapping & Contextual Analysis

On-site urban analysis: land use, circulation, built form, open spaces, infrastructure, socio-economic profiling; GIS-based mapping for layered understanding of urban conditions; Identifying problems and potentials in selected urban districts.

Module 3: Urban Design Studio

Project Brief: Design a district-level urban intervention (e.g., neighborhood revitalization, transit hub precinct, waterfront development or heritage district etc) with focus on multi-scalar design, public realm activation; mobility & accessibility: pedestrian-first streets, NMT networks, transit integration;

sustainability: water-sensitive urban design, green infrastructure; inclusive design: responding to diverse community needs.

Module 4: Seva – Participatory Urban Engagement
Community engagement workshops with local stakeholders (residents, shop owners, NGOs); Surveys & interviews to gather user inputs; Prototyping small-scale interventions (tactical urbanism pilots: pop-up plazas, wayfinding, street furniture).

Module 5: Final Documentation & Presentation
Portfolio compilation: design process, analysis, and final proposals; Preparation of urban design report: narrative, drawings, guidelines; Public presentation: presenting to stakeholders, faculty, and urban experts.

Reading Material

1. Kevin Lynch, *The Image of the City*. MIT Press.
2. Jan Gehl, *Cities for People*. Island Press.
3. Carmona et al., *Public Places – Urban Spaces*. Routledge.
4. Charles Correa, *A Place in the Shade*. Penguin.
5. William H. Whyte, *The Social Life of Small Urban Spaces*. Project for Public Spaces.
6. National Urban Design Guidelines – MoHUA, India.

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-Semester Jury	Internal	20%
End-Semester Jury	External	50%

25ARC502	Research Writing	L-T-P-C	1-1-0-2

Course Objectives

- To train students in academic and professional research writing with a focus on architectural scholarship.
- To develop skills for structuring and drafting research papers for conferences and peer-reviewed journals.
- To provide exposure to publication ethics, peer review processes, and citation protocols.
- To enable students to refine their thesis or independent research into publishable outputs.
- To cultivate critical reading and analytical writing to engage with global academic discourse.

Course Outcomes

After completing this course, students will be able to:

CO1: Explain and interpret the formats, standards, and submission requirements for publishing in academic conferences and journals

CO2 : Conduct and analyze a comprehensive literature review to position research within existing scholarly discourse.

CO3: Write and organize structured academic papers, including the abstract, introduction, methodology, results, discussion, and conclusion.

CO4: Apply appropriate referencing styles (APA/Chicago) and demonstrate academic integrity in scholarly writing.

CO5: Prepare, submit, and revise a research paper for conference or journal publication by responding to peer-review feedback

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	3	-	2	1	-	3	3	-	-
CO2	3	3	3	3	3	3	-	3	2	-	3	3	3	3
CO3	3	3	3	3	3	3	-	3	3	2	3	3	3	3
CO4	3	3	2	3	3	3	-	3	2	2	3	3	3	3
CO5	3	3	3	3	3	3	-	3	3	3	3	3	3	3

Module 1: Introduction to Research Writing

Why publish? Purpose of research papers in architecture; Types of papers: conference, journal, review articles, short communications; Understanding target audiences and scope of journals

Module 2: Literature Review & Research Positioning

Conducting systematic literature reviews using databases (Scopus, JSTOR, Google Scholar); Gap analysis: identifying where the research fits; Building an annotated bibliography.

Module 3: Structuring an Academic Paper

IMRAD format: Introduction, Methods, Results, and Discussion; Writing compelling abstracts, introductions, and conclusions; Tables, figures, and visual communication in academic papers; Drafting methodology and findings from design or empirical research.

Module 4: Writing for Publication & Ethics

Citation styles: APA/Chicago/Harvard; Using Zotero/Mendeley for reference management; Plagiarism, self-plagiarism, and academic integrity; Understanding peer-review processes and responding to reviewer comments.

Module 5: Refinement & Submission
Editing and proofreading techniques for academic writing; Aligning with conference/journal submission guidelines; Preparing presentations for conference submission.

Reading Material
1. Groat, L. & Wang, D. *Architectural Research Methods*. Wiley.
2. Creswell, J. W. *Research Design: Qualitative, Quantitative and Mixed Methods Approaches*. Sage.
3. Turabian, K. *Manual for Writers of Research Papers, Theses, and Dissertations*. Chicago University Press.
4. Day, R. *How to Write and Publish a Scientific Paper*. Cambridge University Press.
5. Publication Ethics Guidelines – COPE (Committee on Publication Ethics).

Final Deliverables
Complete Research Paper (3,000–4,000 words) in journal/conference format.

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-Semester Jury	Internal	20%
End-Semester Jury	External	50%

25ARC503	Design Entrepreneurship	L-T- P-C	2-0-0-2

Course Objectives

- Develop an understanding of entrepreneurship in design, exploring business models, markets, and opportunities in the design industry.
- Learn strategic, financial, and operational aspects of setting up and managing a design practice or creative enterprise.
- Acquire skills in branding and digital marketing for design services and products.
- Build a comprehensive business plan or entrepreneurial project proposal as a capstone outcome to prepare for independent practice.

Course Outcomes

After completing this course, students will be able to:

CO1 : Demonstrate understanding of entrepreneurial concepts, business models, and legal frameworks relevant to design enterprises.

CO2 : Apply financial planning, resource management, and operational strategies for professional design practice or creative start-ups

CO3 : Develop and implement an effective branding and digital marketing strategy for a design enterprise..

CO4 : Create and present a comprehensive business plan or entrepreneurial project proposal aligned with industry opportunities

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	3	2	2	2	3	2	3	–	3	2	3	3
CO2	3	2	3	3	3	2	2	2	3	–	3	2	3	3
CO3	3	2	3	3	3	2	3	3	3	–	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	–	3	3	3	3

Module 1: Introduction to Design Entrepreneurship

Entrepreneurship in the creative economy: opportunities in interior design; business models: sole proprietorship, partnerships, start-ups, and design collectives; understanding intellectual property rights and legal aspects for designers.

Module 2: Financial and Operational Strategies

Basics of financial planning, budgeting, and pricing for design services/products; funding options: self-funding, investors, grants, and design incubators; operations management: project workflows, human resources and procurement

Module 3: Branding and Digital Marketing

Personal and business branding: building a unique identity in the design market; digital marketing strategies: social media campaigns, SEO, content marketing, portfolio websites, influencer collaborations and paid advertising; case studies of successful design brands using digital platforms.

Module 4: Capstone – Business Plan Development

Researching market needs and identifying opportunities; preparing a business plan: vision, mission, objectives, financial projections and growth strategy; pitching the business plan: communication, storytelling and presentation skills

Reading Material

1. Brown, T. (2009). *Change by Design: How Design Thinking Creates New Alternatives for Business and Society*. Harper Business.

2. Osterwalder, A., & Pigneur, Y. (2010). *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers*. John Wiley & Sons.
3. Ryan, D. (2016). *Understanding Digital Marketing: Marketing Strategies for Engaging the Digital Generation*. Kogan Page.
4. Kelley, T., & Littman, J. (2005). *The Ten Faces of Innovation: IDEO's Strategies for Defeating the Devil's Advocate and Driving Creativity Throughout Your Organization.* Currency/Doubleday.
5. Kuratko, D. F. (2016). *Entrepreneurship: Theory, Process, and Practice*. Cengage Learning.

Evaluation Pattern

Assessment	**Internal/External**	**Weightage**
Continuous Assessment	Internal	30%
Mid-term jury	Internal	20%
End-semester jury	External	50%

SEMESTER 10

25ARC511	Architectural Design Thesis	L-T-P-C	2-4-20-16

Course Objectives

- To enable students to independently identify, frame, and address a complex architectural problem relevant to the built environment.
- To develop research-driven, contextually appropriate design responses grounded in theoretical and practical understanding, incorporating principles of Universal Design.
- To refine skills in program formulation, advanced design development, technical integration, and project communication.
- To cultivate critical thinking, design leadership, and professional responsibility in solving real-world architectural challenges.
- To prepare students for professional practice or advanced research through a robust, portfolio-worthy design thesis.

Course Outcomes

After completing this course, students will be able to:

CO1: Identify and articulate a relevant architectural problem by formulating a clear design intent supported by research

CO2 : Conduct and analyze comprehensive contextual, technical, socio-cultural, and environmental research to inform design decisions.

CO3: Develop and synthesize a comprehensive design program and translate it into an innovative, context-responsive architectural proposal

CO4: Integrate and apply structural systems, building services, sustainability principles, and regulatory frameworks within the design.

