



INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

Dundigal - 500 043, Hyderabad, Telangana

COURSE CONTENT

BUILDING PLANNING AND DRAWING LABORATORY								
IV Semester: CE								
Course Code	Category	Hours/Week			Credits	Maximum Marks		
ACED13	Core	L	T	P	C	CIA	SEE	Total
		0	0	2	1	40	60	100
Contact Classes: Nil	Tutorial Classes: Nil	Practical Classes: 45			Total Classes: 45			
Prerequisite: Computer Aided Engineering Drawing								

I. COURSE OVERVIEW:

The Building Planning and Drawing Laboratory course focuses on practical applications of architectural concepts and technical skills. Students engage in hands-on activities to develop proficiency in architectural drafting, layout planning, and design principles. The lab provides a dynamic environment for students to apply theoretical knowledge to real-world scenarios, emphasizing architectural creativity, precision, and problem-solving. Through exercises in building planning and drawing, participants gain practical experience in translating conceptual ideas into tangible designs, fostering a comprehensive understanding of the architectural process. This course equips students with essential skills for effective communication in the field of architecture, laying the foundation for successful project execution.

II. COURSE OBJECTIVES:

The students will try to learn:

- I. Principles of interpretation of architectural drawings, including floor plans, elevations, sections, and details.
- II. Detailed technical drawings of building components, including doors, windows, and trusses, using industry-standard drafting techniques.
- III. Fundamentals of perspective drawing to enable students to represent three-dimensional aspects of the site and proposed buildings in a visually engaging manner.

III. COURSE OUTCOMES:

At the end of the course students should be able to:

- CO 1 Apply various types of scales as per the need for preparing various types of drawings.
- CO 2 Develop section and elevation for single and multistoried buildings using CAD software.
- CO 3 Draw the detailing of building components like doors, windows, roof trusses.
- CO 4 Create accurate and detailed technical drawings staircase, including section and elevation using appropriate dimensions.
- CO 5 Apply Principles of one-point and two-point perspective drawing to create realistic representations of structures.
- CO 6 Understand the surveying principles, measurement techniques, and scale application to represent the dimensions, layout, and topography of the building site.

IV. COURSE CONTENT:

Week- 1: INTRODUCTION TO AUTOCAD

Practice on commands, Building Drawing- An Introduction, Terminology of building materials and components

Week- 2: PLANNING OF BUILDINGS

Draw the plan view of a single room.
 Draw the front elevation of a single room.
 Draw the sectional view of a single room.

Week- 3: SINGLE STOREYED RESIDENTIAL BUILDINGS

Development of plan, elevation and sectional view of a single storeyed building.

- 1 BHK
- 2 BHK
- 3 BHK.

Week- 4: SINGLE STOREYED PUBLIC BUILDINGS

Create the planning, elevation, and sectional views for

- i. Public health center.
- ii. Create the planning school building.
- iii. Create the planning of auditorium.

Week- 5: MULTI STOREYED RESIDENTIAL BUILDINGS

Development of plan, elevation, section of a Multi- Storeyed building.

Week- 6: MULTI STOREYED COMMERCIAL BUILDING

Development of plan, elevation, sectional view of a Multi- Storeyed building.

- i. Shopping Mall
- ii. Office Building
- iii. Hostel Building

Week- 7: MULTI STOREYED COMMERCIAL BUILDINGS-HOSTEL BUILDING

Development of plan, elevation, sectional view of a Multi- Storeyed building.

Hostel Building

Week- 8: BUILDING COMPONENTS – DOORS

Development of elevation and sectional view of doors Fully panelled and flush doors.

Week- 9: BUILDING COMPONENTS- WINDOWS

Development of elevation and sectional view of windows- Half paneled and half-glazed window.

Week- 10: BUILDING COMPONENTS- TRUSSES

Draw the elevation and sectional profile of trusses.

Week- 11: BUILDING COMPONENTS- FOOTINGS

Draw the plan and elevation of footing

Week- 12: TYPES OF STAIRS: PLAN AND SECTIONAL DRAWINGS

Straight Stairs with a Central Landing.

L - Shaped Staircase.

U - Shaped Staircase.

Week- 13: SITE PLAN

Draw the site plan from the given line plan of building Residential building.

Prepare submission drawing of the given framed structure residential building.

Prepare foundation plan of framed structure.

Week- 14: PERSPECTIVE DRAWING: TWO POINT PERSPECTIVE DRAWING

Draw two point perspectives drawing of small objects- steps, monuments.

Draw, plan, elevation, eye level picture plane and vanishing points.

Draw perspective view building.

V. TEXT BOOKS:

1. N.D. Bhatt; Engineering Drawing Charotar Publishing House PVT Ltd, 15th edition 2011.
2. K. Venugopal; Engineering Drawing and graphics Using AutoCAD, 3rd edition 2007

VI. REFERENCE BOOKS:

1. Emmons, Paul. *Drawing Imagining Building: Embodiment in Architectural Design Practices*. Routledge, 2019.
2. Edwards, Brian. *Understanding architecture through drawing*. Taylor & Francis, 2008.

VII. ELECTRONICS RESOURCES:

1. <https://www.cphbooks.in/product/building-planning-and-drawing-by-dr-n-kumara-swamy-a-kameswara-rao/>
2. <https://nptel.ac.in/courses/112103019>
3. <https://nptel.ac.in/courses/112103019>

VIII. MATERIAL ONLINE:

1. Course template
2. Tech-talk topics
3. Assignments
4. Definition and terminology
5. Tutorial question bank
6. Model question paper – I
7. Model question paper – II
8. Lecture notes
9. Early lecture readiness videos (ELRV)
10. Power point presentations