SDGI GLOBAL UNIVERSITY

SCHOOL OF ARCHITECTURE, PLANNING AND DESIGN, GHAZIABAD

Evaluation Scheme & Syllabus
For

D.Arch. – Diploma in Architecture

[Effective from the Session: 2025-2026]

SDGI GLOBAL UNIVERSITY, GHAZIABAD
Program Curriculum
FOR D.ARCH.
(Effective from Academic Session 2025-26)

Introduction:

The Diploma in Architecture is a three-year program aimed at imparting foundational knowledge and practical skills in architectural design, construction techniques, drafting, and building sciences. The program integrates creativity with technical proficiency, fostering the ability to conceptualize, design, and develop functional, aesthetic, and sustainable spaces. Through hands-on studio training, workshops, field visits, and theoretical studies, students are prepared for entry-level professional roles in architectural practice and the construction industry, with an emphasis on ethical responsibility, teamwork, and lifelong learning.

Program Educational Objectives (PEOs)

PEO1: To equip students with essential knowledge of architectural design, construction systems, materials, and drafting practices for creating efficient and functional built environments.

PEO2: To develop professionals with practical problem-solving abilities, ethical values, and technical competence, enabling them to address architectural challenges and industry needs responsibly.

PEO3: To foster adaptability and continuous learning, encouraging graduates to integrate evolving technologies, software tools, and sustainable practices into their professional growth.

PEO4: To cultivate a sense of social responsibility and environmental awareness, empowering students to contribute positively to community development and the built environment through thoughtful architectural solutions.

Program Specific Objectives (PSOs)

PSO1: Apply fundamental design principles, technical knowledge, and creative thinking to develop and present architectural drawings, models, and construction details aligned with project requirements.

PSO2: Demonstrate proficiency in manual and computer-aided drafting, including the use of architectural drawing tools, AutoCAD, and basic Building Information Modeling (BIM) techniques for accurate project representation.

PSO3: Apply knowledge of building materials, construction systems, and site planning to assist in the preparation and execution of safe, functional, and sustainable architectural projects.

PSO4: Analyze social, environmental, and cultural contexts while addressing design problems, and follow ethical practices and professional standards in architectural documentation and project coordination.

Program Outcomes (PSOs)

PO1:ArchitecturalKnowledge

Apply foundational knowledge of architectural design, construction techniques, and materials to assist in developing practical architectural solutions.

PO2:DesignThinkingandCreativity

Demonstrate the ability to generate creative, functional, and user-centered designs while understanding spatial relationships and aesthetics.

PO3:ProblemAnalysis

Identify design-related challenges through site analysis, client needs, and technical constraints, and propose effective architectural responses.

PO4:ModernToolUsage

Utilize appropriate manual and digital drafting tools, software applications, and model-making

techniques for design representation and documentation

PO5:EnvironmentandSustainability

Understand and apply basic principles of environmental sustainability and climate-responsive design in architectural practice.

PO6:EthicsandProfessionalResponsibility

Practice architectural drafting and project documentation in adherence to professional ethics, legal standards, and social responsibility.

PO7:IndividualandTeamWork

Work effectively as an individual or as part of a collaborative team in design studios, workshops, and professional environments.

PO8:CommunicationSkills

Communicate design concepts and project documentation clearly through sketches, drawings, presentations, and verbal discussions with clients and peers.

PO9:Project Management and Site Practice

Understand basic principles of project planning, material estimation, and site supervision for efficient architectural project execution.

PO10: Lifelong Learning

Recognize the importance of staying updated with emerging trends, construction technologies, and design software to ensure continued professional growth.

Credit System-Credit requirement for award of D.Arch.:

Credit distribution in each semester (152credits to 6 semesters)

Semester	**Credits**		
	Theory	Studio/ Practical	Total
1st	12	14	26
2nd	10	16	23
3rd	11	17	22
4th	11	16	24
5th	11	16	26
6th	11	16	26
Total			152

Weightage in Terms of Credits for Diploma in Architecture (D.Arch) as per COA Guidelines (general pattern):

Professional Core Courses (PC) — 60%
(Design Studio, Architectural Drawing, Construction Technology, Building Materials, Estimating & Costing, Site Surveying, Interior Design basics.)

Building Sciences and Applied Engineering (BS and AE) — 20%
(Environmental Studies, Structures, Services, Climatic Design, Building Services, Acoustics, Lighting, Ventilation.)

Elective Courses (EC) — 5%

(Focused short-term courses on emerging areas, such as green building, 3D visualization, local building crafts, or conservation basics.)

Professional Ability Enhancement Courses (PAEC) — 10%
(Communication Skills, Software Skills — AutoCAD, SketchUp, Revit basics, Professional Practice & Office Training.)

Internship / Training — 5%
(Mandatory practical exposure with architectural firms or construction sites — usually in the final year.)

SDG+A1:R4I GLOBAL UNIVERSITY, GHAZIABAD

SCHOOL OF ARCHITECTURE , PLANNING AND DESIGN

SCHEME OF STUDY AND EVALUATION

Course- Diploma in Architecture (D. Arch.)

Batch: 2025-2028 **A.Y.: 2025-26** **SEMESTER - Ist**

S. No	Status	Subject Code	Subject Name	Study Scheme Lec/ Week			Hours	Credits	Marks in Evaluation Scheme						Passing Criteria (%age)	Passing Marks	Total Marks
									Continuous Internal Evaluation (CIE)			End of Semester Examination (ESE).					
				L	T	P			Th	Pr	Total	Th	Pr	Total			
1	BS& AE	D080125101	Building Structures– I	3	0	0	3	3	50	0	50	50	0	50	40%	40	100
2	PC	D080125102	Architectural History-I	3	0	0	3	3	50	0	50	50	0	50	40%	40	100
3	BS& AE	D080125153	Construction & Materials -1	0	0	6	6	3	0	75	75	0	75	75	40%	60	150
4	PC	D080125154	Architectural Drafting-I	0	0	6	6	3	0	75	75	0	75	75	40%	60	150
5	PC	D080125155	Design Studio -I	0	0	6	6	6	0	100	100	0	100	100	40%	80	200
6	PE	D080125156	Art Appreciation & Graphics-I	0	0	6	6	3	0	50	50	0	50	50	40%	40	100
7	BS& AE	D080125107	Ecology	3	0	0	3	3	50	0	50	50	0	50	40%	40	100
8	SEC	D080125108	Communication Skills	2	0	0	2	2	50	0	50	50	0	50	40%	40	100
Total				11	0	24	35	26	200	300	500	200	300	500	40%	400	1000

PC - Professional Core
AE - Ability Enhancement
BS& AE - Building Science and Applied Engineering
VAC - Value Added Course
SE - Skill Enhancement
PE- Professional elective

Evaluation Guidelines:

1. **D080125153 (Construction & Materials-I & B080125154 (Architectural Drafting -I: Practical Exam: 50 marks & Viva voce: 25 marks based on studio assignments.**
2. **D080125155 (Design studio -I): Practical Exam: 75 marks & Viva Voce: 25 marks Based on studio assignments**
3. **D080125156 (Art appreciation & Graphics-I): Practical Exam: 50 marks**

NOTE: The Scheme of Studies (SOS) and Evaluation is completely in accordance with the Council of Architecture (COA) guidelines.

Ar. Anjali Kawatra
Director, SAPD

SDGI GLOBAL UNIVERSITY, GHAZIABAD

SCHOOL OF ARCHITECTURE , PLANNING AND DESIGN

SCHEME OF STUDY AND EVALUATION

Course- Diploma in Architecture (D. Arch.)

Batch: 2025-2028 **AcademicYear.: 2025-26** **SEMESTER - IInd**

S. No	Status	Subject Code	Subject Name	Study Scheme Lec/ Week			Hours	Credits	Marks in Evaluation Scheme						Passing Criteria (%age)	Passing Marks	Total Marks
									Continuous Internal Evaluation (CIE)			End of Semester Examination (ESE).					
				L	T	P			Th	Pr	Total	Th	Pr	Total			
1	BS& AE	D080125201	Building Structures– II	2	0	0	2	2	50	0	50	50	0	50	40%	40	100
2	PC	D080125202	Architectural History-II	2	0	0	2	2	50	0	50	50	0	50	40%	40	100
3	BS& AE	D080125253	Construction & Materials-I1	0	0	6	6	3	0	75	75	0	75	75	40%	60	150
4	PC	D080125254	Architectural drafting-II	0	0	6	6	3	0	75	75	0	75	75	40%	60	150
5	PC	D080125255	Design studio -II	0	0	6	6	6	0	100	100	0	100	100	40%	80	200
6	PE	D080125256	Art appreciation & Graphics-II	0	0	6	6	3	0	50	50	0	50	50	40%	40	100
7	BS& AE	D080125207	Climatology	2	0	0	2	2	50	0	50	50	0	50	40%	40	100
8	SEC	D080125208	Computer Fundamentals	1	0	0	1	1	25	0	25	25	0	25	40%	20	50
9	SEC	D080125258	Computer Fundamentals Lab	0	0	2	2	1	0	25	25	0	25	25	40%	20	50
Total				7	0	26	33	23	175	325	500	175	325	500	40%	400	1000

PC - Professional Core Courses
BS& AE - Building Science and Applied Engineering
SE - Skill Enhancement
AE - Ability Enhancement
VAC - Value Added Course
PE- Professional elective

Evaluation Guidelines:

1. D080124253 (Construction & Materials-II & B080124254 (Architectural Drafting -II: Practical Exam: 50 marks & Viva voce: 25 marks based on studio assignments
2. D080124255 (Design studio -II): Practical Exam: 75 marks & Viva Voce: 25 marks Based on studio assignments
3. D080124256 (Art appreciation Graphics-II): Practical Exam: 50 marks

NOTE: The Scheme of Studies (SOS) and Evaluation is completely in accordance with the Council of Architecture (COA) guidelines.

SDGI GLOBAL UNIVERSITY, GHAZIABAD

SCHOOL OF ARCHITECTURE , PLANNING AND DESIGN

SCHEME OF STUDY AND EVALUATION

Course- Diploma in Architecture (D. Arch.)

Batch: 2024-2027 **A.Y.: 2025-26** **SEMESTER - IIIrd**

S. No	Status	Subject Code	Subject Name	Study Scheme Lec/ Week			Hours	Credits	Marks in Evaluation Scheme						Passing Criteria (%age)	Passing Marks	Total Marks
									Continuous Internal Evaluation (CIE)			End of Semester Examination (ESE).					
				L	T	P			Th	Pr	Total	Th	Pr	Total			
1	BS& AE	D080125301	Architectural Mathematics	2	0	0	2	2	50	0	50	50	0	50	40%	40	100
2	PC	D080125302	Architectural History-III	2	0	0	2	2	50	0	50	50	0	50	40%	40	100
3	BS& AE	D080125353	Construction & Materials - 1II	0	0	6	6	3	0	75	75	0	75	75	40%	60	150
4	PC	D080125354	Architectural Drafting-III	0	0	6	6	3	0	75	75	0	75	75	40%	60	150
5	PC	D080125355	Design Studio -III	0	0	6	6	6	0	100	100	0	100	100	40%	80	200
6	PE	D080125306	Professional Ethics and Social Responsibility`	3	0	0	3	3	50	0	50	50	0	50	40%	40	100
7	BS& AE	D080125307	Building Services-I	2	0	0	2	2	50	0	50	50	0	50	40%	40	100
8	SEC	D080125358	Architectural CAD Lab	0	0	2	2	1	0	50	50	0	50	50	40%	40	100
Total				9	0	20	29	22	200	300	500	200	300	500	40%	400	1000

PC - Professional Core Courses
AE - Ability Enhancement
BS& AE - Building Science and Applied Engineering
VAC - Value Added Course
SE - Skill Enhancement
PE- Professional elective

Evaluation Guidelines:

1. D080124353 (Construction & Materials-III & B080124354 (Architectural Drafting -III: Practical Exam: 50 marks & Viva voce: 25 marks based on studio assignment
2. D080124355 (Design studio -III): Practical Exam: 75 marks & Viva Voce: 25 marks Based on studio assignments

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Director, SAPD

SDGI GLOBAL UNIVERSITY, GHAZIABAD

SCHOOL OF ARCHITECTURE , PLANNING AND DESIGN

SCHEME OF STUDY AND EVALUATION

Course- Diploma in Architecture (D. Arch.)