CO5: Communicate and present the thesis process and outcomes effectively using professional-level drawings, models, narratives, and presentations.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	3	2	3	3	3	-	2	1	-	3	3	-	-
CO2	3	3	3	3	3	3	-	3	2	-	3	3	3	3
CO3	3	3	3	3	3	3	-	3	3	2	3	3	3	3
CO4	3	3	2	3	3	3	-	3	2	2	3	3	3	3
CO5	3	3	3	3	3	3	-	3	3	3	3	3	3	3

Module 1: Topic Identification & Synopsis

Identifying an architectural problem: socially relevant, innovative, and feasible in scope.
Defining the intent: rationale, aims, and objectives; Literature survey of precedents, theories, and context-specific case studies; Synopsis submission with clear research questions and expected outcomes.

Module 2: Research & Program Development

Primary & secondary data collection: site visits, stakeholder interviews, surveys; Context analysis: physical, social, cultural, economic, and environmental mapping; Program formulation: space requirements, adjacency matrix, design guidelines; Zoning & regulatory framework: understanding DCR/NBC/heritage bylaws (if applicable)

Module 3: Conceptual Design Development

Developing conceptual frameworks and design narratives; Massing and volumetric explorations: sketch models & digital studies; Spatial strategies responding to site, context, and programmatic needs

Module 4: Design Development & Technical Integration
Detailed spatial planning: refined layouts, circulation, and zoning; Structural & services integration: conceptual structural system, HVAC, MEP, fire safety; Sustainability strategies: passive/active systems, materials, energy efficiency; Regulatory compliance: NBC, accessibility, and safety considerations.

Module 5: Final Design Resolution
Fully resolved architectural design integrating aesthetics, functionality, and technology; 3D visualization: renderings, walkthroughs, VR (if applicable); Preparation of working-level details for critical components; final presentation, report+model preparation

Final Deliverables

- Synopsis with problem statement, aims, and objectives.
- Precedent studies & research documentation.
- Site & context analysis dossier.
- Design program & conceptual frameworks.
- Complete design drawings (site plan, floor plans, sections, elevations, details).
- Technical integration sheets (structure, services, sustainability).
- Physical/digital models & 3D visualizations.
- Thesis report (5,000–7,000 words) documenting the entire process.
- Comprehensive final presentation & defense.

Reading Material

1. Groat, L. & Wang, D. *Architectural Research Methods*. Wiley.
2. Creswell, J. W. *Research Design: Qualitative, Quantitative and Mixed Methods*. Sage.
3. Ching, F. D. K. *Architectural Graphics*. Wiley.
4. Neufert, E. *Architects' Data*. Wiley-Blackwell.
5. National Building Code of India – Relevant volumes.
6. Selected case studies & journals (AR, Domus, JAE, Indian Architect & Builder).

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term jury	Internal	20%
End-semester jury	External	50%

25ARC512	Architectural Practice & Business Management	L-T-P-C	2-0-0-2

Course Objectives

- To understand the legal framework of architectural practice in India, including the Architects Act of 1972, Council of Architecture regulations and the role of professional bodies.
- Analyze the professional responsibilities, duties and ethical code of conduct for architects, including intellectual property rights, copyright and competition guidelines.
- Gain insights into office structures, administration, and business management, exploring models for small, medium, and large practices, and types of firms (partnership, LLP, sole proprietorship, etc.).
- Develop knowledge of financial management, including taxation, project costing, billing, tenders, and contract administration for architectural projects.
- Acquire practical skills in dispute resolution and legal procedures, including arbitration, contract enforcement and termination of professional engagement.

Course Outcomes

After completing this course, students will be able to:

CO1: Interpret and apply the Architects Act (1972), Council of Architecture (COA) guidelines, and professional codes of conduct to ensure ethical and lawful architectural practice.

CO2 : Demonstrate understanding of the architect's professional role, duties, and responsibilities in project execution and client engagement.

CO3: Organize and manage architectural practice operations, including office setup, administration, team organization, and resource allocation

CO4: Evaluate and apply appropriate approaches to tenders, contracts, fee structures, and taxation to maintain financially sustainable practice

CO5: Explain and apply arbitration mechanisms and relevant legal tools applicable to architectural practice in India

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	–	1	1	2	3	2	–	2	2	2	2	3
CO2	2	1	1	–	1	2	3	3	1	2	1	1	2	3
CO3	2	–	2	–	2	1	2	3	1	1	–	–	3	3
CO4	1	–	2	–	1	1	2	2	–	–	–	–	3	3
CO5	1	–	1	–	1	2	3	2	–	–	1	–	2	3

Module 1: Legal Framework and Professional Codes

Architects Act, 1972; Council of Architecture (COA); Code of Conduct; Code of Architectural Competitions; Role of Professional Bodies

Module 2: Office Management & Practice Structures

Architectural Practice Structures: Sole proprietorship, partnership, LLP, private limited companies; Office Setup & Administration: Infrastructure, HR policies, workflow, record-keeping; Organizational Structures: Models for small, medium, and large offices; Termination of Practice: Procedures and legal considerations.

Module 3: Financial Management & Taxation

Project Costing and Fee Structures: COA-recommended fee guidelines; Billing & Invoicing: Preparation and management; Taxation for Architects: GST, income tax, compliance; Tenders & Bids: Types of tenders, preparation, evaluation, and award processes.

Module 4: Contracts & Legal Responsibilities
Types of Contracts: Lump sum, percentage fee, turnkey, and design–build; Contract Documents: Preparation, execution, and obligations; Legal Liabilities: Breach of contract, negligence and professional indemnity.

Module 5: Arbitration & Dispute Resolution
Identifying Arbitration Process: Legal framework, appointment of arbitrators, proceedings; Mediation and Negotiation: Alternative dispute resolution methods; Case Studies: Analysis of real-world disputes in architectural practice.

Reading Material

1. Namavati, R. *Professional Practice*.
2. Roshan H. Namavati *Professional Practice for Architects and Quantity Surveyors*.
3. CoA Handbook – *Architects (Professional Conduct) Regulations*.
4. Project Management Institute. *PMBOK Guide*.
5. Osterwalder, A. & Pigneur, Y. *Business Model Generation*. Wiley.
6. Indian Contract Act & RERA Guidelines.

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term examination	Internal	20%
End-semester examination	External	50%

Electives

Professional Elective - I

25ARC331	AI & Emerging Technologies in Design	L – T – P-C	1-0-2-2

Course Objectives

- To provide a foundational understanding of AI, Machine Learning, and their distinction from traditional automation in design.
- To introduce students to Generative AI tools for conceptualization, text-to-image/3D generation, and iterative design.
- To understand the application of IoT (Internet of Things) and smart systems in creating responsive architectural and interior spaces.
- To explore parametric and algorithmic design logic as a precursor to AI-driven optimization.
- To foster a critical perspective on data privacy, authorship, and the socio-ethical impact of AI on the design profession.

Course Outcomes

CO1: Explain and interpret fundamental concepts of AI, robotics, and emerging technologies in architectural practice.
CO2: Apply Generative AI tools to enhance the design process from ideation through visualization
CO3: Design and develop “Smart” spatial concepts by integrating IoT and responsive systems
CO4: Apply computational logic to analyze and solve complex spatial problems and optimize performance.
CO5: Evaluate the ethical and professional shifts necessitated by AI.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	1	2	1	2	1	1	1	2	2	1	1	3	1
CO2	2	1	3	1	1	2	1	2	3	3	1	1	3	2
CO3	2	2	1	3	3	1	2	1	1	3	2	2	3	3
CO4	3	1	3	2	2	3	1	1	2	2	3	1	3	1
CO5	1	1	1	2	1	3	3	2	3	3	2	1	1	3

Module 1: Foundations of AI in Design

- **Overview:** The shift from Computer-Aided Design (CAD) to Artificial Intelligence.
- **Contents:** History of AI in architecture (Cybernetics to Neural Networks); Basic AI terminology (Machine Learning, Deep Learning, GANs); AI vs. Human Intelligence in creativity; Case studies of AI-led practices (Zaha Hadid Architects, Autodesk Research).

Module 2: Generative Design & Visual Synthesis

- **Overview:** Leveraging AI for rapid ideation and high-fidelity visualization.
- **Contents:** Text-to-Image and Image-to-Image workflows (Midjourney, Stable Diffusion, DALL-E); AI in 3D modeling and floor plan generation (LookX, Finch3D); Enhancing SketchUp/Revit renders with AI; The concept of "Prompt Engineering" for architects and interior designers.

