



Lok Jagruti Kendra University
University with a Difference

Diploma in Civil Engineering



Course Code:025050302

Building Planning and Drawing

Programme / Branch Name			Diploma in Civil Engineering			
Course Name	Building Planning and Drawing				Course Code	025050302
Course Type	HSSC	BSC	ESC	PCC	OEC	PEC

Legends: HSSC: Humanities and Social Sciences Courses

ESC: Engineering Science Courses

OEC: Open Elective Courses

BSC: Basic Science Courses

PCC: Program Core Courses

PEC: Program Elective Courses

1. Teaching and Evaluation Scheme

Teaching Hours / Week				Evaluation Scheme			
L	T	P	Total Credit	CCE	SEE (Th)	SEE (Pr)	TOTAL
2	0	4	4	50	50	50	150

Legends:

L: Lectures

T: Tutorial

P: Practical

CCE:

Continuous & Comprehensive Evaluation

SEE (Th):

Semester End Evaluation (Theory)

SEE (Pr):

Semester End Evaluation (Practical)

2. Prerequisites

- ✓ Basic Knowledge of Computer

3. Rationale

Drawing is the language of an engineer. A civil engineer must be capable of planning and designing various building components. Design is a process of creating the description of a new facility, usually represented by detailed plans and specifications; construction planning is a process of identifying activities and resources required to make the design a physical reality. Hence, this course has been designed in such a way that a technician can produce more detailed civil engineering drawings related to the construction of residential buildings. Moreover, in this subject students also study the application of building regulations and bye-laws as provided by the local authorities. The knowledge of which is a must for any building planning, from which plan is prepared and approved by the local civic authorities. Due to the development in technology, civil engineers are using various software to prepare necessary drawings with high precision in less time compared to manual drafting. And therefore it has become a necessity to have software skills like AutoCAD, Revit, Sketchup among the engineers to improve the efficiency of drafting procedures.

4. Objectives

- ✓ To understand the orientation and types of building.
- ✓ To apply principles of planning and building bye-laws.
- ✓ To understand the concepts of NBC, GDCR and RERA for any residential planning.
- ✓ To prepare a 2D plan, elevation and sections of residential buildings by using AutoCAD software.

5. Contents

Unit No.	Unit Name	Topics	Learning Outcomes	% Weightage	Hours
1.	Introduction	1.1. Importance of Building Planning and Drawing 1.2. Different Types of Residential Buildings 1.3. Site Selection for Residential Buildings 1.4. Conventional Signs and Symbols 1.5. Orientation 1.6. Factors Affecting Orientation 1.7. Orientation Criteria for Indian Conditions	<ul style="list-style-type: none"> Students will be able to Understand the Types of Residential Buildings, Signs and Symbols in a Plan. Students will Gain Knowledge about the Correct Direction Of the Building. 	15	6
2.	Building Bye-Laws	2.1. Introduction 2.2. Objectives of Building Bye-laws 2.3. What are Building Bye-Laws? 2.4. Applicability of the Bye-Laws	<ul style="list-style-type: none"> Students will Know the Standard Dimensions for Building Elements. Apply Building Bye-Laws for a Residential Building. 	20	7
3.	Introduction to NBC, GDCR and RERA	3.1. General- NBC 3.2. General- GDCR 3.3. General- RERA 3.4. Necessity of RERA 3.5. Procedure of RERA 3.6. RERA Legislation	<ul style="list-style-type: none"> Students will Gain Knowledge about NBC, GDCR and RERA for the Rules And Regulations Used to Develop Residential Buildings. Students will be able to Understand the Government Process for Building Construction Work. 	15	5
4.	Planning of Residential Building in AutoCAD Software	4.1. Building Planning 4.1.1. Planning 4.1.2. Plan 4.1.3. Principles of Planning of Buildings 4.1.4. How to Prepare the Plan, Elevation and Section? 4.1.5. Standard Dimensions for Various Building Units 4.1.6. Fixing the Positions of Various Building	<ul style="list-style-type: none"> Students get Basic Knowledge about Building Planning such as Its Principles, Standard Dimensions and Position of Building Components. 	35	4