Batch: 2024-2027 **A.Y.: 2025-26** **SEMESTER - IVth**

S. No	Status	Subject Code	Subject Name	Study Scheme Lec/ Week			Hours	Credits	Marks in Evaluation Scheme						Passing Criteria (%age)	Passing Marks	Total Marks
									Continuous Internal Evaluation (CIE)			End of Semester Examination (ESE).					
				L	T	P			Th	Pr	Total	Th	Pr	Total			
1	BS& AE	D080125401	Estimation and Costing	3	0	0	3	3	50	0	50	50	0	50	40%	40	100
2	PC	D080125402	Architectural History-IV	2	0	0	2	2	50	0	50	50	0	50	40%	40	100
3	BS& AE	D080125453	Construction & Materials - 1V	0	0	6	6	3	0	75	75	0	75	75	40%	60	150
4	PC	D080125454	Building Bye Laws & Municipal Drawing	2	0	2	4	3	50	25	75	50	25	75	40%	60	150
5	PC	D080125455	Design Studio -IV	0	0	6	6	6	0	100	100	0	100	100	40%	80	200
6	PE	D080125456	Architectural Surveying and Mapping	2	0	2	4	3	25	25	50	25	25	50	40%	40	100
7	BS& AE	D080125407	Building Services-II	2	0	0	2	2	50	0	50	50	0	50	40%	40	100
8	SEC	D080125458	Digital Architecture Studio: Photoshop & SketchUp	0	0	4	4	2	0	50	50	0	50	50	40%	40	100
Total				11	0	20	31	24	225	275	500	225	275	500	40%	400	1000

PC - Professional Core Courses
BS& AE - Building Science and Applied Engineering
SE - Skill Enhancement
AE - Ability Enhancement
VAC - Value Added Course
PE- Professional elective

Evaluation Guidelines:

1. D080124453 (Construction & Materials-IV : Practical Exam: 50 marks & Viva voce: 25 marks based on studio assignments.
2. D080124455 (Design studio -IV): Practical Exam: 75 marks & Viva Voce: 25 marks Based on studio assignments
3. D080124454 (Building Bye Laws & Municipal Drawing) : Theory Exam: 25 marks & Viva voce: 25 marks based on studio assignments.
4. D080124456 (Architectural Surveying and Mapping): Theory Exam: 25 marks & Viva Voce: 25 marks Based on studio assignments

NOTE: The Scheme of Studies (SOS) and Evaluation is completely in accordance with the Council of Architecture (COA) guidelines.

DETAILED FIRST YEAR CURRICULUM CONTENTS

PROGRAM: Diploma in Architecture(D.Arch.)

I SEMESTER

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-I**
Course Name- BUILDING STRUCTURES-I			
A.Y 2025-26	**Course Code-D080125101**	**Batch-2025-28**	**CIE Marks-50**
Total Teaching Hours: 45	**Total Credits-3**		**ESE Marks-50**
Type of Course- Theory			**Total Marks-100**

Course Objectives

1. To Understand basic types of forces and how they act on buildings.
2. To Learn simple concepts of strength and deformation in building materials.
3. To Know how to find the center of gravity of simple shapes.
4. To Understand how beams work and what causes them to bend or break.
5. To Read simple diagrams showing forces acting on building parts.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1. Introduction to Forces	• What is force? Types of forces in buildings. • Balance of forces (equilibrium). • Real-life examples: ladders, scaffolding, tables.	**9**
2. Stress and strain (Simple concepts)	• What happens when we stretch, push, or twist materials. • Elastic and plastic behavior. • Examples: rubber band, sponge, steel rod.	**9**
3. Centre of Gravity and Moment of Inertia	• What makes objects stable or unstable? • Center of gravity using basic shapes (rectangle, triangle, circle). • Visual examples: balancing rulers, see-saws.	**9**
4. Beams and BendingMoments	• What are beams? • How beams bend when loaded. • Types of beams: simply supported, cantilever.	**9**
5. Shear Force and Bending Moment (Basic Diagrams)	• How forces spread along beams. • Simple diagrams using visual learning. • No calculations, only interpretation.	**9**

Course Outcomes

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

1. CO1: Identify and explain different types of forces in real-world structures.
2. CO2: Understand how materials behave under stretching or pressing.
3. CO3: Find the balance point (center of gravity) of simple building parts.
4. CO4: Describe how beams carry loads in a building.
5. CO5: Interpret basic diagrams showing force distribution in beams.

Text/Reference books:

Elements of Civil Engineering & Engineering Mechanics M. L. Gambhir PHI Learning

Strength of Materials (For Polytechnic Students) R. S. Khurmi S. Chand

Applied Mechanics R. K. Rajput Laxmi Publications

Strength of Materials (Simplified) Dr. R. K. Bansal Laxmi Publications

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-I**
Course Name- Architectural History-I			
A.Y 2025-26	**Course Code- D080125102**	**Batch- 2025-28**	**CIE Marks-50**
Total Teaching Hours: 45	**Total Credits-3**		**ESE Marks-50**
Type of Course- Theory			**Total Marks-100**

Course Objectives

1. To introduce students to the early development of architecture from prehistory.
2. To explore ancient Egyptian architecture and its cultural background.
3. To understand the architecture and achievements of Mesopotamian civilizations.
4. To study town planning and architecture of the Indus Valley Civilization.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Introduction to Early Architecture	Stone Age, early shelters and tools, cave paintings, and stone structures like Stonehenge.	**9**
2- Egyptian Civilization	Pyramids, temples, tombs, beliefs, and early science and writing.	**12**
3- Mesopotamian Civilization	Ziggurats, palaces, city planning, and early laws and art.	**12**
4- Indus Valley Civilization In India	Mohenjo-Daro, Harappa, drainage systems, brick houses, city layout and planning principles.	**12**

Course Outcomes:

Upon completion of this course, students will be able to:

CO1: Recognize early human shelters and their significance in the history of architecture.
CO2: Describe major features of Egyptian architecture and relate them to their culture.
CO3: Identify important buildings of Mesopotamian civilization and their functions.
CO4: Understand the planning and infrastructure of Indus Valley towns and apply the learning in design.

Text/Reference books:

A History of Architecture Sir Banister Fletcher CBS Publishers (Indian Ed.)

The History of Architecture in India Christopher Tadgell Phaidon

A History of South India K.A. Nilakanta Sastri Oxford University Press

The Great Temple of Thanjavur George Michell, I.V. Peterson Marg Publications

A History of India Burton Stein Wiley India

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Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-I**
Course Name- Construction & Materials -I			
A.Y 2025-26	**Course Code- D080125153**	**Batch- 2025-28**	**CIE Marks-75**
Total Teaching Hours: 90	**Total Credits-3**		**ESE Marks-75**
Type of Course- Studio & Practical			**Total Marks-150**

Course Objectives

To familiarize students with basic terms and parts of a building from foundation to roof.
To provide knowledge of basic building materials like mud, bricks, stone, sand, lime, and cement.
To introduce simple types of building foundations and how to prevent foundation failure.
To teach brick masonry and how to use different brick bonds.
To explain decorative and structural brickwork features like jali walls and piers.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Building Components	Basic terms and parts of a building: foundation, plinth, walls, floors, roofs, etc.	**18**
2- Building Materials	Introduction to mud, bricks, stones, sand, lime, cement – their types, properties, and uses.	**18**
3- Foundations	Simple foundations: shallow, stepped, RCC footings. Safe soil, common problems and remedies.	**18**
4- Brick Work-I	Basics of brick masonry. English and Flemish bonds. Junctions like T, L, and cross-junctions.	**18**
5- Brick Work-II	Brick piers, corbelling, coping, and simple decorative jali walls.	**18**

Practical Activities:

- Site visits to observe materials and construction practices.
- Collect material samples and prepare labelled drawings.

Course Outcomes:

Upon completion of this course, students will be able to:

- **CO1:** Identify different parts of a building using proper terms.
- **CO2:** Understand and describe basic construction materials and their applications.
- **CO3:** Explain different types of foundations and know common causes of failure.
- **CO4:** Build brick walls using correct bonding methods and junctions.
- **CO5:** Use decorative brickwork techniques in design and construction.

Text/Reference books:

Building Construction S.C. Rangwala Charotar Publishing House

A Textbook of Building Construction S.K. Sharma S. Chand & Co.

Building Materials S.K. Duggal New Age International

Engineering Materials S.C. Rangwala Charotar Publishing House

Building Construction Vol. I & II W.B. McKay Pearson India

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

Practical Exam: 50 marks &Viva voce:25 Marks based on studio assignments.

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-I**
Course Name- Architectural Drafting-I			
A.Y 2025-26	**Course Code-D080125154**	**Batch-2025-28**	**CIE Marks-75**
Total Teaching Hours: 90	**Total Credits-3**		**ESE Marks-75**
Type of Course- Studio & Practical			**Total Marks-150**

Course Objectives

1. To introduce students to basic drawing tools, techniques, and lettering.
2. To help students understand and use different types of scales in drawings.
3. To teach orthographic projection and how to represent 2D views of objects.
4. To explain solid and hollow geometry and surface development.
5. To train students to create simple 3D views using isometric and axonometric drawings.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Drawing Basics	Use of pencils, drawing tools, types of lines, lettering, dimensions, symbols, arrows, etc.	**18**
2- Scales and Proportions	Types of scales – plain, diagonal; representation factor; scale drawing practice	**18**
3- Orthographic Projections	First angle projection – front, top, side views of objects; drawing points, lines, solids	**18**
4- Solid Geometry	Understanding solid/hollow forms; drawing surface development of cubes, prisms, cylinders	**18**
5-Axonometric, Isometrics Projections	Drawing 3D views of solids; combining forms in isometric and axonometric format	**18**

Hands-on Activities:

- Regular freehand sketching
- Sheet work using T-square and drafter
- Weekly drafting practice

Course Outcomes:

Upon completion of this course, students will be able to:

- **CO1:** Use drafting tools to draw neat and accurate construction drawings.
- **CO2:** Apply correct scales and proportions in drawing plans and views.
- **CO3:** Draw 2D orthographic views of different objects and architectural elements.
- **CO4:** Understand and apply solid geometry concepts through surface development.
- **CO5:** Create 3D views using isometric and axonometric projection techniques.

Text/Reference books:

Building Drawing M.G. Shah, C.M. Kale Tata McGraw-Hill

Engineering Drawing N.D. Bhatt Charotar Publishing House

A Textbook of Engineering Drawing R.K. Dhawan S. Chand & Co.

Engineering Drawing & Graphics K. Venugopal New Age International

Building Construction Illustrated Francis D.K. Ching Wiley India

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

Practical Exam: 50 marks &Viva voce:25 Marks based on studio assignments.

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-I**
Course Name- Design Studio -I			
A.Y 2025-26	**Course Code- D080125155**	**Batch- 2025-28**	**CIE Marks-100**
Total Teaching Hours: 90	**Total Credits-6**		**ESE Marks-100**
Type of Course- Studio & Practical			**Total Marks-200**

Course Objectives

1. To introduce the basic concepts of design and the designer's role.
2. To explore the elements of design using 2D and 3D forms.
3. To apply design principles through creative compositions.
4. To make simple models showing form transformations.
5. To understand the concept of measurement and scale.
6. To observe and represent order in architecture.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Introduction to Design	What is design? Importance of design thinking; creative thinking and the designer's role.	**15**
2- Elements of Design	Line, shape, texture, space, size, color, etc. – through sketches, collage, cut and paste work	**12**
3- Principles of Design	Balance, proportion, contrast, unity, rhythm – through 2D/3D craft and model-making exercises	**18**
4- Form & Transformation	Making 3D forms by adding, subtracting, rotating, combining shapes – basic thermocol/clay models	**15**
5- Scale and Measurement	Understanding scale using simple real-world examples (room, chair, etc.) and measuring exercises	**15**
6- Order In Architecture	Explore symmetry, patterns, geometry in surroundings – drawing and simple model exercises	**15**

Course Outcomes:

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

CO1: Understand what design is and explain its purpose.
CO2: Use design elements creatively in 2D and 3D forms.
CO3: Apply design principles in simple art and craft works.
CO4: Create models showing transformation of shapes.
CO5: Measure and draw to scale accurately.
CO6: Identify order and pattern in design using basic geometry.

Text/Reference books:

Foundation in Architecture Owen Cappleman & Michael J. Jordan Van Nostrand Reinhold

Basic Design R.V. Prakash Creative Media

Design Fundamentals Robert Gill McGraw Hill

Architecture: Form, Space and Order Francis D.K. Ching Wiley India

Graphic Thinking for Architects & Designers Paul Laseau Wiley

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

Practical Exam: 75 marks &Viva voce:25 Marks based on studio assignments.