Module 3: Smart Spaces, IoT & Responsive Interiors

- **Overview:** Integrating intelligence into the physical fabric of buildings and interiors.
- **Contents:** Internet of Things (IoT) in homes and offices; Sensors for thermal comfort, lighting, and occupancy; Responsive facades and kinetic furniture; Smart materials and biophilic integration through technology; Introduction to "Digital Twins" for facility management.

Module 4: Computational Design & Optimization

- **Overview:** Using logic and data to drive design decisions.
- **Contents:** Introduction to Parametric Design (Grasshopper/Rhino logic); Algorithmic thinking for spatial layouts; Performance-based design (optimizing for daylight, CFD, and solar radiation); Evolutionary algorithms for site analysis and massing.

Module 5: Digital Fabrication & Future Practice

- **Overview:** Closing the loop between virtual design and physical construction.
- **Contents:** Robotic fabrication and 3D printing in construction (Laterite/Stone printing); AI in project management and cost estimation; Ethical considerations: Copyright in AI-generated art; The future of the design professional: Architect as a "Curator" of AI outputs.

Recommended Reading Material

- **Carpo, M.** (2017). *The Second Digital Turn: Design Beyond Intelligence*. MIT Press.
- **Deutsch, R.** (2019). *Adaptive Architecture: Changing Parameters and Practice*. Routledge.
- **Chaillou, S.** (2019). *Artificial Intelligence and Architecture: From Research to Practice*. Harvard Graduate School of Design.
- **Meredith, M., & Sample, H.** (2022). *Improvisations on the Real: Architecture and the AI*. Princeton Architectural Press.
- **Negroponte, N.** (1970). *The Architecture Machine*. MIT Press (For historical context).

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term examination	Internal	20%
End-semester jury	External/Internal	50%

25ARC332	Building Information Modelling (BIM) for Designers	L – T – P-C	1-0-2-2

Course Objectives

- To introduce Building Information Modelling (BIM) as an integrated digital workflow for architectural design, coordination and documentation.
- To enable students to develop architectural BIM models with accuracy, logic and discipline-based standards.
- To expose students to collaborative BIM processes including federated modelling and clash detection for interdisciplinary coordination.
- To provide an introductory understanding of BIM-based construction planning, quantity take-off and contemporary BIM applications in sustainable and future-ready architectural practice.

Course Outcomes

After completing this course, students will be able to:

CO1 : Explain and interpret BIM concepts, terminology, and workflows relevant to architectural practice and project delivery.

CO2 : Develop an architectural BIM model and generate coordinated drawings, schedules, and documentation outputs

CO3 : Apply BIM-based collaboration and coordination methods, including federated modeling and clash detection/reporting, for multidisciplinary design integration.

CO : Prepare and apply basic BIM-enabled construction and estimation outputs such as quantity take-offs and introductory 4D workflows, with an understanding of emerging BIM trends that support future-ready practice

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PS O1	PS O2	PSO 3
CO 1	3	1	2	2	2	2	1	1	2	2	1	1	2	1
CO 2	3	1	2	2	2	2	1	2	2	2	1	1	3	2
CO 3	2	1	2	2	3	2	2	3	2	2	2	1	3	2
CO 4	2	1	3	3	2	2	1	2	2	3	2	1	3	3

Module 1: BIM Concepts and Architectural Modelling

Evolution from 2D drafting to BIM workflow; BIM terminology and model-based process; project setup and template basics; levels, grids and modelling standards; architectural modelling of walls, floors, roofs, doors, windows, stairs and components; families and parametric controls; view management, sections and 3D visualization; introduction to Level of Development (LOD) appropriate for undergraduate architectural projects.

Module 2: BIM Documentation and Deliverables

Generation of plans, sections, elevations and sheets from BIM model; annotation tools including dimensions, tags, keynotes and legends; materials and schedules for architectural elements; detail callouts and drafting views; drawing coordination with the model; plotting standards, export formats and presentation-ready documentation workflow.

Module 3: BIM Coordination and Clash Detection

Federated model concept and coordination process; integration overview of architecture–structure–MEP models; design review workflow and issue identification; clash types including hard clash and clearance clash; clash detection workflow, grouping and filtering; clash

priority matrix; clash report generation and resolution tracking through revision-based model coordination.

Module 4: BIM for Construction Planning and Quantity Estimation
Introduction to 4D BIM concepts and construction sequencing; linking model elements with a basic timeline for construction visualization; outputs for progress review and coordination; introduction to 5D BIM concepts; quantity take-off methods for architectural components with units and schedules; preparation of cost summary using Excel-based templates; overview of sustainability integration through material awareness, model accuracy and reduction of wastage; introduction to scan-to-BIM, AR/VR visualization and digital twin concepts as emerging directions in future-ready architectural practice.

Reading Material

1. Chuck Eastman, Paul Teicholz, Rafael Sacks, and Kathleen Liston, *BIM Handbook: A Guide to Building Information Modeling*, Wiley, 2018.
2. Rory San Nicolas, *BIM for Architects: Using Revit in Architectural Design*, Routledge, 2020.
3. David Kent Ballast, *Autodesk Revit Architecture Certified Professional Study Guide*, Wiley, 2021.
4. Mark Baldwin, *BIM Management Handbook*, Wiley-Blackwell, 2014.
5. ISO 19650 Series, *Organization and digitization of information about buildings and civil engineering works, including BIM*, International Organization for Standardization.
6. Jerry Laiserin, *BIM and Integrated Practice: Concepts and Applications*, industry reference readings.

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term examination	Internal	20%
End-semester jury	External/Internal	50%

26ARC334	Vastu Shilpashastra	L – T – P– C	1-0-2-2

Course Objectives

- To introduce the philosophical foundations of Vastu Shilpa Shastra as an Indian Knowledge System.
- To understand the relationship between cosmology, nature, human activity, and built form.
- To interpret classical Vastu texts and apply their principles to contemporary architectural design.
- To critically evaluate Vastu beyond superstition, emphasizing spatial logic, climate, orientation, and human well-being.

Course Outcomes

After completing this course, students will be able to:

CO1 : Explain and interpret the philosophical, cosmological, and scientific foundations of *Vastu Shilpa Shastra*.

CO2 : Interpret and analyze key concepts such as *Pancha Mahabhutas*, *Vaastu Purusha Mandala*, cardinal directions, and energy flows.

CO3 : Apply Vastu principles to site planning, spatial organization, and building orientation.

CO4 : Critically analyze and evaluate contemporary architectural practices through the lens of Vastu principles and environmental performance

CO5: Integrate and apply traditional Vastu knowledge with modern architectural design approaches, sustainability considerations, and regional practices.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	3	-	-	2	2	-	-	1	-	-	3	-	-
CO2	3	2	-	2	3	-	-	-	-	-	-	3	-	-
CO3	2	3	3	3	3	-	-	-	-	-	-	3	2	-
CO4	2	2	-	3	2	3	-	-	-	-	-	2	-	3
CO5	3	3	2	3	3	2	2	-	2	-	-	3	2	3

Module 1: Foundations of Vastu Shilpa Shastra

Origins and evolution of Vastu; Vastu as an applied philosophy; relationship between nature, cosmos, and built form; relevance in Indian architectural traditions.

Module 2: Cosmology and Spatial Order

Pancha Mahabhutas; Panchakosha theory; Vaastu Purusha Mandala; cardinal directions; solar and lunar influences; energy flows and spatial balance.

Module 3: Site Planning and Orientation

Site selection (Bhumi Pariksha); orientation; climate responsiveness; water bodies; vegetation; slope and contours; settlement planning principles.

Module 4: Built Form and Spatial Zoning

Zoning of functions; spatial hierarchy; thresholds; courtyards; proportion systems; materials and construction logic in traditional practice.

Module 5: Contemporary Interpretations and Critique

Scientific evaluation of Vastu principles; Vastu and sustainability; thermal comfort, daylight, ventilation; critical perspectives and misuse of Vastu in modern practice.

Reading Material

1. Dutta, B. N. (1925). *Town Planning in Ancient India*. Thacker & Co.
2. Acharya, P. K. (1934). *Architecture of Manasara*. Oxford University Press.
3. Dagens, B. (2007). *Mayamatam: An Indian Treatise on Housing, Architecture and Iconography*. Motilal Banarsidass.
4. Kramrisch, S. (1976). *The Hindu Temple* (Vols. I–II). Motilal Banarsidass.
5. Chakrabarti, V. (1998). *Indian Architectural Theory: Contemporary Uses of Vastu Vidya*. Routledge.
6. Michell, G. (1988). *The Hindu Temple: An Introduction to Its Meaning and Forms*. University of Chicago Press.
7. Hardy, A. (1995). *Indian Temple Architecture: Form and Transformation*. Abhinav Publications.