		Components and Justification			
		4.2. Computer Aided Drawing 4.2.1. CAD Software 4.2.2. AutoCAD 4.2.3. Applications of AutoCAD 4.2.4. Function Keys 4.2.5. Hardware Requirement for AutoCAD 4.2.6. Planning for a Drawing	<ul style="list-style-type: none"> Students will Learn the Autocad Software for a Drawing. Students will Prepare a 2D Plan, Elevation and Section in AutoCAD Software. 		
5.	Perspective Drawings	5.1. Necessity of Perspective Drawings of Building 5.2. Principle of Perspective Projection 5.3. Standard Guidelines for Building Drawing 5.4. Perspective Elements 5.5. Classification of Perspective Projection	<ul style="list-style-type: none"> Students will Prepare the Perspective View of Building Components to give a Realistic View to the Eye and Convey it to the Mind of People. 	15	6

**Total
Hours**

28

6. List of Practicals / Exercises

The practicals/exercises have been properly designed and implemented in an attempt to develop different types of skills so that students can acquire the competencies/programme outcomes. Following is the list of practicals/exercises.

Sr. No.	Practical / Exercises	Key Competency	Hours
1.	Draw conventional signs and symbols in the A4 size sketchbook.	Sign and Symbols	4
2.	Visit a residential building and observe the existing building components and draw a line plan in an A4 size sketchbook.	Drawing Skill	4
3.	Study of building bye-laws as per General Development Control Regulation (GDCR) and National Building Code (NBC).	Knowledge of GDCR and NBC	4
4.	Collect the information regarding the list of documents required for the BU permission for any residential building construction.	Information of Documents for BU permission	4
5.	Collect the information regarding Real Estate Regulatory Authority (RERA).	Understand the process of RERA	4
6.	Draw basic 2D objects such as line, circle and polygon in AutoCAD software.	AutoCAD Software	4
7.	Draw a detailed working plan, elevation and section for residential building in AutoCAD software concerning GDCR.	Plan, Elevation and Section of Building	20
8.	Develop a perspective view of a single-room building with steps by any method in the drawing sheet.	Perspective Drawing	6
9.	Prepare a model of a simple residential building by using cardboard.	Building Model Making	6

Total Hours 56

7. Suggested Specification Table for Evaluation Scheme

Unit No.	Unit Name	Distribution of Topics According to Bloom's Taxonomy					
		R %	U %	App %	C %	E %	An %
1.	Introduction	40	40	15	0	0	5
2.	Building Bye-Laws	40	40	20	0	0	0
3.	Introduction to NBC, GDCR and RERA	35	40	25	0	0	0
4.	Planning of Residential Building in AutoCAD Software	25	25	30	20	0	0
5.	Perspective Drawings	30	40	20	0	0	10

Legends: R: Remembering U: Understanding
 App: Applying C: Creating
 E: Evaluating An: Analyzing



8. Textbooks

- 1) Building Planning and Drawing by Dr. N. Kumara Swamy and A. Kameswara Rao, Charotar Publishing House.

9. Reference Books

- 1) Civil Engineering Drawing & House Planning by B.P.Verma, Khanna Publishers.
- 2) Building & Town Planning by Sajjan V. Wagh, Tech-Max Publication.
- 3) Building Planning Designing and Scheduling by Gurcharan Singh and Jagdish Singh, Standard Publishers Distributors.

10. List of Publications

- 1) General Development Control Regulation (GDCR).
- 2) Real Estate Regulatory Authority (RERA).
- 3) National Building Code of India 2016- Volume I & II by Bureau of Indian Standards.

11. Open Sources (Website, Video, Movie)

- 1) <https://gujrera.gujarat.gov.in/>
- 2) <http://www.auda.org.in/RDP/>
- 3) <https://bis.gov.in/index.php/standards/technical-department/national-building-code/>
- 4) https://townplanning.gujarat.gov.in/act-legislation/common_gdcr.aspx