



Gyanmanjari
Innovative University

Course Syllabus
Gyanmanjari Diploma Engineering College
Semester-3

Subject : Civil Engineering Drawing – DETCV13205

Type of course: Major (Core)

Prerequisite: Engineering Drawing

Rationale:

For a Diploma holder of civil engineering, it became essential to interpret the civil engineering drawing and also to prepare the working drawing and/or submission drawing as and when required. Therefore, this course has been designed in such a way that a diploma holder can easily produce detailed civil engineering drawing related to construction of single storeyed, double storeyed residential/public any other simple civil engineering structures giving due respect to building regulation and bye-laws as per local authorities. So, that plan gets approval by local authorities.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks					Total Marks
CI	T	P		Theory Marks		Practical Marks		CA	
				ESE	MSE	V	P	ALA	
4	-	2	5	60	30	10	20	30	150

Legends: CI-ClassRoom Instructions; T – Tutorial; P - Practical; C – Credit; ESE - End Semester Examination; MSE- Mid Semester Examination; V – Viva; CA - Continuous Assessment; ALA- Active Learning Activities.

Course Content:

Sr. No	Course content	Hrs	% Weightage
1.	The Fundamentals of Engineering Drawing Types of drawing appropriate scale & uses (index map, key plan, village map, site plan, layout plan.), Types of Projection adopted in Building Drawing., Scales for various types of Drawings., Working drawing, large scale drawing, enlarge scale drawing., Symbols, Conventions and Abbreviations for Electrical fittings, water supply, sanitary fittings, material for construction etc., Utilization of drafting material.	12	20
2.	The Fundamentals of Building Planning Brief history of building drawing., Classification of various building., Principles of planning for residential building in detail such as- Room dimension, area, height, privacy, roominess factor, orientation, grouping, drainage, aspect, prospect, economy., Few facts of the Vaastu shastra, Green	06	10



	building.		
3.	Guideline for Planning and Drawing of Residential Building Factor affecting of site selection of residential building., Building bye laws of local body for residential building (show local authority publication) plot area, GDCR, pre-DCR, NBC, built up area, carpet area, FSI, size of rooms, margins, height, passages, ventilation, circulation and others, Color code for alteration and addition in existing building., Approval procedure with respect to bye-laws., Concept plan and drawing of residential single and two storeyed building., Given situation & Plot area: preparation of detailed drawing of a single storeyed and double storeyed residential building with detail of Line plan, Detailed Plan, Ground floor Plan, First floor plan, Elevation and Sections.	12	30
4.	Guideline for Planning and Drawing of Public Building Factor affecting site selection of public building. Concept plan of public buildings such as hospital, school, shopping center, office building and industrial unit.	10	15
5.	Details Drawing of Building Components General, Brief idea about buildings components such as staircases, chajjas, projections, columns, pier, slabs, footings doors, windows, flooring, plastering etc., Drawings of Parts of buildings such as staircases, chajjas, projections, columns, pier, slabs, footings doors, windows, flooring, plastering etc.	10	10
6.	Perspective View Elements of perspective views, Types of perspective views, software application in building planning and building Drawing for 3D model generation Computer Technology for Engineering Drawings Basic knowledge about software, Application of various software. Building Services Provisions in drawings for building services such as air conditioning, plumbing, water supply and firefighting, elevators, lifts and escalators etc., Show building service like water supply, sanitary, electrification on line plan.	10	15
Total		60	100

Continuous Assessment:

Sr. No	Active Learning Activities	Marks
1.	Local authority bye-laws awareness: The student studies GDCR by-laws to understand the rules and regulations for constructing different types of structures and buildings. The student will prepare a report on various building by-laws for different types of buildings and upload it to the GMIU Web Portal.	10
2.	Visit construction site for various building planning: Student has to visit a construction site and gather working drawings.	10