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-I**
Course Name- Art Appreciation And Graphics-I			
A.Y 2025-26	**Course Code-** D**080125156**	**Batch-2025-28**	**CIE Marks-50**
Total Teaching Hours: 90	**Total Credits-3**		**ESE Marks-50**
Type of Course- Studio and practical			**Total Marks-100**

Course Objectives

- To introduce students to the meaning and value of art in daily life and architecture.
- To understand elements of art like line, shape, color, texture, and form.
- To learn color theory and apply it to simple design projects.
- To create 2D art using drawing, painting, and collage techniques.
- To explore 3D shapes through craftwork and modeling.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Introduction to Art	What is art? Role in human life, architecture, and design. Learn to observe, perceive, and enjoy art.	**18**
2- Elements and Principles of Art	Line, shape, color, texture, space, form + balance, rhythm, proportion, contrast, unity	**18**
3- Colour Theory	Primary/secondary colors, color mixing, warm/cool colors, color emotions, Indian color usage	**18**
4- 2D Compositions	Drawing and painting compositions using paper, fabric, or natural elements – collage and stencils	**18**
5 3D Form Making	Model-making with clay, paper, cardboard – basic geometric shapes and their arrangements	**18**

Studio Exercises:

- Freehand sketching
- Rangoli/color block pattern exercises
- Paper cutting and layering
- Clay modeling or paper sculpture
- Colour wheel and mood boards

Course Outcomes:

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

- **CO1: Understand what art is and its relevance to daily life and architecture.**
- **CO2: Recognize and use elements and principles of art in basic drawings.**
- **CO3: Apply color theory appropriately in their art and design work.**
- **CO4: Create visually appealing 2D compositions using various techniques.**
- **CO5: Build simple 3D models and understand how form and composition relate to architecture.**

Text/Reference books:

The Artist's Drawing Book Moira Huntly David & Charles

Drawing: A Creative Process Francis D.K. Ching Van Nostrand Reinhold

Art and Design Basics Alan Swann Harper Collins

Envisioning Architecture Iain Fraser & Rod Henmi Wiley

The Penguin Dictionary of Art & Artists Peter & Linda Murray Penguin Books

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-I**
Course Name- Ecology			
A.Y 2025-26	**Course Code- D080125107**	**Batch- 2025-28**	**CIE Marks-50**
Total Teaching Hours: 30	**Total Credits-2**		**ESE Marks-50**
Type of Course- Theory			**Total Marks-100**

Course Objectives

To create awareness about the importance of nature and our responsibility to protect it.
To help students understand the relationship between humans and the environment.
To encourage sustainable thinking and environment-friendly practices.
To explain environmental problems like pollution, waste, and climate change.
To promote values of conservation, respect for biodiversity, and participation in protection efforts.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Introduction to Environment	What is Environment? Types (Natural & Man-made), Importance, Public Awareness, Effects of Human Activity	**6**
2- Natural Resources and their Conservation	Types of Resources – Water, Forests, Minerals. Energy (Renewable & Non-renewable), Conservation methods	**6**
3- Ecosystem & Biodiversity	What is an Ecosystem? Food Chain, Food Web, Ecological Balance, Biodiversity and Conservation.	**6**
4- Pollution & Waste Management	Air, Water, Soil, Noise Pollution – causes, effects, control; Solid Waste & E-waste management	**6**
5- Environmental Issues & Protection Laws	Global Warming, Climate Change, Acid Rain, Population, Role of Govt., Environment Protection Act 1986	**6**

Course Outcomes:

Upon successful completion of this course, students will be able to:
CO1: Understand the basic structure and importance of the natural environment.
CO2: Identify key environmental problems and their impact on daily life.
CO3: Demonstrate awareness of resources and methods of their conservation.
CO4: Recognize their role in promoting sustainability and reducing pollution.
CO5: Respect biodiversity and adopt environment-friendly practices in their future profession.

Text/Reference books:

1. Environmental Studies by S Deswal, Dhanpat Rai & Co.
2. Environmental Studies by VK Ahluwalia, 2nd Edition,TERI Press, New Delhi.
3. Environmental Studies by R Rajgopalan, Oxford University Press.
4. Environment & Ecology by Singh & Malviya, Acme Learning

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-I**
Course Name- Communication Skills			
A.Y 2025-26	**Course Code- D080125108**	**Batch- 01**	**CIE Marks-50**
Total Teaching Hours: 30	**Total Credits-2**		**ESE Marks-50**
Type of Course- Theory			**Total Marks-100**

Course Objectives

1. To develop a comprehensive understanding of the communication process and its importance in personal, academic, and professional contexts.
2. To equip students with essential verbal, non-verbal, written, and digital communication techniques.
3. To foster effective interpersonal, business, and group communication skills.
4. To enhance the ability to handle interviews, presentations, and client interactions confidently.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Concept of Communication	1. Definition and elements (sender, message, medium, receiver, feedback) 2. Importance and types of communication (formal/informal, interpersonal/group) 3. Process: encoding, transmission, decoding, feedback	**6**
2- Types of Communication	1. Verbal: Speaking, Listening 2. Non-verbal: Gestures, expressions, body language 3. Written: Emails, reports, messages 4. Visual & Digital: Infographics, social media, online messaging tools	**6**
3- Email Writing and Business Letters	1. Format, tone, structure of professional emails 2. Business letter writing: inquiry, complaint, job application, etc. 3. Email etiquette and writing exercises	**6**
4- Barriers to Communication	Types: Physical, Psychological, Language, Cultural, Organizational Overcoming communication challenges	**6**
5- Application of Communication Skills	Presentations, Group Discussions, Public Speaking • Interview techniques and customer/client communication • Role plays, feedback practices, teamwork and leadership communication	**6**

Course Outcomes:
Upon successful completion of this course, students will be able to:

CO1: Communicate clearly and confidently in personal and professional contexts. CO2: Identify and overcome barriers to effective communication. CO3: Write formal business letters and emails with appropriate tone and structure. CO4: Participate in group discussions, interviews, and presentations with proper communication etiquette. CO5: Apply interpersonal and digital communication skills in team and work environments.

Text/Reference books:

Business Communication – P.D. Chaturvedi
Simply Said: Communicating Better at Work and Beyond – Jay Sullivan
Business Communication: Building Critical Skills – Kitty O. Locker & Stephen Kyo Kaczmarek
Business Communication – Shirley Taylor

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

Diploma in Architecture

PROGRAM: D.Arch

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School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-II**
Course Name- Building Structures-II			
A.Y 2025-26	**Course Code- D080125201**	**Batch- 2025-28**	**CIE Marks-50**
Total Teaching Hours: 45	**Total Credits-3**		**ESE Marks-50**
Type of Course- Theory			**Total Marks-100**

Course Objectives

1. To introduce basic concepts of structural elements and stress in trusses.
2. To help students understand torsion in circular shafts and its real-life application in structures.
3. To understand the properties of plain cement concrete used in building construction.
4. To learn how to calculate slope and deflection in beams using simple methods.
5. To study the behavior of columns and struts under different loads and conditions.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1. Stresses in Trusses	Types of frames: perfect, deficient, redundant - Types of supports: hinged, roller, fixed - Analysis of trusses: Cantilever & Simply supported - Methods: Analytical, Sectional, Graphical	**9**
2.Torsional Stress in circular shaft	What is torsion? - Theory of pure torsion and assumptions - Torsional moment of resistance - Polar modulus and torsional rigidity - Power transmitted by a shaft	**9**
4. Plain Cement Concrete	Components of concrete mix - Curing and strength development - Effects of temperature and shrinkage - Basic understanding of fatigue	**9**
5. Deflection of Beams	- Introduction to slope and deflection - Simple cantilever and simply supported beams - Methods: Double Integration, Macaulay's, Moment-Area (only basics) - Emphasis on step-by-step problem solving	**9**
6. Column and Struts	Definitions and end conditions - Buckling, slenderness ratio, critical loads - Basic column theories - Eccentrically loaded columns: core, kernel (Rectangular & Circular)	**9**

Course Outcomes

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

CO1: Analyze forces in trusses using simple methods and identify different types of structural frames.
CO2: Understand torsional stress and calculate torque, power, and rigidity in circular shafts.
CO3: Describe the properties of concrete and factors affecting its performance in structures.
CO4: Calculate slope and deflection of beams using basic analytical methods.
CO5: Understand the behavior of columns and apply simple theories to analyze buckling and loading.

Text/Reference books:

1. Nautiyal B. D., “Introduction to Structural Analysis”, B.H.U.
2. Punmia P. C., “Strength of Materials & Mechanics of Structures”.
3. Khurmi R. S., “Strength of Materials”.
4. Senol Utku , “Elementary Structural Analysis”.
5. Rama Armarutham S., “Strength of Materials”

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-II**
Course Name- Architectural History-II			
A.Y 2025-26	**Course Code- D080125202**	**Batch- 2025-28**	**CIE Marks-50**
Total Teaching Hours: 45	**Total Credits-3**		**ESE Marks-50**
Type of Course- Theory			**Total Marks-100**

Course Objectives

Understand the development of early Iron Age civilizations in Greece, Rome, and India, with a focus on their architecture.
Analyze how Greek philosophy and society influenced architectural evolution.
Study major Roman architectural innovations and their practical applications.
Examine the emergence and evolution of Buddhist, Jain, and Hindu architecture in India.
Identify the reasons for the decline of ancient civilizations and their long-term architectural and cultural impacts.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Early Iron Age Civilizations In Greece	Minoan and Mycenaean architecture: Palace at Knossos, Lion Gate, Megaron - Classical Greece: City-states, Acropolis, Temple development - Philosophers: Socrates, Plato, Aristotle - Temples: Parthenon, Temple of Zeus, Athena - The Greek Orders	**9**
2- Early Iron Age Civilizations In Rome	Political and social context - Architectural innovations: arch, vault, dome - Temples: Pantheon - Public structures: Colosseum, Caracalla Baths, Aqueducts, Forum, Basilica - Evolution of Roman Orders.	**9**
3- Early Iron Age Civilizations In India	Vedic planning patterns (Dandaka, Nandyavarta) - Village and shelter types - Toranas, sacred railings, motifs and symbolism - Brick altars and ritual architecture	**9**
4- Early Buddhist, Jain & Hindu Architecture in India	Hinayana & Mahayana Buddhism - Influence of Hellenistic ideas - Ashokan architecture: Pillars, Sarnath, Barabar Caves - Rock-cut architecture: Karli, Nasik, Udaigiri, Ranigumpha - Chaitya halls and Viharas	**12**
5- Collapse Of Some Civilizations	Causes of collapse: economic, environmental, social, natural disaster, foreign invasion, internal unrest - Case studies from Greece, Rome, India - Long-term impacts on architecture and urban life	**6**

Course Outcomes:

Upon completion of this course, students will be able to:
CO1: Describe the architecture and cultural setup of Minoan and Mycenaean societies.
CO2: Explain Greek architectural styles, temples, and philosophical influences on built forms.
CO3: Analyze Roman structural innovations and identify key Roman architectural elements.
CO4: Compare early Indian religious architecture and explain developments during Ashoka's rule and Gupta-

Chalukya periods.
CO5: Discuss major reasons behind the fall of ancient civilizations and connect them with architectural decline and transitions.

Suggested Activities

- Map marking: Locate key historical sites like Athens, Rome, Sanchi, Ujjain.
- Drawing exercises: Sketch key architectural elements (orders, pillars, domes).
- Virtual tours or documentaries: Acropolis, Pantheon, Sanchi, Ellora.
- Comparative chart making: Greek vs Roman vs Indian temple features.
- Group presentations: Causes of civilizational collapse using case studies.

Text/Reference books:

1. Tadgell Christopher (1990). A History of Architecture in India – From the Dawn of Civilization to the End ofthe Raj. London. Phaidon Press Ltd.
2. Fletcher Sir Banister (1987). A History of Architecture. London (UK). Butter-worth Heinemann Ltd.
3. Arjun Dev, The Story of Civilisation, Vol. I (Old) NCERT History Textbook for Class IX.
4. Kostof Spiro(1995) A History of Architecture – Settings and Rituals. N.Y. Oxford University Press.
5. Hiraskar G.K.(1994) The Great Ages of World Architecture. Delhi. Dhanpat Rai Ltd.
6. Brown Percy (2004). Indian Architecture- Buddhist and Hindu Periods. Bombay. D.B. Taraporevala and Sons Co. Pvt. Ltd.