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term examination	Internal	20%
End-semester jury	External/Internal	50%

Professional Elective - II

25ARC341	Product design	L – T – P-C	1-0-2-2

Course Objectives

- Develop an understanding of the fundamentals, evolution, and professional role of product design and product designers.
- Learn the aspects of ergonomics, functionality and user experience in product design.
- Expose students to sensory, material, technological, and inclusive aspects of product design.
- Enable students to apply the product design process to develop a well-resolved product design solution.

Course Outcomes

After completing this course, students will be able to:

CO1 : Explain and interpret the principles, elements, processes, and evolution of product design

CO2 : Analyze user needs, ergonomic requirements, and functional aspects to enhance product usability and user experience.

CO3 : Evaluate sensory, material, manufacturing, and inclusive design considerations in product design.

CO4 : Design and present a selected product by applying the stages of the product design process, including visualization, material selection, and detailing.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	3	2	2	2	2	2	3	–	3	2	3	3
CO2	3	2	3	3	3	3	3	2	3	–	3	2	2	3
CO3	3	2	3	3	3	3	3	2	3	2	3	3	2	3
CO4	3	3	3	3	3	3	3	2	3	3	3	3	3	3

Module 1: Introduction to Product design

Introduction to Product design, history and evolution of product design, understanding the importance & role of product designers, fundamental elements and principles of product design, product design process

Module 2: Ergonomics, function & user experience

Anthropometry and ergonomics in product design, human safety, comfort and usability, universal design principles, functional and user experiential qualities in product design, product design case studies

Module 3: Aspects of product design

Sensorial aspects in product design – Visual, Auditory, tactual, olfactory, Materials with manufacturing technologies for product design, Multi utility - oriented products, design for special need – Visually challenged user and physically challenged user

Module 4: Capstone – Product Design

Design of a selected product with user analysis and design brief, using stages of product design process, visualization, materials and detailing

Reading Material

6. Ulrich, K. T., & Eppinger, S. D. (2016). *Product Design and Development*. McGraw-Hill Education
7. Norman, D. A. (2013). *The Design of Everyday Things*.
8. Papanek, V. (2005). *Design for the Real World: Human Ecology and Social Change*. Thames & Hudson.

9. Ashby, M., & Johnson, K. (2014). *Materials and Design: The Art and Science of Material Selection in Product Design*. Butterworth-Heinemann.
10. Lidwell, W., Holden, K., & Butler, J. (2010). *Universal Principles of Design*. Rockport Publishers.

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term examination	Internal	20%
End-semester jury	External/Internal	50%

25ARC342	Architectural Theory	L – T – P-C	2-0-0-2

Course Objectives

- To introduce architecture as a theoretical, philosophical and cultural discipline beyond stylistic history.
- To familiarize students with major theoretical movements, thinkers and discourses that have shaped architectural thought.
- To develop critical understanding of perception, space, form, function and meaning in architecture.
- To enable students to articulate, critique and apply architectural theory as a foundation for design thinking and professional practice.

Course Outcomes

After completing this course, students will be able to:
CO1: Explain and interpret foundational philosophical, aesthetic, and theoretical concepts that underpin architectural thought across historical periods.
CO2: Interpret, compare, and analyze major architectural theories and movements, including the ideas of key thinkers that influence architectural design..
CO3: Analyze and evaluate architecture through lenses of perception, experience, culture, society, and ethics, effectively linking theory to built form.
CO4: Critically articulate and apply theoretical positions in architectural design thinking, scholarly discourse, and architectural critique

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	–	1	3	3	2	1	1	–	2	2	–	2
CO2	3	3	2	1	3	3	2	2	1	2	3	3	–	3
CO3	2	3	2	2	3	3	3	1	1	2	3	2	–	3
CO4	2	2	3	2	3	3	2	3	2	3	3	2	–	3

Module 1: Foundations of Architectural Thought

Introduction to architectural theory; relationship between theory, design and practice; architecture and human needs – functional, aesthetic, psychological and cultural; Vitruvian principles; concepts of beauty and aesthetics; form, space and order; perception and experience of architecture; multisensory dimensions – light, movement, material, scale, proportion; role of empathy in architectural design.

Module 2: Modernism and the Formation of Architectural Ideology

Modernism as a worldview; industrialization and rationalism; form–function debates; principles of modern architecture; perception of time and space; works and philosophies of Vitruvius, Louis Sullivan, Frank Lloyd Wright, Walter Gropius, Le Corbusier, Mies van der Rohe; modernism in art and architecture; critique of universalism.

Module 3: Structuralism, Phenomenology and Human Experience

Structuralism and its influence on architecture; language, meaning and form; contributions of Saussure, Lévi-Strauss, Aldo Rossi; phenomenology and perception; embodied experience, place and memory; works and ideas of Heidegger, Merleau-Ponty, Juhani Pallasmaa, Henri Lefebvre; social production of space; architecture as lived experience.

Module 4: Postmodern, Contemporary and Emerging Theories

Postmodernism and critique of modernism; complexity, contradiction and pluralism; deconstruction and post-structuralism; key thinkers – Venturi, Tschumi, Eisenman, Derrida, Foucault; architecture and power, culture and politics; contemporary discourse on sustainability, biomimicry and future architectural thought; relevance of theory to present-day practice.

Reference Books

1. *Vitruvius, The Ten Books on Architecture, Dover Publications*
2. *Ching, F.D.K., Architecture: Form, Space and Order, Wiley*
3. *Venturi, R., Complexity and Contradiction in Architecture, MoMA*
4. *Lefebvre, H., The Production of Space, Wiley-Blackwell*
5. *Pallasmaa, J., The Eyes of the Skin, Wiley*
6. *Tschumi, B., Architecture and Disjunction, MIT Press*
7. *Eisenman, P., Diagram Diaries, Universe*
8. *Johnson, P. & Wigley, M., Deconstructivist Architecture, MoMA*
9. *Pawlyn, M., Biomimicry in Architecture, RIBA Publishing*
10. *Smith, K.H., Introducing Architectural Theory, Routledge*

Evaluation Pattern

Assessment	**Internal/External**	**Weightage**
Continuous Assessment	Internal	30%
Mid-term Exam	Internal	20%
End-semester Exam	External	50%

25ARC343	Furniture Design	L – T – P-C	1-0-2-2

Course Objectives

- To introduce the historical development of furniture across cultures and time periods, examining how styles, materials, and design ideologies have shaped furniture as an expressive and functional art form.
- To explore the classification of furniture based on function, context and spatial application, emphasizing design intent, adaptability, and innovation in contemporary interiors.
- To provide students with an understanding of ergonomics and anthropometric standards for designing furniture that enhances comfort, usability and inclusivity.
- To familiarize students with materials, joinery, construction methods and sustainable practices in furniture design and manufacturing.

Course Outcomes

After completing this course, students will be able to:

CO1 : Identify and explain key furniture styles and movements, analyze historical influences on form and function, and relate global and Indian traditions to contemporary furniture design

CO2 : Classify and evaluate furniture types and their functional roles within diverse interior settings, and conceptualize typological solutions that respond to spatial and user requirements

CO3 : Apply ergonomic principles to analyze, evaluate, or propose furniture designs suited to diverse user groups, enhancing human–furniture interaction.

CO4 : Assess and select appropriate materials and construction techniques for different furniture applications, and propose design solutions that integrate sustainability and craftsmanship

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	2	1	2	2	2	2	2	1	2	1	1	1	2	2
CO2	2	2	2	1	2	2	1	1	2	2	2	2	1	1
CO3	2	1	2	3	2	2	2	1	3	2	2	1	3	2
CO4	3	3	3	2	3	3	2	2	3	2	3	2	3	3

Module 1: History and Evolution of Furniture Design

Origins of furniture in ancient civilizations (Egypt, Greece, Rome, India, China); Medieval, Renaissance, Baroque, Rococo, and Victorian furniture styles; 20th-century design movements: Bauhaus, Modernism, Postmodernism; Indian furniture heritage: colonial, vernacular, artisanal traditions; Influence of culture, politics and technology on furniture evolution

Module 2: Furniture Typologies and Functional Classifications

Classification by use: seating, sleeping, storage, tables, systems furniture; Built-in vs. movable furniture; Typologies for different spaces: residential, commercial, institutional, hospitality; Customization and modularity in contemporary furniture; Adaptable, multi-functional, and space-saving furniture solutions

Module 3: Ergonomics, Anthropometry and User-Centred Design

Principles of ergonomics and anthropometric data; Designing for posture, comfort, and movement; Human-furniture interaction in various age groups and abilities; Standards and guidelines for furniture dimensions; Case studies: chairs, workstations, kitchen modules, school furniture.