	Prepare drawing in A-2 size drawing sheet. And upload on GMIU Web Portal.	
3.	Prepare building drawing on AutoCAD: Faculty will assign the task to student to drawing residential building plan in AutoCAD. Student will prepare the drawing in AutoCAD. And upload on GMIU Web Portal.	10
Total		30

Suggested Specification table with Marks (Theory); 60

Distribution of Theory Marks						
(Revised Bloom's Taxonomy)						
Level	Remembrance (R)	Understanding (U)	Application (A)	Analyze (N)	Evaluate (E)	Create (C)
Weightage	30%	30%	30%	5%	-	5%

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

Course Outcome:

After learning the course the students should be able to:	
CO1	Understand and apply various types of drawings and scales, and use drafting materials and symbols effectively.
CO2	Integrate principles for residential building planning, including room dimensions, orientation, privacy, and environmental considerations like Vaastu Shastra and green building practices.
CO3	Assess site selection factors, apply building bye-laws, and prepare detailed plans for single and double-storeyed residential buildings.
CO4	Evaluate site selection factors and create concept plans and detailed drawings for public buildings like hospitals, schools, and shopping centers.
CO5	Apply software tools for creating detailed and 3D building models, and incorporate provisions for building services (air conditioning, plumbing, firefighting, elevators) into plans.

List of Practical:

Sr. No	Descriptions	Unit No	Hrs
1.	Draw in sketchbook, doodle several kinds of graphical symbols for materials, doors and windows, sanitary, water supply, and electrical installations, and write abbreviations.	01	02
2.	By gathering precise measurements, you may draw the detailed plan, elevation, section, site plan, and schedule of openings for an existing residential structure. (Drawing Sheet No. 01)	03	02
3.	Draw working drawings showing the following information: GF & FF plan with elevation, section, and opening schedule for a single-story residential structure (bungalow) on various	03	06

	sized plots with scale. (Drawing Sheet-02)		
4.	Draw the one commercial building plan from the followings: post office, Hospital, Bank School, shopping mall, Market, etc. (Drawing Sheet-03)	05	06
5.	In a sketchbook, draw the design in detail for a structure with at least two rooms.	05	02
6.	In your sketchbook, draw building components such stairs, weather shelters, projections, columns, piers, slabs and footings.	05	02
7.	Draw the residential building plan as per the following details: GF and FF plan with all residential building services, like Electrical, Plumbing and Drainage. (Drawing Sheet-04)	06	04
8.	Draw the one-point approach, develop a perspective view of a challenging item or piece. (Drawing Sheet No. 05)	06	02
9.	Draw two-point perspective view of single room residential building with verandah & steps by any methods. (Drawing Sheet-06)	06	02
10.	Mini Project		02
		Total	30

Instructional Method:

The course delivery method will depend upon the requirement of content and need of students. The teacher in addition to conventional teaching method by black board, may also use any of tools such as demonstration, role play, Quiz, brainstorming, MOOCs etc.

From the content 10% topics are suggested for flipped mode instruction.

Students will use supplementary resources such as online videos, NPTEL/SWAYAM videos, e-courses, Virtual Laboratory

The internal evaluation will be done on the basis of Active Learning Assignment

Practical/Viva examination will be conducted at the end of semester for evaluation of performance of students in laboratory.

Refence Book:

- [1] Civil engineering drawing, S.C. Rangwala, Charotar Publication
- [2] Civil engineering Drawing, V. B. Sikka, B. D. Kataria Sons, Ludhiana
- [3] Civil Engineering Drawing, Gurcharan singh, Subash chander, Standard Publishers Distributors, Delhi
- [4] Building Bye laws, Urban Development Authority, Local Authority e.g., AUDA, GUDA, RUDA etc.
- [5] National Building Code of India, Bureau of Indian Standards, Bureau of Indian Standards, Govt. Of India.
- [6] Building Planning And Drawing, Dr. N. Kumara Swamy and A. Kameswara Rao, Charotar Publishing House Pvt. Ltd.