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-II**
Course Name- Construction & Materials -II			
A.Y 2025-26	**Course Code- D080125253**	**Batch- 2025-28**	**CIE Marks-75**
Total Teaching Hours: 90	**Total Credits-3**		**ESE Marks-75**
Type of Course- Studio & Practical			**Total Marks-150**

Course Objectives

1. Learn the types, properties, and uses of common **timbers** and **timber products** used in construction.
2. Understand and compare various **roofing systems**, with an emphasis on **timber roofs** and **traditional Indian methods**.
3. Learn the **techniques of damp-proofing** and their application in **load-bearing walls**.
4. Understand **elementary stone masonry**, types of joints, and their application in wall construction.
5. Study the **construction and structural principles** of **arches and lintels** using brick and stone.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Building Materials & Secondary Elements	Types of Indian timbers (Teak, Sal, Sheesham, Mango, Eucalyptus) - Timber sawing, seasoning, and defects - Timber products: plywood, veneers, blockboards, etc. - Roof coverings: Clay tiles (Country, Allahabad, Mangalore), Stone slates, Thatch - Introduction to secondary building elements: Doors, windows, railings, sunshades, staircases	**18**
2- Roofing Systems	Types: Flat, Sloping, Curved roofs - Timber roofs: King post, Queen post - Vernacular roofing systems across Indian states - Materials used in roof framing and finishes	**18**
3- Damp Proof Course	Causes of dampness - Methods of damp-proofing - Horizontal and vertical DPC - Materials used for DPC - Application in load-bearing walls	**18**
4- Stone Work:	Types of stone masonry: Random rubble, Coursed rubble, Ashlar masonry - Types of joints in stone masonry - Bonding techniques - Basic construction procedures for stone walls	**18**
5- Arches And Lintels	Basic terms: keystone, intrados, extrados, spandrel, etc. - Types of arches: Flat, Segmental, Semi-circular, Horseshoe, etc. - Construction of brick and stone arches - Types and construction of lintels - Stone vs. RCC lintels	**18**
	Practical Components • **Site Visits** to observe timber roofs, stone masonry, or traditional roofing systems. • **Material Identification Lab:** Timber samples, DPC materials,	

	roof tiles. • **Sketching Exercises:** Arches, joints, DPC methods, roof types. • **Model Making / Group Activities:** Small arch models or roof models using basic materials.	

Course Outcomes:
Upon completion of this course, students will be able to:
CO1: Identify various building timbers and apply knowledge of timber and roof covering materials in basic construction design.
CO2: Explain and implement different roofing systems, including those found in Indian vernacular architecture.
CO3: Apply proper damp-proofing methods to enhance durability of buildings.
CO4: Demonstrate basic understanding of stone masonry and identify different types of joints.
CO5: Construct basic arches and lintels and explain their function and construction methodology.

Text/Reference books:

1. Kumar, S.K. (2001) "Building Construction", 19th Ed., Standard Publishers Distributors.
2. Allen, E. and Iano, J. (2004) "Fundamentals of Building Construction: Materials and Methods", Wiley.
3. Mehta, M., Scarborough, W. and Armpriest, Diane. (2008) "Building Construction: Principles, Materials and
4. Systems", Pearson Prentice Hall
5. Rangwala, S.C. (2001) "Building Construction", 19 th Ed., Charotar Publishing House
6. Mckay, W.B., (2005) "Building Construction", Vols. I, Longman.
7. Mckay, W.B., (2005) "Building Construction", Vols. II, Longman.

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

Practical Exam: 50 marks &Viva voce:25 Marks based on studio assignments.

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-II**
Course Name- Architectural Drafting-II			
A.Y 2025-26	**Course Code-D080125254**	**Batch-2025-28**	**CIE Marks-75**
Total Teaching Hours: 90	**Total Credits-3**		**ESE Marks-75**
Type of Course- Studio & Practical			**Total Marks-150**

Course Objectives

By the end of the course, students will:

1. Understand and apply geometric principles for intersection and interpenetration of solids (prisms, cylinders, cones).
2. Learn the theory and terminology of perspective drawing—including vanishing points, cone of vision, and types of perspectives.
3. Practice drawing one-point, two-point, and three-point perspectives of architectural forms and objects.
4. Gain experience in measured drawing and documentation of real-life buildings and interior spaces.
5. Enhance architectural representation skills, emphasizing clarity, aesthetics, and accuracy in small-scale building drawings.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Intersection Of Solids	Interpenetration of solids: - Prism to Prism - Cylinder to Cylinder - Cone to Cylinder - Use of line weights, labeling, and hatching - Application in architectural modeling	**18**
2- Introduction To Perspective Drawing	Purpose & Use of Perspectives - Comparison with metric projections - Elements: Cone of vision, Picture plane, Station point, Eye level, Horizon line, Ground line, Vanishing point(s) - Types of Perspective: - One-point - Two-point - Three-point	**18**
3- Perspective Drawing	**One-point**: Box blocks, curved surfaces, household furniture - **Two-point**: Box blocks, curved surfaces, household furniture - **Three-point**: Tall structures and furniture - Emphasis on proportion, shading, and visual depth	**18**
4 Documentation Of A Built Structure With Interiors	Site Visit: Observe and measure a real structure (residential or public) - Data collection: Photos, sketches, materials - Interior sketches: Kitchen, Bedroom, Toilet - Drawings: Plan, Section, Elevation, Isometric - Scaled details and representation techniques	**18**
5- Architectural Drawing Of Small	Introduction to architectural drawing: Line value, Lettering, Symbols - Measured drawing techniques	**18**

Scale Building	- Exercises: Guard room, Studio apartment, Retail kiosk - Drawings: Plans, Sections, Elevations, Perspectives - Composition and aesthetic detailing	

Course Outcomes:
Upon completion of this course, students will be able to:

CO1: Create accurate representations of intersections of geometric solids used in architecture.
CO2: Explain and apply the principles of perspective drawing.
CO3: Produce professional-quality perspective drawings from different viewpoints.
CO4: Document real architectural spaces through sketches, measurements, and scaled drawings.
CO5: Prepare complete architectural and interior drawings of small structures, integrating visual communication techniques.

Text/Reference books:

1. **N.D. Bhatt & V.M. Panchal** – *Engineering Drawing – Plane and Solid Geometry*, Charotar Publishing.
2. **Francis D.K. Ching** – *Design Drawing*, John Wiley & Sons.
3. **Rendow Yee** – *Architectural Drawing: A Visual Compendium*, Wiley.
4. **John Montague** – *Basic Perspective Drawing: A Visual Approach*, Wiley.
5. **Mo Zell** – *The Architectural Drawing Course*, Barron's Educational.
6. **Bernard Alkins** – *Architectural Rendering*, Walter Foster Art Books.

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

Practical Exam: 50 marks &Viva voce:25 Marks based on studio assignments.

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-II**
Course Name- Design Studio -II			
A.Y 2025-26	**Course Code- D080125255**	**Batch- 2025-28**	**CIE Marks-100**
Total Teaching Hours: 90	**Total Credits-6**		**ESE Marks-100**
Type of Course- Studio & Practical			**Total Marks-200**

Course Objectives

This course aims to:

1. Introduce students to the **design process**—from concept to visual representation.
2. Build awareness of **anthropometrics and space standards**, including inclusive design for physically challenged and elderly users.
3. Explore **design strategies** using context, nature, materials, and generative methods.
4. Develop design solutions for **basic functional units**, emphasizing **universal accessibility** and **passive design**.
5. Foster understanding of **spatial organization**, **multi-space planning**, and the **fundamentals of building anatomy**.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Design Process	Basics: Drawing skills, conventions, abstraction, expression. - Application: Analysis, exploration, verification. - Communication: Individual/team/public design. - Evolution from brief to concept and design. - Graphic representation of design process.	**18**
2- Space Standards & Anthropometrics	Study of space standards related to functional needs. - Human body dimensions and ergonomics. - Special focus on elderly and differently-abled users. - Presentation techniques: diagrams, scale figures, templates.	**18**
3- Design Strategies And Methods	Context-sensitive design; site response. - Design generators: geometry, nature, music, math. - Traditional vs. contemporary methods. - The three-stage design model: Divergence → Transformation → Convergence. - Working with materials and structure ideas.	**18**
4- Design Exercises-I(single Space Units)	Simple units with **horizontal movement**. - Spaces emphasizing **passive design and universal access**: - Handicapped-accessible toilet - Hostel room / Bedroom / Kitchen - Small shop or pavilion - Workshop or snack bar	**18**
5- Design Exercises-II	Focus on **space planning**, circulation, interrelationships. - Exercises include: - Residence - Petrol Pump	**18**

	- Police/fire station - Cottage for elderly couple Basics of **building anatomy** explained early in the semester: foundation, plinth, wall, roof, parapet. - Introduction to material behavior and applications.	

Course Outcomes:

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

CO1: Apply the architectural design process from brief to concept to drawing.

CO2: Analyze and implement space standards and anthropometrics in design solutions.

CO3: Use varied design strategies to respond to function, context, and site.

CO4: Design accessible and functional single-unit spaces considering real user needs.

CO5: Develop multi-space architectural layouts, understanding inter-relationships and the basics of construction anatomy.

Text/Reference books:

1. Joseph De Chiara, Michael J Crosbie, Time Saver Standards for Building Types, McGraw Hill Education; 4th edition, 2014.
2. Joseph De Chiara, Julius Panero, Martin Zelnik, Time Saver Standards for Interior Design and Space Planning, McGraw Hill 2011.
3. Ernst Neuferts Architects Data, Blackwell 2012.
4. Ramsey et al, Architectural Graphic Standards, Wiley 2008.

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

Practical Exam: 75 marks &Viva voce:25 Marks based on studio assignments.

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-II**
Course Name- Art Appreciation and Graphics-II			
A.Y 2024-25	**Course Code-D080124256**	**Batch-2024-2027**	**CIE Marks-50**
Total Teaching Hours: 90	**Total Credits-3**		**ESE Marks-50**
Type of Course- Studio & Practical			**Total Marks-100**

Course Objectives

1. To strengthen artistic skills through observation, representation, and manual techniques.
2. To explore principles of composition, balance, contrast, and harmony in both 2D and 3D works.
3. To practice sketching, rendering, and coloring in architectural contexts.
4. To understand visual storytelling through murals, theme-based collages, and model compositions.
5. To create design expressions inspired by nature, tradition, and architectural elements.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Theme-Based Composition	Creating compositions based on Indian art, cultural festivals, or traditional motifs using line, shape, and form.	**18**
2- Nature Study & Object Drawing	Freehand sketching of plants, leaves, trees, fruits, pottery, and everyday objects from observation. Focus on proportions and detailing.	**18**
3- Rendering Techniques (Manual)	Pencil shading, ink rendering, use of color pencils and watercolors. Depiction of texture and materials in 2D.	**18**
4 Collage and Mural Work	Composition using paper/textile waste or natural materials. Conceptual mural layouts on a theme	**18**
5. 3D Art & Form Creation	Craft-based modeling using clay, cardboard, thermocol. Create forms like monuments, arches, columns, domes, etc. inspired by architectural heritage.	**18**

COURSE OUTCOME:

Upon successfully completed this course, the student will be able to understand:

CO1: Represent ideas and forms artistically through manual skills.
CO2: Improve sketching and rendering through real-life and imaginative studies.
CO3: Apply creative thinking in collage and mural composition.
CO4: Use various materials to create both 2D and 3D expressions related to architecture.
CO5: Connect art, design, and culture through visual storytelling and model-making.

Text / Reference Books

1. *The Artist's Drawing Book* – Moira Huntly
2. *Drawing: A Creative Process* – Francis D.K. Ching
3. *Art and Design Basics* – Alan Swann
4. *Experiencing Architecture* – Steen Eiler Rasmussen
5. *Indian Folk and Tribal Art* – Naman Ahuja

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

Practical Exam: 50 Marks based on studio assignments.

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-II**
Course Name- Climatology			
A.Y 2025-26	**Course Code-** D**080125207**	**Batch-2025-28**	**CIE Marks-50**
Total Teaching Hours: 30	**Total Credits-2**		**ESE Marks-50**
Type of Course- Theory			**Total Marks-100**

Course Objectives

1. To understand the relationship between Architecture and Climatology.
2. To study the various factors affecting climate.
3. To get acquainted with tropical zones of the world with their characteristics
4. To understand the terminology of human thermal comfort and its indices.
5. To study ventilation and its importance in building design.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Introduction To Climatology	Relationship between Architecture and Climatology; Global Warming and the Need for Climate responsive building; Building as a third skin. Climate and weather; Global weather; Seasonal changes, Factors responsible for changes.	**6**
2- Micro Climate	Air Temperature: Factors that influence air temperature – latitude, altitude seasons, water, trees, areas etc.; inversion of temperature, thermal diffusivity, thermal conductivity and heat transmission through building elements. Solar Radiation and its variations over the year.	**6**
3- Tropical Climate	Climatic-Tropics, climatic zones, macro climate, elements of climate, sun, temperature, wind, precipitation, and climatological data needed for planning of buildings.	**6**
4- Human Thermal Comfort	Human Comfort, Human heat balance and comfort; thermal comfort, heat stress, effective temperature, bio climatic analysis, individuals' variation. Concept of Adaptive Comfort.	**6**
5- Ventilation	Wind: Study of diurnal and seasonal variations, heating and cooling, effect of topography; effect of wind on location on industrial areas, airports and other land uses and road patterns; Promoting and inhibiting air movement in and around buildings, wind eddies, size and positions; effect of wind on design and siting of buildings. Understanding Wind Rose diagrams. Precipitation and humidity: Water vapor, relative humidity, condensation, rain, fog, snow and architectural responses to them.	**6**

Course Outcomes:

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

CO1:• Relationship between Architecture and Climatology.