Module 4: Materials, Construction Techniques and Sustainability

Materials used in furniture: wood, metal, plastic, cane, bamboo, glass, upholstery; Joinery, hardware, and detailing; Finishes and coatings; Sustainable practices: recycled materials, low-VOC finishes, local crafts; Emerging technologies: CNC, modular kits, digital fabrication, 3D printing

Reading Material

1. *John Pile and Judith Gura. (2013). History of Interior Design (4th ed.). Wiley.*
2. *Judith Miller. (2010). Furniture: World Styles from Classical to Contemporary. DK Publishing.*
3. *Mark Hinchman. (2009). History of Furniture: A Global View. Fairchild Books.*
4. *Stuart Lawson. (2013). Furniture Design: An Introduction to Development, Materials and Manufacturing. Laurence King Publishing.*

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term exam	Internal	20%
End-semester jury	External/Internal	50%

Professional Elective - III

25ARC431	Retail and Visual Merchandising in Interiors	L – T – P– C	1-0-2-2

Course Objectives

- Introduce students to the fundamentals of retail interiors and visual merchandising, with an understanding of consumer behaviour, brand identity, and experiential retail design.
- Develop an understanding of visual merchandising principles, tools, and sensory strategies to enhance customer engagement and brand communication.
- Enable students to apply retail interior design and space planning strategies, including layout planning, fixture design, and material selection.
- Provide hands-on experience through a capstone project that integrates retail design, visual merchandising, branding, and presentation skills in a real-world context.

Course Outcomes

After completing this course, students will be able to:

CO1 : Explain and interpret the fundamentals of retail interiors and visual merchandising, including consumer psychology, brand identity, and contemporary retail trends.

CO2 : Apply principles and tools of visual merchandising—such as window displays, product presentation, circulation planning, sensory design, and storytelling—to create engaging retail environments.

CO3 : Develop and integrate effective retail interior layouts by applying space planning strategies, fixture systems, materials, lighting, and branding elements appropriate to various retail formats

CO4 : Design and present a comprehensive retail interior project that synthesizes visual merchandising strategies, spatial planning, brand communication, and professional presentation techniques

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	3	3	2	3	2	3	2	3	–	3	2	2	3
CO2	3	3	3	3	2	3	2	2	3	–	3	2	2	3
CO3	3	3	3	2	3	2	2	3	3	2	3	3	3	3
CO4	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Module 1: Fundamentals of Retail and Visual merchandising

Introduction to retail interiors and types of retail spaces, understanding consumer behavior and psychology in retail environments, importance of brand identity in design, case studies of iconic retail interiors and successful visual merchandising strategies

Module 2: Principles and tools of Visual merchandising

Principles of visual merchandising: window displays, in-store product presentation, focal points, techniques for product grouping, circulation, creating customer journeys, sensory elements: lighting, color, texture, signage and storytelling for brand communication, analysis of merchandizing strategies in local and international retail examples

Module 3: Retail Interior design and space planning

Store layout planning: grid, free-flow, boutique, racetrack, fixtures, furniture and modular display systems for retail interiors, creating ambiance through lighting, materials, textures and branding elements, space planning layouts

Module 4: Capstone – Retail Interior project
Concept development and design storytelling for a selected retail interior, integration of visual merchandising principles with spatial planning and branding, project presentation.

Reading Material

1. Pegler, M. M., & Kong, A. (2018). *Visual Merchandising and Display* (7th ed.). Fairchild Books / Bloomsbury Publishing.
2. Belli, S. (2020). *Visual Merchandising and Display: Best Practices for Window Displays and Store Designs*. Hoaki Books.
3. Morgan, T. (2016). *Visual Merchandising: Windows and In-Store Displays for Retail* (3rd ed.). Laurence King Publishing.
4. Anderson, S., & Mesher, L. (2019). *Retail Design* (2nd ed.). Bloomsbury Visual Arts.
5. Ebster, C., & Garaus, M. (2011). *Store Design and Visual Merchandising*. Business Expert Press.

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term examination	Internal	20%
End-semester jury	External/Internal	50%

25ARC432	Disaster Resilience & Management	L – T – P– C	1-0-2-2

Course Objectives

1. To provide a fundamental understanding of various types of disasters (seismic, hydro-meteorological, etc.) and their impact on the built environment.
2. To equip students with design principles and technical standards for disaster-resistant construction.
3. To study global and national frameworks, such as the Sendai Framework and NDMA guidelines, in the context of architectural practice.
4. To understand the complexities of temporary housing, permanent resettlement, and livelihood revitalization.
5. To explore how indigenous practices and Indian Knowledge Systems (IKS) contribute to climate and disaster resilience.

Course Outcomes (COs)

Upon successful completion of the course, students will be able to:

CO1: Analyze and assess the vulnerability of specific regions and building typologies to various natural hazards using appropriate risk-assessment frameworks.

CO2: Design buildings and masterplans that incorporate disaster-resilient features and comply with safety codes.

CO3: Formulate post-disaster reconstruction strategies that emphasize socio-cultural continuity, sustainability, and contextual responsiveness.

CO4: Apply interdisciplinary knowledge to develop comprehensive disaster management and mitigation plans for both urban and rural settlements.

CO5: Critically evaluate the influence of policy frameworks, ethical considerations, and community participation in achieving long-term environmental and disaster resilience.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	3	1	2	2	3	1	1	2	2	3	2	2	1
CO2	3	2	3	3	1	2	2	2	2	3	2	2	3	2
CO3	2	3	2	3	3	2	3	3	2	3	2	3	1	3
CO4	2	2	2	2	3	3	2	3	2	2	3	2	2	2
CO5	1	1	2	3	2	3	3	2	3	3	3	1	1	3

Module 1: Introduction to Disaster Management & Risk Assessment

- **Overview:** Definitions, terminology, and the global/Indian disaster profile.
- **Contents:** Understanding Hazard, Vulnerability, and Risk; The Disaster Management Cycle (Mitigation, Preparedness, Response, Recovery); Overview of the NDMA Act and International Frameworks (Hyogo, Sendai).

Module 2: Seismic and Wind Resilience in Architecture

- **Overview:** Technical design strategies for high-risk zones.
- **Contents:** Fundamentals of earthquake-resistant design (Configuration, Ductility, Load Paths); Wind-resilient design for cyclones and storms; Retrofitting techniques for existing structures; Understanding IS Codes (IS 1893, IS 4326, IS 13920).

Module 3: Flood Resilience & Water Management

- **Overview:** Managing hydro-meteorological risks in urban and coastal contexts.
- **Contents:** Flood-resilient design strategies (Stilt construction, floating structures, amphibious architecture); Urban drainage systems and "Sponge City" concepts; Coastal resilience: managing tsunamis and storm surges through soft and hard infrastructure.

Module 4: Post-Disaster Reconstruction & Resettlement

- **Overview:** The architecture of recovery and rehabilitation.
- **Contents:** Design of temporary shelters vs. transitional housing; Socio-cultural challenges in permanent resettlement; Case studies of post-disaster reconstruction (e.g., Bhuj, Nagapattinam, Cuddalore); Resilience in livelihoods and community infrastructure.

Module 5: Indigenous Wisdom & Future Resilience

- **Overview:** Blending traditional knowledge with emerging technology for climate resilience.
- **Contents:** Traditional earthquake-resistant construction (Dhaji Dewari, Kath-Kuni, Assam-type housing); Climate-responsive vernacular practices; Using GIS and Remote Sensing for disaster mapping; Role of AI and Big Data in early warning systems.

Recommended Reading Material

- **Bose, P. R., & Bose, S.** (2012). *Disaster Management and Architecture*. Tata McGraw-Hill.
- **Alexander, D.** (2002). *Principles of Emergency Planning and Management*. Oxford University Press.
- **Jha, A. K., et al.** (2010). *Safer Homes, Stronger Communities: A Handbook for Reconstructing after Natural Disasters*. The World Bank.
- **Murty, C. V. R.** (2005). *Earthquake Tips: Learning Earthquake Design and Construction*. IIT Kanpur & BMTPC.
- **Shaw, R., & Krishnamurthy, A.** (2014). *Disaster Resilience and Human Settlements: Emerging Perspectives from South Asia*. Springer.

