

**GUJARAT TECHNOLOGICAL UNIVERSITY, AHMEDABAD, GUJARAT
COURSE CURRICULUM**

**Course Title: Building Drawing
(Code: 3320601)**

Diploma Programmes in which this course is offered	Semester in which offered
Civil Engineering, Environment Engineering, Transportation Engineering	Second Semester

1. RATIONALE

Drawing is a language of Engineers. Some primary features of Engineering Drawing is being taught in Basic Engineering Drawing (code 3300007). In this course, more detail about Civil Engineering Drawing will be taught, like how to prepare detail drawing for Single storied , double storied residential building, public building and other Civil Engineering Structures. Moreover, application for building regulation, prepared by Local Authority also will be taught in this course.

2. LIST OF COMPETENCIES

The course content should be taught and implemented with the aim to develop different types of skills leading to the achievement of the following competencies.

- Interpret the building drawing for residential building
- Plan and prepare two storied residential building drawing and other construction details with related services
- Apply Building control regulations

3. TEACHING AND EXAMINATION SCHEME

Teaching Scheme (In Hours)			Total Credits (L+T+P)	Examination Scheme				Total Marks
L	T	P		Theory Marks		Practical Marks		
			C	ESE	PA	ESE	PA	
2	0	4	6	70	30	40	60	200

Legends: L-Lecture; T – Tutorial/Teacher Guided Student Activity; P - Practical; C – Credit; ESE - End Semester Examination; PA - Progressive Assessment.

4. DETAILED COURSE CONTENTS

Unit	Major Learning Outcomes	Topics and Sub-topics
Unit – I Introduction	1a. Various types of Drawings and its importance. 1b. Types of Projection 1c. Understand Symbols, Conventions and Abbreviations 1d. Understand Types of scales and various sizes of papers.	1.1 Types of drawing with appropriate scale & uses index map, key plan, village map, site plan, layout plan. 1.2 Types of Projection adopted in Building Drawing 1.3 Scales used for various types of Drawings 1.4 Working drawing, large scale drawing enlarges scale drawing. 1.5 Symbols, Conventions and Abbreviations for - Electrical fittings , water supply ,sanitary fittings, material for construction etc. 1.6 Sizes of various standard papers
Unit– II Building byelaws and Principal of Planning	2a. Apply the Bye laws and Principles of Planning for residential and other public buildings.	2.1 latest building bye laws of local body for residential building (show local authority publication) 2.2 important bye laws for residential buildings -plot area, built up area, carpet area, FSI, size of rooms, margins, heights, passages, ventilation, circulation and others 2.3 principles of planning for residential building in detail such as - Room dimension, area, heights, privacy, roominess factor ,orientation, grouping, drainage, aspect, prospect, drainage, economy 2.4 Color code for alteration and addition in existing building 2.5 Approval procedure with respect to bye laws
Unit– III Drawing of Building by Actual Measurement	3a. Prepare site plan ,line plan and detailed plan of existing residential building	3.1 Method of taking dimension 3.2 Prepare line plan 3.3 Comment the drawing with respect to Building bye laws and Principle of Planning
Unit– IV Planning of Residential Building	4a. Prepare detail drawings for single and two storied residential building	4.1 Given situation & Plot area : prepare detailed drawing of a single storied residential building with detail of Line plan, Detailed Plan, Ground floor Plan, First floor plan, Elevation and Section 4.2 Given situation & Plot area : prepare detailed drawing of a double storeyed residential building with detail of Line plan, Detailed Plan, Ground floor Plan, first floor plan &,second floor plan Elevation and Section 4.3 Show furniture arrangement in detail plan 4.4 Prepare door, window, ventilator schedule
Unit– V Planning of other types of Building	5a. Plan and prepare single line drawings for public building	5.1 Planning of public building considering building bye laws and principles of planning like hospital ,school,shopping center , office building and industrial unit