CO2:• The various factors affecting climate.
CO3:• The tropical zones of the world with their characteristics.
CO4:• The terminology of Human thermal comfort and its indices.
CO5:• Ventilation and its importance in building design.

Text/Reference books:

1. Givoni, B. (1998). Climate considerations in building and urban design. New York: Van Nostrand Reinhold.
2. Bansal, N.K., Hauser, G. and Minke, G., "Passive Building Design: A Handbook of Natural Climatic Control", Elsevier Science. 1994
3. Hausladen, G., "Climatic Design: Solutions for Buildings that can Do More with Less Technology", Birkhauser. 2005
4. Drake, S., "The Third Skin: Architecture, Technology and Environment", UNSW Press. 2007.

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-II**
Course Name- Computer Fundamentals			
A.Y 2025-26	**Course Code- D080125208**	**Batch- 2025-28**	**CIE Marks-50**
Total Teaching Hours: 30	**Total Credits-2**		**ESE Marks-50**
Type of Course- Theory			**Total Marks-100**

Course Objectives

1. To introduce students to the basic concepts and components of computer systems and their role in office automation.
2. To develop proficiency in using word processing software for creating, formatting, and managing professional documents.
3. To equip students with the skills to perform calculations, data analysis, and visualization using spreadsheet software.
4. To train students in designing effective presentations using multimedia tools and presentation software.
5. To familiarize students with cloud-based tools and services, including Google Suite and basic database management for efficient data handling and collaboration.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Introduction to Office Automation	• Role of computers in office automation • Categories of application software • Importance of office applications	**2**
2- Word Processing Software (MS Word, LibreOffice, OpenOffice)	• Text formatting: Fonts, styles, colors, and sizes • Paragraph formatting: Bullets, numbering, alignment, justification • Page setup: Headers, footers, page numbers, and margins • Tables and charts in documents • Advanced features: Mail merge, macros, spelling & grammar check	**8**
3- Spreadsheet Software (MS Excel, Google Sheets)	• Basics of spreadsheet management • Formulas and functions (SUM, AVERAGE, LOOKUP, etc.) • Creating and formatting tables • Charts and graphs for data visualization • Data management techniques: Sorting, filtering, and validation	**5**
4- Presentation Software (MS PowerPoint, Google Slides)	• Basics of slide creation • Slide design, transitions, and animations • Adding multimedia elements (images, videos, sound) • Presenting data using charts and tables • Printing and saving presentations in different formats	**5**
5- Google Suite &	• Introduction to Google Drive, Google Docs, Google Sheets, and	**5**

Cloud Storage	Google Forms • File sharing and collaboration tools • Security and data management in the cloud	
6-Database Management Basics	• Creating and managing simple databases • Using templates for forms and tables • Data entry, retrieval, and reports	**5**

Course Outcomes:

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

- **CO1:** Understand the fundamentals of application software and office automation.
- **CO2:** Explain the features and functions of word processors, spreadsheets, and presentation software.
- **CO3:** Describe the role of automation in data management and documentation.
- **CO4:** Analyze the importance of file organization and database management.
- **CO5:** Understand the role of Google Suite in professional environments.

Text/Reference books:

Rajaraman, V. — *Fundamentals of Computers*, Prentice Hall of India.
Sinha, P.K., & Sinha, P. — *Computer Fundamentals*, BPB Publications.
Weverka, Peter — *Office 2019 All-in-One For Dummies*, Wiley India.
Microsoft Press — *Microsoft Office Step by Step Series* (Word, Excel, PowerPoint), Microsoft Press.
The Document Foundation — *LibreOffice 7.0 Writer Guide* and *Calc Guide*, LibreOffice Documentation.
Humphrey, M.L. — *Google Workspace User Guide*, Independently Published.
Silberschatz, A., Korth, H.F., & Sudarshan, S. — *Database System Concepts*, McGraw-Hill Education.

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-II**
Course Name- Computer fundamentals lab			
A.Y 2025-26	**Course Code- D080125208**	**Batch- 2025-28**	**CIE Marks-50**
Total Teaching Hours: 30	**Total Credits-2**		**ESE Marks-50**
Type of Course- Practical			**Total Marks-100**

Course Objectives

Course Objectives (Practical):

1. **To develop hands-on proficiency in word processing tools** such as Microsoft Word, LibreOffice Writer, and OpenOffice for creating professional documents using formatting, tables, charts, macros, and mail merge features.
2. **To train students in spreadsheet software** (Microsoft Excel / Google Sheets) for organizing data, applying formulas, using lookup functions, and creating visual data representations through charts and graphs.
3. **To enable effective use of presentation tools** like Microsoft PowerPoint and Google Slides for designing impactful slides, incorporating multimedia, and using transitions for professional presentations.
4. **To familiarize students with cloud-based collaboration tools** in the Google Suite for document creation, sharing, real-time editing, and data collection using Google Forms and Google Drive.
5. **To introduce basic database management skills**, including the creation of tables, forms, data entry, queries, and report generation using templates and database software.
6. **To equip students with essential file management and printing skills**, ensuring their ability to produce, format, and share output in various formats with correct page settings.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Microsoft Word / LibreOffice Writer / OpenOffice Writer	• Create and format documents • Insert tables, images, and charts • Use mail merge and macros • Perform spell check, grammar check, and thesaurus functions	**5**
2- Microsoft Excel / Google Sheets	• Create, format, and manage spreadsheets • Apply functions and formulas • Generate charts and graphs • Implement lookup functions (VLOOKUP, HLOOKUP)	**5**
3- Microsoft PowerPoint /	• Create slides with different templates • Apply transitions and animations • Add multimedia elements (videos, sounds)	**5**

Google Slides	• Use slide navigator for effective presentations	
4- Google Suite Applications	• Create and share documents via Google Docs • Manage and collaborate on spreadsheets via Google Sheets • Design and analyze forms via Google Forms • Store and share files on Google Drive	**5**
5- Database Management	• Create database tables and forms • Enter and manage data using templates • Generate reports and queries	**5**
6- Printing & File Management	• Print documents, spreadsheets, and presentations • Adjust page settings for professional output	**5**
Course Outcomes: Upon successful completion of this course, students will be able to: • **CO1:** Use office automation software to create and manage documents. • **CO2:** Perform data analysis using spreadsheet applications. • **CO3:** Create professional presentations with animations and transitions. • **CO4:** Utilize Google Suite for collaborative tasks and file sharing.		

Text/Reference books:

Rajaraman, V. — *Fundamentals of Computers*, Prentice Hall of India.
Sinha, P.K., & Sinha, P. — *Computer Fundamentals*, BPB Publications.
Weverka, Peter — *Office 2019 All-in-One For Dummies*, Wiley India.
Microsoft Press — *Microsoft Office Step by Step Series* (Word, Excel, PowerPoint), Microsoft Press.
The Document Foundation — *LibreOffice 7.0 Writer Guide* and *Calc Guide*, LibreOffice Documentation.
Humphrey, M.L. — *Google Workspace User Guide*, Independently Published.
Silberschatz, A., Korth, H.F., & Sudarshan, S. — *Database System Concepts*, McGraw-Hill Education.

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

SDGI GLOBAL UNIVERSITY

SCHOOL OF ARCHITECTURE, PLANNING & DESIGN

DETAILED SECOND YEAR CURRICULUM CONTENTS

PROGRAM: Diploma in Architecture(D.Arch)

A.Y.: 2025-26

III SEMESTER

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-III**
Course Name- Applied Mathematics			
A.Y 2025-26	**Course Code- D080125301**	**Batch- 2024-27**	**CIE Marks-50**
Total Teaching Hours: 30	**Total Credits-2**		**ESE Marks-50**
Type of Course- Theory			**Total Marks-100**

Course Objectives

1. To introduce basic mathematical concepts used in architectural problem-solving.
2. To develop the ability to apply geometry, trigonometry, and algebra in architectural drafting and design.
3. To understand and use basic calculus for estimating areas and volumes.
4. To develop problem-solving skills for structural calculations in architecture.
5. To relate mathematical principles to real-world architectural applications.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1.Basic Arithmetic and Algebra	-Understanding ratios, proportions, percentages, and unit conversions used in architecture. - Simple algebraic formulas and equations for everyday use. - Real-life applications: material calculations, cost estimations	**6**
2.Geometry for Architecture	- Basic shapes: lines, angles, triangles, circles, and polygons. - Calculation of perimeters, areas, and surface areas. - Architectural examples: floor plans, elevations, sections.	**6**
3.Trigonometry in Building Design	-Understanding sine, cosine, and tangent functions. - Use of trigonometry for calculating heights, distances, and slopes. - Practical applications: roof pitch, staircases, and ramps.	**6**
4.Mensuration	-Calculating areas and volumes of 2D and 3D shapes (rectangles, triangles, cylinders, cones, spheres). Pyramids - Estimating material quantity for construction. - Application in architectural design and working drawings.	**6**
5.Introduction to Calculus (Basic Level)	-Simple concept of differentiation and integration (without deep theory). .	**6**

Course Outcomes

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

CO1: Apply basic arithmetic and algebra to solve architectural calculations.
CO2: Use geometry principles in drafting and understanding architectural drawings.
CO3: Apply trigonometric methods for height, distance, and slope-related problems.
CO4: Calculate areas and volumes of architectural elements for design and estimation.
CO5: Understand basic calculus concepts for smooth curves and surface-related architectural elements.

Text/Reference books:

1. B.S. Grewal, Higher Engineering Mathematics.
2. H.K. Dass, Advanced Engineering Mathematics.
3. N.P. Bali & Manish Goyal, Engineering Mathematics.
4. R.D. Sharma, Math
5. ematics for Class XI and XII.
6. B.V. Ramana, Higher Engineering Mathematics.
7. B.M. Singh, Applied Mathematics for Polytechnic Students.
8. Brij Lal & N. Subrahmanyam, Applied Mathematics Vol. I & II.

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-III**
Course Name- Architectural History-III			
A.Y 2025-26	**Course Code- D080125302**	**Batch- 2024-27**	**CIE Marks-50**
Total Teaching Hours: 45	**Total Credits-3**		**ESE Marks-50**
Type of Course- Theory			**Total Marks-100**

Course Objectives

1. To introduce students to architectural styles from early medieval and Islamic periods.
2. To understand the basic principles, forms, and construction methods of Byzantine, Romanesque, and Gothic architecture.
3. To study Islamic architecture across regions with key monuments.
4. To explore regional styles of early Indian temple architecture.
5. To enhance students' visual understanding and ability to recognize major architectural features and elements.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Early Christian and Byzantine Architecture	Evolution from Roman to Early Christian style • Old St. Peter's Basilica: form and elements • Byzantine architecture: Hagia Sophia, San Vitale • Features: domes, mosaics, pendentives	**9**
2- Romanesque Architecture	Characteristics and structural systems Barrel vault, groin vault, buttresses Example: Pisa Cathedral Complex	**9**
3- Gothic Architecture	Features: pointed arches, ribbed vaults, flying buttresses, stained glass • Important monuments: Notre Dame, Reims Cathedral	**9**
4- Islamic Architecture	Elements: domes, minarets, arches, mihrab, iwan, courtyards • Regional spread: West Asia, India, Spain • Monuments: Dome of the Rock, Great Mosque of Damascus, Qutub Minar Complex	**9**
5- Early Medieval Indian Temple Architecture	• Temple styles: Nagara, Dravidian, Vesara • Examples: Khajuraho, Sun Temple (Modhera), Shore Temple, Brihadeeswara Temple • Use of sculpture and symbolism	**9**

Course Outcomes:

Upon completion of this course, students will be able to:

CO1: Identify important features and elements of Early Christian, Byzantine, Romanesque, and Gothic architecture.

CO2: Describe the elements and layout of Islamic religious buildings.

CO3: Differentiate between regional temple styles in India**.**

CO4: Recognize key architectural forms, construction methods, and decorative features of early medieval architecture.

CO5: Apply knowledge to sketch or label architectural features and monuments learned in class..