Evaluation Pattern:

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term examination	Internal	20%
End-semester jury	External/Internal	50%

25ARC433	Advanced Landscaping	L – T – P– C	1-0-2-2

Course Objectives

- To develop an advanced understanding of landscape design as a cultural, ecological and experiential system shaping the built environment.
- To introduce theoretical frameworks, historical precedents and global best practices that inform contemporary landscape design thinking.
- To enable students to critically evaluate the relationship between landscape, climate, culture and urban contexts.
- To equip students with the ability to integrate sustainability, user experience and technological tools in advanced landscape design processes.

Course Outcomes

After completing this course, students will be able to:

CO1: Demonstrate understanding of the historical, cultural, and theoretical foundations of landscape architecture and their influence on design expressions across diverse contexts.
CO2: Analyze landscape components, materials, vegetation, and climate-responsive strategies to design functionally efficient and experientially rich outdoor environments.
CO3: Evaluate urban and regional landscapes through ecological, social, and sustainability perspectives to propose context-sensitive design responses.
CO4: Apply advanced landscape design thinking, global precedents, and digital simulation tools to develop holistic, sustainable, and user-centric landscape design solutions

CO / PO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	3	–	2	3	3	2	2	1	–	2	3	–	2
CO2	2	2	2	3	3	2	2	1	1	–	2	2	3	2
CO3	2	3	2	3	3	3	2	2	1	–	2	3	–	3
CO4	2	2	3	3	2	3	1	3	2	2	3	2	3	3

Module 1: Landscape Theory, History and Cultural Foundations

Introduction to landscape architecture as a discipline; evolution of landscape design across civilizations; Renaissance, Baroque, English landscape traditions; Chinese and Japanese landscape principles; cultural, spiritual and psychological dimensions of landscape design; theoretical approaches shaping contemporary landscape architecture.

Module 2: Landscape Components, Materials and Climate Responsiveness

Hard and soft landscape components; landscape materials and construction techniques; planting design principles; vegetation types, colour, scale, texture and seasonal variation; role of climate in landscape design; macro, meso and micro landscape scales; adaptation strategies for diverse climatic contexts; experiential and sensory aspects of landscape environments.

Module 3: Urban, Regional and Sustainable Landscapes

Landscape design in urban and regional contexts; greenways, public open spaces, wetlands and biodiversity parks; landscape as urban infrastructure; indigenous and sustainable landscape practices;

social, ecological and environmental performance of landscapes; improving urban livability through landscape interventions; Indian and global case studies.

Module 4: Advanced Landscape Design Practice and Technologies

Landscape design process: site documentation, analysis and concept development; design detailing and specifications; integration of user experience and activity-based landscapes; study of global landscape architects and design philosophies; application of digital tools and simulation technologies for landscape visualization, analysis and presentation; contemporary professional practices.

Reading / Reference Material

1. *Tom Turner, Landscape Architecture Theory and Methods, Spon Press, 2014*
2. *Charles Waldheim, Landscape as Urbanism: A General Theory, Princeton University Press, 2016*
3. *Michael D. Murphy, Landscape Architecture Theory: An Evolving Body of Thought, Waveland Press, 2005*
4. *Geoffrey and Susan Jellicoe, The Landscape of Man, Thames & Hudson, 1987*
5. *John L. Motloch, Introduction to Landscape Design, John Wiley & Sons, 2001*
6. *Cliff Tandy, Handbook of Urban Landscape, Architectural Press, London, 1971*

Evaluation Pattern

7.

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term examination	Internal	20%
End-semester jury	External/Internal	50%

Elective – IV OPEN ELECTIVE

26OEL431	**Introduction to Architectural Science**	**L – T – P– C**	**3-0-0-3**

Course Objectives

- To introduce the fundamental principles of architectural design and composition for students from diverse disciplines.
- To provide a basic understanding of form, space and organizing principles used in architectural design.
- To introduce the essentials of thermal environment and human comfort in relation to buildings and climate.
- To create awareness about climate-responsive approaches in buildings through passive and active design strategies.

Course Outcomes

After completing this course, students will be able to:

CO1 : Explain the fundamental principles of architectural design, composition, and spatial organization.

CO2 : Explain and interpret the relationship between architectural form, materials, structural systems, and the built environment.

CO3 : Identify and explain key climatic elements and concepts of thermal comfort relevant to building design.

CO : Explain and interpret heat flow in buildings and outline basic passive and active strategies for climatic control.

	PO 1	**PO 2**	**PO 3**	**PO 4**	**PO 5**	**PO 6**	**PO 7**	**PO 8**	**PO 9**	**PO 10**	**PO 11**	**PS O1**	**PS O2**	**PSO 3**
CO 1	3	2	1	1	1	2	1	1	2	1	1	1	1	1
CO 2	2	2	1	2	2	2	1	1	2	1	1	1	2	1
CO 3	2	1	1	3	1	2	1	1	2	1	1	1	2	1
CO 4	2	1	1	3	2	2	1	1	2	2	1	1	2	1

Module 1: Fundamentals of Architectural Design

Principles of architectural design; factors influencing architectural development with examples; primary elements of architecture such as form and space; role of architecture as part of the environment.

Module 2: Organizing Principles and Architectural Composition

Organizing principles in architecture including symmetry, hierarchy, axis, linear, concentric and radial patterns; primary and secondary masses; principles of architectural composition including unity, balance, proportion, scale, rhythm, harmony and contrast; role of colour, texture and shapes/forms in architecture.

Module 3: Thermal Environment and Human Comfort

Climatic elements and classification of climates; earth's thermal balance; thermal balance of the human body; thermal comfort indices and comfort zone; introduction to sun–building relationship.

Module 4: Heat Flow in Buildings and Climate Control Strategies
Thermo-physical properties of building materials including resistance, transmittance and solar gain factor; basics of heat flow through buildings and thermal transmittance of structural elements; periodic heat flow; design criteria for climatic control using passive and active approaches.

Reading Material

1. Francis D.K. Ching, *Architecture: Form, Space and Order*, Wiley, 2014.
2. Koenigsberger, Ingersoll, Mayhew and Szokolay, *Manual of Tropical Housing and Building*, Orient Longman, 2014.
3. E. Neufert, *Architects' Data*, Wiley-Blackwell, latest edition.
4. O.H. Koenigsberger, *Climatic Design*, Universities Press, selected readings.
5. Szokolay S.V., *Introduction to Architectural Science: The Basis of Sustainable Design*, Architectural Press, 2014.

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term examination	Internal	20%
End-semester examination	External/Internal	50%

Professional Elective – V

25ARC531	Lighting Design	L – T – P– C	2-0-0-2

Course Objectives

- To introduce lighting as an essential architectural design element that influences perception, experience, performance and well-being.
- To develop an understanding of natural and artificial lighting principles, including human visual comfort and lighting quality.
- To enable students to design lighting for different architectural programmes using appropriate luminaires, controls and calculations.
- To integrate energy-efficient and sustainable lighting strategies aligned with standards, green building practices and responsible design.
- To provide exposure to contemporary lighting design tools, documentation methods and professional workflows.

Course Outcomes

After completing this course, students will be able to:

CO1 : Explain and interpret core lighting principles related to daylight, artificial lighting, vision, perception, and visual comfort in architecture.

CO2 : Apply lighting design methods to develop functional and aesthetically responsive lighting solutions for diverse architectural spaces

CO3 : Select and evaluate appropriate lighting systems, luminaires, and control strategies based on performance requirements, energy efficiency, and relevant standards.

CO4 : Prepare and present basic lighting design documentation using calculations, layouts, and simulation-based workflows

	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PSO1	PSO2	PSO 3
CO 1	3	2	2	3	2	2	1	1	2	2	2	2	2	1
CO 2	3	2	3	3	2	3	2	2	2	2	2	2	2	2
CO 3	2	1	2	3	3	2	2	2	2	3	2	1	3	3
CO 4	2	1	3	3	3	2	1	3	2	3	3	1	3	2

Module 1: Light, Vision and Daylighting Fundamentals

Nature of light and basic photometric terms; lighting quality and architectural perception; human vision, visual comfort and glare; luminance, illuminance and contrast; colour properties including CCT and CRI; daylight fundamentals such as sun path, sky conditions, daylight factor, daylight availability and orientation-based strategies; daylight openings, shading and glare control; integration of daylight as a spatial and experiential design tool.