Unit	Major Learning Outcomes	Topics and Sub-topics
Unit- VI Perspective Drawings	6a. Define perspective and related terms 6b. Draw perspective view by different methods	6.1 Draw perspective view of single room residential building with steps.
Unit- VII Building Services and Building Components Unit- VII	7a. Interpret building services 7b. Study various building components	7.1 Introduction 7.2 Enlist building services 7.3 Lift: location, safety. Types, capacity 7.4 Air conditioning; types and capacity 7.5 Fire fighting, Acoustics: 7.6 show building service like water supply, sanitary, electrification on line plan 7.7 Draw sketches of floors , roofs , doors, windows and staircases

5. SUGGESTED SPECIFICATION TABLE WITH HOURS & MARKS (THEORY)

Unit No.	Unit Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
1.	Introduction	04	04	03	00	07
2.	Building Bye Laws and Principles of Planning	06	04	14	00	18
3.	Drawing of Building by Actual Measurement	02	00	00	00	00
4.	Planning of Residential Building	06	00	00	21	21
5.	Planning of other types of Building	04	02	05	00	07
6.	Perspective Drawings	04	00	00	07	07
7.	Building Services and Building Components	02	00	03	07	10
	Total	28	10	25	35	70

Legends:

R = Remembrance; U = Understanding;

A = Application and above levels (Revised Bloom's taxonomy)

6. SUGGESTED LIST OF EXPERIMENTS

The experiments should be properly designed and implemented with an attempt to develop different types of skills leading to the achievement of the competency

S. No.	Unit No.	Experiment	Hrs. Required
1	I	Study of architecture approved building drawings (approved under local authority)	02
2	II	Draw symbols , conventions and Abbreviations in sketch book	02
3	II	Study of local urban development authority act and national building code (NBC)	02
4	III	Draw detail plan on drawing sheet - 1 plan ,elevation and section of existing building (actual Measurement Drawing)	08
5	IV	Draw detail of foundation plan of one room building /two room	04

		building in sketch book	
6	IV	Draw detail plan on drawing sheet -2 for single storied residential building (bungalow) on 250sq.m plot with scale and show following detail: GF & FF plan with elevation, section and opening schedule	16
7	IV	Draw detailing on drawing sheet -3 for furniture detailing of above residential building	04
8	V	Draw line diagram any one other type of building considering local bye laws: high school building, Shopping centre, Hospital and Industrial Building in sketch book.	04
9	VI	Draw perspective view of single room residential building with verandah & steps by any methods.	04
10	VI	Visit a residential building and observe the existing building service and Draw line plan for above services in sketch book	04
11	VI	Draw Detail Sketches of Floors, Roofs, doors, Windows and Staircase in sketch book	06

7. SUGGESTED LIST OF PROPOSED STUDENT ACTIVITIES

Following is the list of proposed student activities like: course/topic based seminars, internet based assignments, teacher guided self learning activities, course/library/internet/lab based mini-projects.....etc. These could be individual or group-based.

S. No.	Unit No.	Student Activities
1	III	Visit a construction site and collect drawings for the project.
2	II	Visit a urban development authority office and purchase a Development control regulations of local Body.
3	III	Visit a public building like school, hospital, shopping centre.

8. SUGGESTED LEARNING RESOURCES

A. List of Books

S.No.	Author	Title of Books	Publication
1	V. B. Sikka	Civil engineering drawing	B. D. Kataria Sons , Ludhiana
2	Gurcharan singh, Subash chander	Civil Engineering Drawing	Standard Publishers Distributors, Delhi
3	R. S. Malek G. S. Meo	Civil Engineering Drawing	New Asian Delhi
4	B. H. Shukla	Civil Engineering Drawing	Atul Prakashan Ahmedabad
5	Urban Development Authority	Building Bye laws	Local Authority like AUDA

B. List of Major Equipment/ Instrument : Nil

C. List of Software/Learning Websites : Nil

9. COURSE CURRICULUM DEVELOPMENT COMMITTEE**Faculty member from Polytechnic**

1. Prof. Bhavesh Modi Principal B V P I T (DS) Umrahk Ta. Bardoli
2. Mrs. A N Pamnani L C E B B I T V V Nagar
3. Mrs. Rina Chokshi L C E P I E T (DS) Limda Vadodara

Co-ordinator and Faculty Member from NITTTR Bhopal

1. Dr. J.P. Tegar, Professor Dept of Civil and Environmental Engg, NITTTR, Bhopal.