Text/Reference books:

Brown, Percy – *Indian Architecture: Buddhist and Hindu Periods*, D.B. Taraporevala Sons & Co.
Brown, Percy – *Indian Architecture: Islamic Period*, D.B. Taraporevala Sons & Co.
Satish Grover – *Islamic Architecture in India*, CBS Publishers
Krishna Deva – *Temples of India*, Aryan Books
Prasanna Kumar Acharya – *Hindu Architecture in India and Abroad*, **Oxford University Press**
G.K. Hiraskar – *History of Architecture*, Dhanpat Rai Publications

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-III**
Course Name- Construction & Materials -III			
A.Y 2025-26	**Course Code- D080125353**	**Batch- 2024-27**	**CIE Marks-75**
Total Teaching Hours: 90	**Total Credits-3**		**ESE Marks-75**
Type of Course- Studio & Practical			**Total Marks-150**

Course Objectives

- Introduce students to basic types of building foundations and their construction techniques suitable for low to mid-rise buildings.
- Familiarize with simple stair designs, components, and materials commonly used in residential and institutional buildings.
- Understand types and construction details of doors and windows, focusing on timber joinery and basic frame construction.
- Learn about cavity walls and different types of partition walls used in interiors.
- Enhance hands-on learning through construction drawings, model making, site visits, and identification of common materials.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Foundation (Basic Types)	- Types: Strip, Spread, and Raft foundations - Introduction to Pile foundations (basic idea only) - Construction steps and practical examples	**18**
2- Staircases	Components: Tread, Riser, Landing, Baluster, Handrail - Types: Straight flight, Dog-legged, Open newel - Materials: Timber, concrete, steel (basic) - Model making exercise.	**18**
3- Doors & Windows	Door types: Panelled, Flush, Battened & Ledged, Sliding - Window types: Casement, Sliding, Louvered - Timber frames and simple joinery details	**18**
4- Cavity & Partitions walls	Cavity wall: Function, construction (simple) - Partition walls: Brick, timber, glass, gypsum - Wall finishes and basic cladding (e.g., stone tiles)	**18**
5- Construction Detailing & Site Exposure	Basic component drawing: Foundations, stairs, doors, windows - Site visit(s) to small building construction sites - Material identification and hands-on documentation - Local material samples & sketching	**18**

Course Outcomes:

Upon completion of this course, students will be able to:

CO1: Recognize and describe simple types of foundations and their construction sequence.
CO2: Identify staircase types and components and create basic construction drawings or models.
CO3: Understand different types of doors and windows and draw their simple construction details.
CO4: Explain the purpose of cavity and partition walls and select suitable materials
CO5: Demonstrate practical knowledge of construction elements through drawings, site visits, and materials handling.

Practical Work / Studio Assignments

- 6–8 drawing sheets on building components
- Mini model of a staircase / timber joint
- 2 site visit reports with material sketching and observations
- Collection of local material samples with labels
- In-class demonstration: Brick bonding, timber joinery, or partition layout

Text/Reference books:
Rangwala, S.C. – *Building Construction*, Charotar Publishing House
Kumar, S.K. – *Building Construction*, Standard Publishers
Bindra & Arora – *Building Construction*
McKay, W.B. – *Building Construction Vol. I*, Longman (selected chapters)
Local PWD Manuals and **CPWD Handbook** (for site-based learning)

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

Practical Exam: 50 marks &Viva voce:25 Marks based on studio assignments.

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-III**
Course Name- Architectural Drafting-III			
A.Y 2025-26	**Course Code-D080125354**	**Batch-2024-27**	**CIE Marks-75**
Total Teaching Hours: 90	**Total Credits-3**		**ESE Marks-75**
Type of Course- Studio & Practical			**Total Marks-150**

Course Objectives

- Develop practical freehand sketching and perspective drawing skills for architectural communication.
- Enable students to create quick and accurate shadow studies for visual and technical clarity.
- Introduce advanced rendering methods for representing materials and textures.
- Equip students with skills to graphically represent furniture, human figures, and site elements in architectural drawings.
- Train students in producing professional presentation drawings for small-scale projects.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Freehand Perspective Sketching	• On-site live sketching techniques for buildings and spaces. • One-point and two-point perspective of interior spaces. • Quick diagramming and conceptual sketches. • Exploded views for explaining spatial relationships. • Rendering perspectives using pencil, ink, and watercolor.	**20**
2- Light, Shade & Shadow Construction	• Basics of light direction and intensity in architectural forms. • Shadow projection in plan and elevation. • Shadow studies for point, linear, and planar elements. • Quick methods for shadow generation in presentation drawings. • Practical exercises with different sun angles and building types.	**20**
3- Advanced Drawing & Rendering Technique	• Rendering materials such as wood, glass, concrete, brick, and metal. • Application of tonal values for depth and realism. • Combining shade and shadow for accurate material expression. • Texture techniques for manual presentation drawings.	**25**
4- Architectural Concepts through Graphical Representation Techniques	• Drawing furniture, trees, automobiles, and human figures in plan, elevation, and perspective. • Layout of basic spaces like kitchens, bedrooms, and offices with furniture details. • Applying colour schemes and composition principles for sheet layout.	**25**
Architectural Illustration	• Preparing final presentation sheets for small-scale projects. • Integration of plans, elevations, sections, and site plans. • Using mixed media (watercolor, markers, ink) for professional output. • Adding shadows and sociography for visual impact.	

Course Outcomes:

Upon completion of this course, students will be able to:

- **CO1:** Create quick and accurate freehand sketches and perspectives for design communication.
- **CO2:** Apply light, shade, and shadow principles in plans, elevations, and perspectives.

- **CO3:** Render different materials and textures using traditional media.
- **CO4:** Represent architectural elements like furniture, trees, and people in various views.
- **CO5:** Prepare complete, visually appealing architectural presentation sheets for small projects.

Text/Reference books:
Francis D.K. Ching – *Architectural Graphics* (Wiley)
Mo Zell – *The Architectural Drawing Course* (Thames & Hudson)
John Montague – *Basic Perspective Drawing* (John Wiley & Sons)
Paul Laseau – *Freehand Sketching: An Introduction* (W.W. Norton)
Edward Robbins – *Why Architects Draw* (MIT Press)

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

Practical Exam: 50 marks &Viva voce:25 Marks based on studio assignments.

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-III**
Course Name- Design Studio -III			
A.Y 2025-26	**Course Code- D080125355**	**Batch- 2024-27**	**CIE Marks-100**
Total Teaching Hours: 90	**Total Credits-6**		**ESE Marks-100**
Type of Course- Studio & Practical			**Total Marks-200**

Course Objectives

To introduce students to basic principles of site analysis and responsive design in small-scale projects.
To build the ability to plan residential and recreational spaces considering function, users, and site conditions.
To develop manual drawing, drafting, and model-making skills for design communication.
To encourage students to explore design ideas using diagrams, sketches, and physical models.
To strengthen students' understanding through peer reviews, basic case studies, and portfolio compilation.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Introduction To Site And Context	Basics of site analysis: Orientation, climate, slope, sun-path. - Importance of surrounding built context, user needs, and zoning. - Site drawing: Top view and simple sections.	**15**
2- Design Process tools	Concept generation using: ‣ Bubble diagrams ‣ Adjacency matrix ‣ Functional zoning - Form exploration: Sketches, massing with blocks/paper.	**15**
3- Design Projects	**(Any two projects may be assigned during the semester):** A. Residential Unit (e.g., House for a Family, Artist's Studio, Small Office) B. Recreational Facility (e.g., Park Pavilion, Bus Shelter, Café Kiosk) *Focus: Space planning, user movement, ventilation, climate response, scale.*	**27**
4- Design Communication	Manual drafting: Plans, elevations, and basic sections. - Simple physical model-making (conceptual or detailed). - Visual storytelling: Diagrams, sketches, image-text combinations..	**18**
5- Review & Portfolio	Peer reviews and teacher critiques. - Basic case study presentation (1–2 local buildings). - Final portfolio compilation and presentation.	**15**

Course Outcomes:

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

CO1: Analyze basic site conditions and apply climate-oriented thinking in small building designs.
CO2: Use basic tools such as bubble diagrams and zoning to develop architectural concepts.
CO3: Design small residential or recreational projects with clear functional and spatial logic.
CO4: Communicate architectural ideas using sketches, drafting, and physical models.
CO5: Compile and present a design portfolio demonstrating progress, creativity, and reflection

Text/Reference books:
Ching, F.D.K. — *Architecture: Form, Space, and Order*
Ernst Neufert — *Architects' Data*
Francis D.K. Ching — *Design Drawing*
Kevin Lynch — *The Image of the City*
J. Panero & M. Zelnik — *Human Dimension and Interior Space*
Local building by-laws / NBC of India (excerpts for scale reference)

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

Practical Exam: 75 marks &Viva voce:25 Marks based on studio assignments.

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-III**
Course Name- Professional Ethics and Social Responsibility			
A.Y 2025-26	**Course Code-** D**080124306**	**Batch- 2024-27**	**CIE Marks-50**
Total Teaching Hours: 45	**Total Credits-3**		**ESE Marks-50**
Type of Course- Theory			**Total Marks-100**

Course Objectives

1. To help students distinguish between values and skills, and understand the importance and process of value-based education.
2. To help students initiate inner dialogue and self-exploration toward life goals and personal clarity.
3. To promote understanding of happiness, prosperity, and ethical conduct for holistic living.
4. To build awareness of harmony within the self, in relationships, with nature, and in society.
5. To introduce professional ethics based on right understanding and universal human values.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Introduction to Human Values and Value Education	Need for value education in present context - Values vs Skills - Understanding happiness and prosperity - Self-exploration as a tool for understanding self and goals in life	**8**
2- Harmony in the Self	Understanding the Self ('I') and the Body - Needs of the Self and the Body: Sukh and Suvidha - Role of the body as an instrument of the Self - Harmony between 'I' and 'Body': Sanyam and Swasthya	**10**
3- Harmony in Human Relationships	Importance of family as the foundation of society - Trust, Respect, Affection, and other key values in relationships - Justice: mutual fulfillment and understanding intentions - Toward an undivided human society	**8**
4- Harmony with Nature and Existence	The Four Orders in Nature (material, plant, animal, human) - Interdependence and mutual fulfilment in nature - Understanding Existence as Co-existence (Sah-astitva) - Harmony at all levels	**10**
5- Professional Ethics and Sustainable Living	Ethical human conduct in personal and professional life - Holistic technologies and production systems - Professional integrity, responsibility, and service - Creating a vision for sustainable and ethical living	**8**

Course Outcomes:

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

CO1: Understand the meaning of value education and distinguish between values and skills in life.

CO2: Realize the importance of harmony within the self and how to maintain balance between self and body.

CO3: Develop healthy relationships based on trust, respect, and natural human values for a harmonious society.

CO4: Recognize the interconnectedness in nature and existence, leading to a sustainable worldview.

CO5: Apply understanding of human values in professional settings to lead an ethical, meaningful life

Suggested Teaching Methodology

- Group discussions, real-life examples, storytelling
- Reflection sessions, self-exploration activities
- Peer interaction, team projects on values in real-world context
- Role-play and short documentaries

Text/Reference books:

R.R. Gaur, R. Sangal, G.P. Bagaria – *A Foundation Course in Human Values and Professional Ethics*
A.N. Tripathi – *Human Values*
B.L. Bajpai – *Indian Ethos and Modern Management*
P.L. Dhar & R.R. Gaur – *Science and Humanism*
E.F. Schumacher – *Small is Beautiful*

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-III**
Course Name- Architectural Services-I			
A.Y 2025-26	**Course Code- D080125307**	**Batch- 2024-27**	**CIE Marks-50**
Total Teaching Hours: 30	**Total Credits-2**		**ESE Marks-50**
Type of Course- Theory			**Total Marks-100**

Course Objectives

1. Provide practical knowledge of essential building services used in small- and medium-scale buildings.
2. Enable students to prepare and read basic service drawings for water supply, sanitation, and rainwater harvesting.
3. Introduce simple site-based methods for installing and maintaining building services.
4. Promote awareness of sustainable water management practices.
5. Equip students with skills for applying IS codes and NBC guidelines at a working-drawing level.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Introduction to Building Services	• Definition and purpose of building services in functional buildings. • Services required for small-scale residential and commercial buildings. • Basic coordination of services with architectural drawings. • On-site examples of integrated services.	**4**
2- Water Supply	• Sources of water: municipal, borewell, and stored water. • Simple methods of water treatment (sedimentation, filtration). • Direct and indirect supply methods in small buildings. • Practical pipe layout drawings. • Common pipe materials, fittings, and installation basics. • Use of water tanks and pumps (basic sizing and placement).	**8**
3- Sanitation and Drainage Systems	• Concepts of greywater and blackwater. • Layout planning for kitchens, bathrooms, and toilets. • Common sanitary fixtures and fittings with sizes. • Traps, inspection chambers, manholes – practical construction methods. • Simple septic tank and soak pit design.	**8**
4- Rainwater Harvesting & Stormwater Drainage	• Benefits of rainwater harvesting for small buildings. • Simple roof and ground-level collection systems. • Site-level groundwater recharge methods. • Basic stormwater disposal techniques for residential plots.	**4**
5- Codes, Standards, and Good Practices	• Basic NBC and IS code references for water supply and sanitation (working knowledge only). • Good installation practices for longevity and safety. • Introduction to low-cost and eco-friendly service solutions. • Case examples from small residential projects.	**4**

Course Outcomes;

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

- **CO1:** Identify and describe basic building services used in small-scale projects.