Module 2: Artificial Lighting Systems and Luminaire Technology

Types of artificial lighting including ambient, task, accent and decorative lighting; lighting distribution patterns and beam characteristics; LED technology, drivers and optical systems; selection of luminaires for architectural applications including recessed, surface, track, pendant, wall-washers and exterior fixtures; lighting layers for space-making; lighting for materials and textures; colour tuning and scene creation; introduction to lighting controls including switching, dimming, sensors, scheduling and basic smart lighting concepts.

Module 3: Lighting Design Methods, Standards and Energy Efficiency
Lighting design workflow and concept development; lighting design criteria for residential, commercial, institutional and outdoor spaces; recommended illuminance levels, uniformity, glare limits and visual comfort parameters; introduction to lighting standards and guidelines relevant to practice; lumen method and point-by-point calculation concepts; lighting power density and energy performance; integration of sustainable strategies including efficient source selection, daylight-linked controls, occupancy sensing and maintenance factor considerations; overview of green building links such as energy-efficient lighting compliance and responsible design approaches.

Module 4: Lighting Application Studio, Simulation and Documentation
Lighting layout planning and zoning; lighting for key building programmes such as classrooms, studios, galleries, offices, retail spaces, hospitality and outdoor landscapes; façade and feature lighting concepts; lighting and spatial narrative through hierarchy and focus; introduction to lighting simulation workflows using digital tools for daylight and artificial lighting visualization; preparing lighting drawings and documentation including reflected ceiling plans, luminaire schedules, circuiting intent, control zoning diagrams and specification basics; presentation of lighting concepts using renders, diagrams and design reports; guest lecture/workshop on professional lighting design practice and emerging trends.

Reading Material

1. Gary R. Steffy, *Architectural Lighting Design*, Wiley, 2002.
2. Derek Phillips, *Lighting Modern Buildings*, Architectural Press, 2007.
3. Walter T. Grondzik, Alison G. Kwok, Benjamin Stein, and John S. Reynolds, *Mechanical and Electrical Equipment for Buildings*, Wiley, latest edition.
4. Mark Karlen and James R. Benya, *Lighting Design Basics*, Wiley, 2011.
5. IES (Illuminating Engineering Society), *Lighting Handbook*, latest edition.
6. Nick Baker and Koen Steemers, *Daylight Design of Buildings*, Routledge, 2014.

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term examination	Internal	20%
End-semester examination	External	50%

25ARC532	Immersive Technologies for Space Visualization	L – T – P– C	1-0-2-2

Course Objectives

- To introduce immersive visualization technologies for architectural representation.
- To explore AR, VR, and MR as tools for spatial experience and communication.
- To enhance design understanding through experiential simulation.
- To examine future trajectories of architectural visualization.

Course Outcomes

After completing this course, students will be able to:

CO1 : Explain and interpret the principles of immersive technologies in architectural practice.

CO2 : Develop and apply immersive spatial visualizations for architectural projects.

CO3 : Evaluate and analyze the role of immersive technologies in design

CO4 : Analyze and critically assess the ethical, experiential, and cognitive dimensions of immersive architectural environments.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	2	2	-	-	3	-	-	-	-	-	-	-	3	-
CO2	2	3	3	2	3	-	-	-	-	3	-	-	3	-
CO3	-	2	2	-	3	-	-	-	2	3	-	-	2	2
CO4	-	2	-	3	2	2	-	3	-	-	-	-	-	3

Module 1: Foundations of Immersive Visualization
Evolution of architectural representation; perception and experience; immersion theory.

Module 2: Virtual Reality (VR)
VR environments; walkthroughs; spatial perception; design validation.

Module 3: Augmented and Mixed Reality (AR/MR)
Overlaying digital content on physical spaces; site visualization; interactive models.

Module 4: Tools and Workflows
Game engines; real-time rendering; photogrammetry; BIM–XR integration.

Module 5: Future of Spatial Experience
Metaverse; digital twins; ethics; accessibility; education and practice.

Reading Material

1. Stanney, K. M. (Ed.). (2014). *Handbook of Virtual Environments: Design, Implementation, and Applications*. CRC Press.
2. Bailenson, J. (2018). *Experience on Demand: What Virtual Reality Is, How It Works, and What It Can Do*. W. W. Norton & Company.
3. Carpo, M. (2017). *The Second Digital Turn: Design Beyond Intelligence*. MIT Press.
4. Whyte, J. (2002). *Virtual Reality and the Built Environment*. Architectural Press.
5. Peddie, J. (2017). *Augmented Reality: Where We Will All Live*. Springer.
6. Milgram, P., & Kishino, F. (1994). *A Taxonomy of Mixed Reality Visual Displays*. IEICE Transactions on Information Systems.

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term exam	Internal	20%
End-semester jury	External/Internal	50%

25ARC533	Advanced Materials and Digital Fabrication	L – T – P– C	1-0-2-2

Course Objectives

- To introduce advanced architectural materials and their performance characteristics.
- To explore digital fabrication technologies and their role in contemporary design.
- To understand material-driven form generation and fabrication workflows.
- To bridge design thinking with making through computational and fabrication logic.

Course Outcomes

After completing this course, students will be able to:

CO1: Identify and evaluate advanced materials used in contemporary architectural practice.

CO2 : Explain and apply digital fabrication techniques and their architectural applications

CO3: Develop and implement a branding and digital marketing strategy for a design enterprise.

CO4: Analyze and evaluate material systems with respect to sustainability, efficiency, and innovation

CO5: Integrate and apply fabrication logic within architectural design processes.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	-	2	3	-	2	-	-	-	-	-	3	-
CO2	3	2	-	-	3	-	-	-	-	-	-	-	3	-
CO3	2	3	3	2	3	-	-	-	-	-	-	-	3	2
CO4	2	2	-	3	2	-	3	-	-	-	-	2	2	-
CO5	3	3	3	3	3	-	-	-	2	-	-	-	3	2

Module 1: Advanced Architectural Materials

Smart materials; composites; bio-based materials; high-performance concrete; responsive and adaptive materials.

Module 2: Material Performance and Sustainability

Lifecycle assessment; embodied energy; recyclability; circular material systems.

Module 3: Digital Fabrication Technologies

CNC machining; laser cutting; 3D printing; robotic fabrication; parametric workflows.

Module 4: Design-to-Fabrication Workflows

CAD-CAM integration; material constraints; tolerances; prototyping and iteration.

Module 5: Case Studies and Emerging Practices

Contemporary projects; material experimentation; research-driven practices.

Reading Material

1. Iwamoto, L. (2009). *Digital Fabrications: Architectural and Material Techniques*. Princeton Architectural Press.
2. Menges, A. (2012). *Material Computation: Higher Integration in Morphogenetic Design*. Wiley.
3. Kolarevic, B. (2003). *Architecture in the Digital Age: Design and Manufacturing*. Taylor & Francis.
4. Oxman, R., & Oxman, R. (2014). *Theories of the Digital in Architecture*. Routledge.

5. Schodek, D., Bechthold, M., Griggs, K., Kao, K., & Steinberg, M. (2005). *Digital Design and Manufacturing*. Wiley.
6. Ramsgaard Thomsen, M. (2010). *Digital Materiality in Architecture*. Aalborg University Press.

Assessment	**Internal/External**	**Weightage**
Continuous Assessment	Internal	30%
Mid-term exam	Internal	20%
End-semester jury	External/Internal	50%

Professional Elective – VI

25ARC541	Architectural Conservation	L – T – P– C	1-0-2-2

Course Objectives

- To introduce the concepts, principles and ethics of architectural conservation.
- To develop understanding of national and international conservation frameworks, agencies, policies, and charters.
- To impart knowledge of materials, techniques, and interventions for heritage structures.
- To equip students with skills for evaluating historic buildings, precincts, and cities, and proposing conservation and adaptive reuse strategies.