- **CO2:** Prepare simple water supply and drainage drawings for residential buildings.
- **CO3:** Demonstrate understanding of common sanitary fixtures and fittings with their applications.
- **CO4:** Plan and design basic rainwater harvesting systems for local contexts.
- **CO5:** Apply NBC and IS standards to basic service drawings and on-site work.

Practical Component (Suggested)

- **Site Visit Report:** Observe plumbing and sanitation systems on a live construction site.
- **Sketching:** Plumbing layouts of bathrooms, kitchens, and water tanks.
- **Drafting Practice:** Isometric and plan views of water supply and drainage systems.
- **Model/Poster:** Basic RWH system model or concept poster.

Text/Reference books:

Birdie, G.S., & Birdie, J.S. — Water Supply and Sanitary Engineering, Dhanpat Rai Publishing.
Rangwala, S.C. — Water Supply and Sanitary Engineering, Charotar Publishing House.
Shah, M.G., Kale, C.M., Patki, S.Y. — Building Drawing, Tata McGraw-Hill.
National Building Code of India, Bureau of Indian Standards (BIS).
Hall, F., Greeno, R. — Building Services Handbook, Routledge.
Chadderton, D.V. — Building Services Engineering, Routledge.

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-III**
Course Name- Architectural CAD Lab			
A.Y 2025-26	**Course Code- B080125358**	**Batch- 2024-27**	**CIE Marks-50**
Total Teaching Hours: 30	**Total Credits-1**		**ESE Marks-50**
Type of Course- Practical			**Total Marks-100**

Course Objectives

1. To provide hands-on experience in drafting and designing architectural drawings using AutoCAD.
2. To develop the ability to create accurate 2D plans, elevations, sections, and site layouts.
3. To train students in integrating AutoCAD tools for professional architectural documentation.
4. To introduce basic 3D modeling and visualization using AutoCAD.
5. To develop skills for preparing sheet layouts, plotting, and creating submission-ready files.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Drafting Practice Using Basic Commands	Using basic drawing tools: Line, Polyline, Circle, Arc, Rectangle, etc. - Modify tools: Move, Copy, Offset, Trim, Extend, Fillet, etc. - Grid setup, Snap, Object Snaps (OSNAP), and Limits	**6**
2- Architectural Drawing Generation	Drafting 2D floor plan of a simple residential unit - Creating front and side elevations - Sectional drawing and lineweight management - Use of Layers, Linetypes, and Colors	**6**
3- Detailing and Dimensioning Practice	Wall sections, stair section, door and window details - Applying dimensions (linear, aligned, angular) and tolerances - Hatch patterns for different materials - Creating and using Blocks (symbols, furniture)	**6**
4- Layout Preparation and Plotting	Preparing layout sheets using viewports and paper space - Inserting title blocks and project information - Scaling drawings and setting plot styles - Plotting to PDF and setting up submission folders	**6**
5- 3D Modeling Basics	Converting 2D floor plan to basic 3D model - Extrusion of walls, windows, and openings - Creating a simple walkthrough path - Basic rendering techniques (materials, shadows, views)	**6**

Course Outcomes:

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

CO1: Use AutoCAD commands to draft accurate architectural drawings.
CO2: Create 2D architectural plans, sections, and elevations using layers and blocks.
CO3: Apply proper dimensioning, annotation, and hatching standards.
CO4: Prepare layout sheets for printing with correct scaling and plotting.
CO5: Demonstrate basic 3D modeling and visualization techniques for presentations.

Suggested Assignments

- Draft a residential building plan with elevations and sections
- Prepare working details (e.g., toilet plan, wall section)

- Create a title block and layout a drawing sheet for plotting
- Develop a basic 3D model of the drafted project
- Submit a compiled PDF drawing set with appropriate naming and formatting

Text/Reference books:

1. Sham Tickoo, *AutoCAD for Engineers and Designers*, CADCIM Technologies.
2. Nighat Ameen, *AutoCAD 2024 for Beginners*, BPB Publications.
3. Omura, G., & Benton, B., *Mastering AutoCAD 2023 and AutoCAD LT 2023*, Wiley.
4. Autodesk Official Training Guide, *AutoCAD Practical Workbook*.

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

DETAILED SECOND YEAR CURRICULUM CONTENTS

PROGRAM: Diploma in Architecture(D.Arch.)

IV SEMESTER

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-IV**
Course Name- Estimation and Costing			
A.Y 2025-26	**Course Code- D080125401**	**Batch- 2024-27**	**CIE Marks-50**
Total Teaching Hours: 45	**Total Credits-3**		**ESE Marks-50**
Type of Course- Theory			**Total Marks-100**

Course Objectives

1. To understand the basic idea of estimating the cost of construction work.
2. To learn how to calculate material quantities for buildings.
3. To study rate analysis and its importance in construction.
4. To know about tenders, contracts, and bills used in building projects.
5. To apply estimation in planning small buildings.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Basics of Estimation	Why estimation is needed in construction. Types of estimates: rough estimate and detailed estimate. Units of measurement for materials.	**6**
2- Calculating Quantities:	Step-by-step method to calculate quantities of brickwork, concrete, plaster, paint, doors, and windows. Simple examples of house estimation.	**10**
3- Rate Analysis:	Meaning of rate analysis. How to calculate cost for labour, materials, and tools. Simple rate analysis of common works like brickwork, plastering, flooring, and painting.	**10**
4- Tenders and Contracts:	What is a tender. Types of tenders. Basics of contracts in construction. Introduction to tender notices and contract documents.	**10**
5- Billing	How to record measurements. Preparing bills for payment.	**9**

Course Outcomes

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

CO1: Understand the need for estimation in building projects.
CO2: Calculate material quantities for different parts of a building.
CO3: Prepare simple rate analysis for construction works.
CO4: Know about tendering and contract basics.
CO5: Prepare bills and understand the value of a building.

Text/Reference books:

B.N. Dutta — Estimating and Costing in Civil Engineering
M. Chakraborti — Estimating, Costing, Specification and Valuation
S.C. Rangwala — Estimating and Costin
Patil B.S. — Civil Engineering Contracts and Estimates
Birdie G.S. — Estimating and Costing
IS:1200 — Methods of Measurement of Building Works (Latest Edition)

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-IV**
Course Name- Architectural History-IV			
A.Y 2025-26	**Course Code- D080125402**	**Batch- 2024-27**	**CIE Marks-50**
Total Teaching Hours: 45	**Total Credits-3**		**ESE Marks-50**
Type of Course- Theory			**Total Marks-100**

Course Objectives

1. To introduce the evolution and principles of **Renaissance, Baroque, and Rococo architecture** in Europe.
2. To understand **Indo-Islamic and Mughal architectural styles** and their influence on Indian monuments.
3. To examine **regional variations in later Hindu temple architecture** across India.
4. To study **colonial architecture in India** and its blend of Western and Indian traditions.
5. To develop the ability to link historical knowledge with modern architectural thinking and design.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Renaissance Architecture	Transition from Medieval to Renaissance period. Key ideas: Humanism, Symmetry, Classical Orders. Important works: Florence Cathedral Dome, St. Peter's Basilica, Villa Rotunda.	**9**
2- Baroque and Rococo Architecture	Features of Baroque: drama, grandeur. Rococo style: decoration and lightness. Examples: St. Peter's Colonnade (Bernini), Palace of Versailles.	**9**
3- Indo-Islamic and Mughal Architecture	Features: arches, domes, minarets, calligraphy. Mughal style: symmetry, gardens, decorative inlay. Key monuments: Humayun's Tomb, Taj Mahal, Red Fort.	**9**
4- Later Hindu Temple Architecture	Evolution of temples in different regions. Examples: Jagannath Temple (Puri), Meenakshi Temple (Madurai), Konark Sun Temple.	**9**
5- Colonial Architecture in India	European influences: Indo-Saracenic, Gothic Revival, Neoclassical. Important buildings: Victoria Memorial, Rashtrapati Bhavan, Gateway of India.	**9**

Course Outcomes:
Upon completion of this course, students will be able to:

- **CO1:** Recognize the major architectural movements from Renaissance to Colonial periods.
- **CO2:** Analyze the historical, social, and artistic forces behind Indo-Islamic and Mughal monuments.
- **CO3:** Identify key features of later Hindu temple styles and understand their cultural importance**.**
- **CO4:** Understand the influence of Western design ideas during colonial rule on Indian cities.
- **CO5:** Appreciate how historical styles influence modern architecture and design thinking.

Text/Reference books:

1. Fletcher, Banister — *A History of Architecture*
2. Tadgell, Christopher — *The History of Architecture in India*
3. Brown, Percy — *Indian Architecture: Islamic Period*
4. Kostof, Spiro — *A History of Architecture: Settings and Rituals*
5. Michell, George — *The Hindu Temple: An Introduction to Its Meaning and Forms*
6. Tillotson, G.H.R. — *The Tradition of Indian Architecture: Continuity, Controversy, and Change*

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Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-IV**
Course Name- Construction & Materials-IV			
A.Y 2025-26	**Course Code- D080125453**	**Batch- 2024-27**	**CIE Marks-75**
Total Teaching Hours: 90	**Total Credits-3**		**ESE Marks-75**
Type of Course- Studio & Practical			**Total Marks-150**

Course Objectives

1. To understand advanced concepts of structural and non-structural building components.
2. To study various types of floors, staircases, and partitions along with their materials and construction methods.
3. To introduce students to doors and window types, materials, and fixing techniques.
4. To understand the construction techniques of cavity walls, partition walls, and cladding systems.
5. To equip students with the ability to create working drawings and site-level construction details.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Basement	Introduction to basement construction: retaining structures, waterproofing, drainage, and insulation techniques. Soil behavior and foundation systems: black cotton soil, sandy soil, rocky substrata.	**18**
2- Staircases	Staircase: Construction details and proportioning. Materials: Stone, Concrete, Steel, Composite.	**18**
3- Doors & Windows	Frames and joinery details: Steel, Aluminium, UPVC. Fixing methods and accessories..	**18**
4- Partitions & Cladding systems	Partition walls: Types —Timber, Gypsum, Metal stud partitions. Movable partitions and modern system walls. Cladding systems: Stone, Metal, Composite, and Glass claddings..	**18**
5- Building Component Details & Site Practice	Detailing practice: Floors, Staircases, Doors, Windows, Partitions, Cavity walls. Site visits for live observation of construction techniques and material usage. Material sample collection and hands-on documentation.	**18**

Course Outcomes:

Upon completion of this course, students will be able to:

- **CO1:** Understand and illustrate types of floors, floor finishes, and their construction techniques.
- **CO2:** Analyze staircases with various geometrical configurations and construction methods.
- **CO3:** Identify various types of doors and windows, their frames, shutters, materials, and joinery.
- **CO4:** Explain partition walls, cavity walls, and cladding systems for enhanced building performance.
- **CO5:** Prepare detailed working drawings for floors, staircases, doors, windows, and wall systems.

Text/Reference books:

1. Rangwala, S.C. — Building Construction, Charotar Publishing House.
2. McKay, W.B. — Building Construction Vol. I to IV, Longman.
3. Chudley, R. & Greeno, R. — Building Construction Handbook, Routledge.
4. Allen, E. & Iano, J. — Fundamentals of Building Construction: Materials and Methods, Wiley.
5. Kumar, S.K. — Building Construction, Standard Publishers.
6. Mehta, M., Scarborough, W., Armpriest, D. — Building Construction: Principles, Materials, and Systems, Pearson.

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

Practical Exam: 50 marks &Viva voce:25 Marks based on studio assignments.

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-IV**
Course Name- Building Bye Laws & Municipal Drawing			
A.Y 2025-26	**Course Code- D080125454**	**Batch- 2024-27**	**CIE Marks-75**
Total Teaching Hours: 90	**Total Credits-3**		**ESE Marks-75**
Type of Course- Studio & Practical			**Total Marks-150**

Course Objectives

1. To understand the importance of building bye-laws for safe and planned construction.
2. To learn the basic rules for building planning as per local authorities.
3. To study the procedure of getting a building plan approved from a municipal office.
4. To prepare simple municipal drawings for residential and commercial buildings.
5. To develop awareness about the legal and safety aspects of construction.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Introduction to Building Bye-Laws	Importance of bye-laws. Objectives — safety, ventilation, lighting, fire protection. Role of municipal bodies.	**18**
2- General Building Rules	Minimum plot size, setbacks, open space, FAR (Floor Area Ratio), permissible building height, coverage area, parking rules.	**18**
3- Procedure for Municipal Approval:	Steps for plan submission, approval process, permissions and sanctions from local authorities, occupation certificate, completion certificate.	**18**
4- Municipal Drawing Practice	Preparing site plan, layout plan, floor plans, elevation, and section as per bye-laws for small residential and commercial buildings.	**18**
5- Legal Aspects and Case Studies:	Understanding building violations, penalties, regularization, and examples of approved and rejected plans.	**18**

Course Outcomes:

Upon completion of this course, students will be able to:

- CO1: Understand the importance of building bye-laws in construction planning.
  - CO2: Apply basic rules like setbacks, FAR, height, and open space in building design.
  - CO3: Follow the correct procedure for getting building approval from the municipality.
  - CO4: Prepare simple municipal drawings as per authority standards.
  - CO5: Recognize building violations and understand their legal implications.

Text/Reference books:

1. National Building Code of India — Bureau of Indian Standards
2. Sushil Kumar — Building Construction
3. Shah, Kale & Patki — Building Design and Drawing
4. Dr. Balagopal T.S. Prabhu, Bindhu K. Balagopal — Building Rules and Bye-Laws Simplified
5. Local Municipal Corporation Bye-Laws (Latest Edition)

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)
Practical Exam: 50 marks &Viva voce:25 Marks based on studio assignments.

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-IV**
Course Name- Design Studio -IV			
A.Y 2025-26	**Course Code-D080125455**	**Batch-2024-27**	**CIE Marks-100**
Total Teaching Hours: 90	**Total Credits-6**		**ESE Marks-100**
Type of Course- Studio & Practical			**Total Marks-200**

Course Objectives

1. To develop the ability to design medium-scale public buildings with integrated site planning and built form.
2. To enhance understanding of architectural design as a response to human behavior, urban context, and sustainability.
3. To introduce advanced conceptual development, including circulation, structure, services, and environmental concerns.
4. To strengthen presentation skills, including visual storytelling through models, drawings, and digital graphics.
5. To enhance presentation techniques: conceptual, schematic, and detailed drawings.

UNITS	**Topics**	**No. of Teaching hours/ (Lecture)**
1- Urban and Semi-Urban Site Design	Introduction to urban and semi-urban contexts. - Site planning for connectivity, utilities, and climatic response. - Understanding zoning, setbacks, F.A.R., and bye-laws in design. -Concept of vernacular lessons should also be linked.	**12**
2- Design Process & Environmental Integration	Program analysis, advanced site study, and context-sensitive solutions. - Conceptual development using models and drawings. Incorporating passive design strategies (lighting, ventilation, shading).	**12**
3- Design Projects	**(Any two projects may be assigned during the semester):** 1. Design of a Neighbourhood Commercial Hub (e.g., market, shopping plaza). o Focus: functional relationships, basic structure circulation, accessibility. - Design of a Small Institutional/Community Building (e.g., Angandwadi **,** Primary School, Health centre, clinic, cultural centre, Public Library). o Focus: Site response, circulation, form-function, basic structure, and climate integration.	**24**
4- Design Communication & Presentation	Advanced architectural graphics, rendering techniques (manual and digital). - Layout composition for presentations, diagrams, and architectural narratives. - Use of axonometric, exploded views, and sectional perspectives. - Model making for design validation and communication..	**24**
5- Critique, Portfolio	Peer critiques and instructor feedback loops. - Introduction to architectural portfolio structure and organization.	**18**

Development & Documentation	- Study and documentation of relevant built case studies.	

Course Outcomes:
Upon successful completion of the course, students will be able to:
CO1: Analyze and design medium-scale built environments with sensitivity to site, climate, and context.
CO2: Formulate architectural concepts and develop them into spatially and structurally coherent design solutions.
CO3: Apply zoning regulations, services, and circulation principles effectively in design.
CO4: Produce clear and professional-quality drawings, models, and visual presentations.
CO5: Demonstrate an ability to present and critique design proposals through portfolio-ready formats.

Text/Reference books:

1. Ching, F.D.K. — Architecture: Form, Space, and Order
2. Neufert, Ernst — Architects' Data
3. Kevin Lynch — The Image of the City
4. Juhani Pallasmaa — The Thinking Hand
5. Francis D.K. Ching — Design Drawing
6. Simonds, John Ormsbee — Landscape Architecture: A Manual of Environmental Planning and Design

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

Practical Exam: 75 marks &Viva voce:25 Marks based on studio assignments.

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-IV**
Course Name- Architectural Surveying and Mapping			
A.Y 2025-26	**Course Code- D080125456**	**Batch- 2024-27**	**CIE Marks-50**
Total Teaching Hours: 45	**Total Credits-3**		**ESE Marks-50**
Type of Course- Practical			**Total Marks-100**

Course Objectives

1. Introduce students to fundamental surveying and levelling techniques.
2. Develop proficiency in using basic surveying instruments.
3. Enable accurate measurement and representation of land and built environments.
4. Apply surveying skills to architectural site analysis and design.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Introduction to Surveying	1. Definition and importance in architecture 2. - Types of surveys: plane, geodetic, topographic	**5**
2-Chain and Compass Surveying	1. - Equipment handling 2. - Measuring distances and angles 3. - Recording field data	**5**
3- Levelling Techniques	1. - Dumpy level and auto level usage 2. - Differential and profile levelling 3. - Booking and reducing levels	**5**
4- Plane Table Surveying	1. - Equipment setup 2. - Methods: radiation, intersection	**6**
5- Theodolite Surveying	1. - Measuring horizontal and vertical angles 2. - Traversing and coordinate calculation	**8**
6- Total Station Surveying	1. - Introduction to electronic distance measurement 2. - Setting up and data collection 3. - Generating digital site plans	**6**
7- Contour Mapping	1. - Understanding contours and their significance 2. - Methods of contouring 3. - Drawing contour maps	**6**
8- Site Layout and Setting Out	1. - Transferring designs to the ground 2. - Marking foundations and building lines	**4**

Course Outcomes:

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

CO1: Understand the principles and purposes of surveying in architecture.

CO2: Operate surveying instruments like theodolite, dumpy level, and total station.
CO3: Conduct site surveys and accurately record measurements.
CO4: Interpret survey data to produce site plans and contour maps.
CO5: Integrate surveying data into architectural design processes

Text/Reference books:

- B.C. Punmia, "Surveying Vol. I & II"
- S.K. Duggal, "Surveying Vol. I & II"
- A.M. Chandra, "Surveying and Levelling"
- Kanetkar & Kulkarni, "Surveying and Levelling"

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-IV**
Course Name- Building Services-II			
A.Y 2025-26	**Course Code- D080125407**	**Batch- 2024-27**	**CIE Marks-50**
Total Teaching Hours: 30	**Total Credits-2**		**ESE Marks-50**
Type of Course- Theory			**Total Marks-100**

Course Objectives

1. To introduce students to the fundamentals of lighting, electrical systems, and fire safety in buildings.
2. To develop awareness of safety standards, regulations, and good practices in architectural design.
3. To enable students to design basic electrical layouts and understand fire safety provisions.
4. To introduce energy-efficient lighting and safety systems.
5. To prepare students for advanced studies in building services in higher semesters.

UNITS	Topics	No. of Teaching hours/ (Lecture)
1- Introduction to Electrical Systems	Basic concepts: voltage, current, power, load, phases. - Understanding wiring systems, circuit protection devices (MCB, fuses, ELCB). - Role of electrical systems in buildings.	**4**
2- Electrical Distribution in Buildings	Distribution boards, cables, conduits, and fittings. - Design considerations for residential and small commercial buildings. - Introduction to energy-saving electrical practices.	**6**
3- Lighting Systems	Natural and artificial lighting principles. - Types of lighting: ambient, task, accent. - Light fixtures, lamps, and basic illumination design. - Introduction to energy-efficient lighting (LED, sensors).	**6**
4- Fire Safety Systems	Introduction to fire hazards and fire prevention. - Fire detection systems: alarms, smoke detectors, sprinklers. - Evacuation principles, emergency exits, and signage. - NBC guidelines for fire safety.	**6**
5- Sustainable Electrical and Safety Practices	Basic overview of sustainable and smart systems. - Role of green building certification standards (LEED, GRIHA). - Brief introduction to solar power integration. **Case Studies and Site Visits** - Observation and analysis of electrical and fire safety systems in real buildings. - Documentation and discussion.	**8**

Course Outcomes:

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

- **CO1:** Understand the basic principles of electrical distribution and lighting systems in buildings.
- **CO2:** Recognize the essential fire safety systems and apply NBC guidelines.
- **CO3:** Design simple electrical layouts for small-scale buildings.
- **CO4:** Evaluate energy-efficient and sustainable lighting and electrical solutions.
- **CO5:** Develop awareness of safety, code compliance, and environment-friendly practices in building services.

Text/Reference books:

1. Rangwala, S.C. — *Electrical Wiring, Estimating and Costing*, Charotar Publishing.
2. Birdie, G.S. & Birdie, J.S. — *Water Supply and Sanitary Engineering*, Dhanpat Rai Publishing.
3. Shah, M.G., Kale, C.M., Patki, S.Y. — *Building Drawing*, Tata McGraw-Hill.
4. National Building Code of India, Bureau of Indian Standards (BIS) — Fire & Electrical Sections.
5. Hall, F., Greeno, R. — *Building Services Handbook*, Routledge.
6. Chadderton, D.V. — *Building Services Engineering*, Routledge.

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)

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School Name- School of Architecture , Planning & Design			
Program- D. Arch.			**Semester-IV**
Course Name- Digital Architecture Studio: Photoshop & SketchUp			
A.Y 2025-26	**Course Code- D080125458**	**Batch- 2024-27**	**CIE Marks-50**
Total Teaching Hours: 60	**Total Credits-2**		**ESE Marks-50**
Type of Course- Practical			**Total Marks-100**

Course Objectives

1. To introduce students to digital tools for architectural visualization and presentation.
2. To develop proficiency in using Photoshop for image editing and architectural graphics.
3. To enable students to create, modify, and present 3D models using SketchUp.
4. To integrate these tools into the architectural design workflow for effective communication.

UNITS	Topic	No. of Teaching hours/ (Lecture)
1- Basics of Photoshop for Architecture	• Photoshop interface and workspace overview • Resolution, canvas settings, and file formats • Selection tools and layers • Cropping, masking, and background removal • Color corrections and adjustment layers • Image cleanup and photo retouching (building facades, textures) • **Practice Tasks:** Editing building photos Removing unwanted elements from site images	**12**
2- Architectural Presentation Boards in Photoshop	• Creating layout grids and guides • Importing CAD renders, 3D views, and hand sketches • Typography, annotations, and label settings • Creating collages and mood boards • Rendering diagrams (sun-path, zoning, etc.) • Exporting boards for print and screen **Practice Tasks:** Create an A2 board with a conceptual site analysis Develop a design proposal board combining 2D and 3D elements	**12**
3- SketchUp Fundamentals	• Interface and navigation • Basic drawing tools: lines, rectangles, push/pull, offset • Groups and components • Using layers/tags and scenes • Importing CAD drawings and image files • Model organization and cleanup **Practice Tasks:** Model a basic house from a CAD plan	**12**

4- Architectural Modeling Techniques in SketchUp	• Creating terrains using Sandbox tools • Using materials and textures • Modifying geometry with follow-me, intersect, and scale tools • Working with sections and shadows • Introduction to SketchUp extensions (Curviloft, Solid Tools) **Practice Tasks:** • Design and model a small landscape or urban plaza	**12**
5- SketchUp for Presentation	• Applying styles and shadows for conceptual views • Creating walkthroughs and fly-through animations • Exporting images and videos • Exporting to Photoshop for post-processing • Introduction to LayOut for documentation (optional) **Practice Tasks:** • Generate a presentation with 4 key views of a model • Create a short animation of the modeled space	**12**

Course Outcomes:

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

- **CO1:** Enhance and manipulate architectural images using Adobe Photoshop.
- **CO2:** Create professional architectural presentation boards with clear visual hierarchy.
- **CO3:** Model architectural forms and spaces in SketchUp using various tools and plugins.
- **CO4:** Apply basic rendering and shadow settings for conceptual presentations.
- **CO5:** Export and integrate outputs from both tools into architectural documentation and portfolios.

Text/Reference books:

1. **Adobe Photoshop Classroom in a Book ,** *Author: Conrad Chavez & Andrew Faulkner*
2. Architectural Graphics by Francis D.K. Ching
3. Photoshop for Interior Designers: A Nonverbal Communication in a Digital World
4. **The SketchUp Workflow for Architecture: Modeling Buildings, Visualizing Design, and Creating Construction Documents with SketchUp Pro and LayOut** *Author: Michael Brightman*
5. **Architectural Design with SketchUp: Component-Based Modeling, Plugins, Rendering, and Scripting** *Author: Alexander C. Schreyer*

Assessment method: (Continuous Internal Assessment = 50%, Final Examination = 50%)