Course Outcomes

After completing this course, students will be able to:

CO1: Explain and interpret foundational concepts, ethical principles, and theoretical frameworks in architectural conservation.
CO2: Analyze and evaluate the role of national and international agencies, policies, and charters in conservation practice.
CO3: Assess and analyze historic buildings and materials through documentation, investigation, and structural evaluation, and propose appropriate conservation interventions.
CO4: Apply and integrate urban-scale conservation and planning strategies by incorporating community participation, economic considerations, and sustainability principles

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	3	-	2	3	3	2	1	1	-	2	3	-	2
CO2	2	3	-	2	3	2	3	2	1	-	2	3	-	3
CO3	3	2	2	3	2	3	2	1	1	-	3	2	3	2
CO4	2	3	2	3	3	3	3	2	2	2	3	3	-	3

Module 1: Foundations of Architectural Conservation

Importance of heritage and need for conservation; Definitions: conservation, preservation, restoration, adaptive reuse; Principles and ethics of conservation; International frameworks: UNESCO, ICCROM, ICOMOS; Venice Charter and other charters; Scope and approaches: material-based, value-based, living heritage

Module 2: Conservation Frameworks and Agencies in India

Museum and monument conservation; Role of ASI, INTACH, State Departments of Archaeology; Policies, legislations, inventories, and projects; National case studies: Hampi, Mahabalipuram, Golconda

Module 3: Materials, Techniques and Structural Systems

Documentation methods and historic structure reports; Behaviour of historic materials, masonry and foundation issues; Traditional and modern repair techniques; Seismic retrofit, services additions, and accessibility; Guidelines for preservation, rehabilitation, and adaptive reuse; Case studies: Palaces of Rajasthan, Chettinad dwellings, Swamimalai temples

Module 4: Urban Conservation and Planning Strategies

Heritage precincts, districts and cultural landscapes; Conservation through planning: TDR, incentives, heritage economics; Heritage site management, tourism, and community-based approaches; International case studies and best practices; Formulating conservation proposals at urban and precinct levels

Reading / Reference Material

1. *Bernard Fielden,* Conservation of Historic Buildings*, Architectural Press, 2003*
2. *Bernard Fielden,* Guidelines for Conservation – A Technical Manual*, INTACH, 1989*
3. *M.S. Mathews,* Conservation Engineering*, University at Karlsruhe, 1998*
4. *J. Kirk Irwin,* Historic Preservation Handbook*, McGraw Hill, 2003*
5. *John H. Stubbs & Emily G. Makas,* Architectural Conservation in Europe and the Americas*, Wiley, 2011*
6. *Robert E. Stipe,* A Richer Heritage: Historic Preservation in the Twenty-First Century*, University of North Carolina Press, 2003*
7. *A.G.K. Menon (Ed.),* Conservation of Immovable Sites*, INTACH, Delhi*
8. *Chalana, M. & Krishna, A.,* Heritage Conservation in Postcolonial India*, Routledge, 2023*

Evaluation Pattern

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term exam	Internal	20%
End-semester exam	External	50%

26ARC542	Design Journalism	L – T – P-C	1-0-2-2

Course Objectives

- To cultivate the ability to look beyond the surface of a design and analyze its social, political, and environmental implications.
- To train students in various journalistic genres, including the critical essay, the descriptive project review, and the personality profile.
- To understand the landscape of design media—from traditional print journals to the influence of social media and architectural podcasts.
- To teach the synergy between professional photography, diagrams, and text to create a cohesive editorial story.
- To instill professional ethics regarding intellectual property, factual accuracy, and the role of the journalist as an advocate for better design.

Course Outcomes (COs)

Upon successful completion of the course, students will be able to:

CO1: Analyze the historical and contemporary role of the critic in shaping design trends and public opinion.

CO2: Write clear, persuasive, and critically grounded content for diverse audiences and media formats.

CO3: Synthesize Indian Knowledge Systems (IKS) and regional narratives into mainstream design discourse.

CO4: Curate and edit visual content (photography and film) to complement and enhance written design narratives.

CO5: Demonstrate independent research skills by producing a comprehensive investigative design feature.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	2	1	1	2	3	1	1	2	1	2	2	1	1
CO2	2	1	2	1	1	2	1	3	3	1	1	1	2	2
CO3	1	3	1	2	3	1	2	1	1	2	1	3	1	1
CO4	1	1	3	1	1	1	1	3	2	3	1	1	3	2
CO5	2	2	1	3	2	3	3	1	3	2	3	1	1	3

Module 1: Evolution of the Design Critic

History of architectural and design journalism; the critic's role in society; The "Golden Age" of criticism (Lewis Mumford, Reyner Banham); the rise of Indian design media (Marg, Inside Outside, Indian Architect & Builder); defining the difference between PR, documentation, and objective journalism.

Module 2: Editorial Writing & Narrative Structures

The craft of writing about space and objects; Descriptive writing vs. Critical analysis; anatomy of a project review; writing for the web vs. writing for print; the "Lead" and the "Nut Graph"; conducting the professional design interview.

Module 3: Regionalism, IKS, and the Global Narrative

Bringing local context and traditional wisdom into global design conversations.; Communicating Indian Knowledge Systems (IKS) to a modern audience; reporting on vernacular traditions and crafts; sensitivity in reporting on social design and equitable urbanism; decoding regional architectural identity.

Module 4: Visual Journalism & Digital Curation

Managing the visual identity of a story in the digital age.; The role of architectural photography; photo-essay construction; social media for designers (Instagram, LinkedIn, Substack); introduction to video journalism and design podcasts; basics of SEO and digital reach.

Module 5: Investigative Journalism & Professional Ethics
Deep-dive research and the legal/ethical framework of the profession; Research methodologies for design journalism; investigative reporting on urban issues; copyright, libel, and ethical dilemmas in criticism; the role of AI in future journalism; producing a final investigative "Feature Story."

Recommended Reading Material

1. Mumford, L. (1952). *The Highway and the City*. Harcourt, Brace & World.
2. Slessor, C. (2001). *Contemporary Architecture: A Critical Review*. Thames & Hudson.
3. Lange, A. (2012). *The Dot-Com City: Writing About Architecture in the Digital Age*. Design Observer.
4. Bender, R. (2018). *Writing for Architecture: A Practical Guide to Expressing Your Ideas*. Routledge.
5. Stephens, S. (2002). *Imagining Ground Zero: Official and Unofficial Proposals for the World Trade Center Site*. Rizzoli (For case studies in critical reporting).

Evaluation Pattern:

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term examination	Internal	20%
End-semester jury	External/Internal	50%

Open Elective – VII

26OEL531	**Indian knowledge systems in architecture**	**L – T – P– C**	**3-0-0-3**

Course Objectives

- To introduce Indian Knowledge Systems relevant to architecture and built environment.
- To understand indigenous planning, construction, and environmental wisdom.
- To reconnect architectural education with decolonized knowledge frameworks.
- To explore contemporary relevance of traditional Indian practices.

Course Outcomes

After completing this course, students will be able to:

CO1: Explain and interpret the scope and relevance of Indian Knowledge Systems (IKS) in architecture.
CO2: Identify and explain traditional Indian architectural knowledge systems and practices
CO3: Analyze indigenous approaches to sustainability, materials, and construction logic.
CO4: Apply and integrate IKS principles within contemporary architectural thinking and design approaches.

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PSO1	PSO2	PSO3
CO1	3	3	-	-	-	2	-	-	2	-	-	3	-	-
CO2	3	2	-	2	-	-	-	-	-	-	-	3	-	-
CO3	2	3	-	3	-	-	3	-	-	-	-	3	-	-
CO4	3	3	2	2	-	2	3	-	2	-	-	3	2	3

Module 1: Indian Knowledge Systems and Architecture
Decolonizing architectural knowledge, oral traditions, ancient texts, craft knowledge.

Module 2: Traditional Planning and Settlements
Village planning; temple towns; water systems; sacred landscapes.

Module 3: Materials, Construction, and Climate Wisdom
Earth, timber, stone; passive cooling; regional responses.

Module 4: Symbolism, Ritual, and Space
Sacred geometry; thresholds; rituals; phenomenology of space.

Module 5: Contemporary Applications
Critical regionalism; sustainability; policy and practice; future directions.

Reading Material

1. Vatsyayan, K. (1993). *Indian Architecture*. Indian Council for Cultural Relations.
2. Chakrabarti, V. (1998). *Indian Architectural Theory*. Routledge.
3. Kundoo, A. (2011). *Building Knowledge: An Atlas of Contemporary Architecture*. Lars Müller Publishers.
4. Jain, K., & Jain, M. (1999). *Architecture of the Indian Desert*. AADI Centre.
5. Tillotson, G. H. R. (1989). *The Tradition of Indian Architecture*. Yale University Press.
6. Coomaraswamy, A. K. (1975). *Essays in Early Indian Architecture*. Munshiram Manoharlal.

Evaluation Pattern:

Assessment	Internal/External	Weightage
Continuous Assessment	Internal	30%
Mid-term examination	Internal	20%
End-semester examination	External	50%