

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

**Course Title: Architectural Drawing – I
(Code: 3315002)**

Diploma Programmes in which this course is offered	Semester in which offered
Architectural Assistanship	First Semester

1. RATIONALE

Architectural drawing is a subject which imparts fundamental knowledge about using the drawing instruments which is essential for all subjects which are drawing oriented. It also imparts to the student, knowledge and skill of using various types of Architectural letters, Gothic letters and of different types and quality of lines. This skill can be developed and perfected by drawing various geometrical constructions, drawing signs and symbols used at various levels in drawing plans, elevations and sections of the building. Orthographic projection is a topic which helps the student understand architectural terminology like plan, elevation, side elevation, drawing in first angle method and of projection by drawing plans, elevations and side elevations of plane, geometrical and complex objects. This skill ultimately can be utilized in preparing all the presentation drawings of a building.

2. COMPETENCY

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

- Prepare basic architectural drawing of different types of buildings with different views

3. TEACHING AND EXAMINATION SCHEME

Teachin Scheme (In hours)			Total Credi ts (L+T+P)	Examination Scheme				Total Mar ks
				Theory Marks		Practical Marks		
L	T	P	C	ESE	PA	ESE	PA	200
4	0	4	8	70	30	40	60	

Legends: L-Lecture; T – Tutorial/Teacher Guided Theory Practice; 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 PRACTICE OF DRAFTING TECHNIQUES	1a. Use Drawing Board, Parallel Scale, Adjustable set-squares, Compass (whole set), different grade of pencils,	1.1 Use of Drawing Board, Parallel Scale, Adjustable set-squares, Compass (whole set), different grade of pencils, rubber, clips, sand paper, clutch pencils, scales, stencils, inking pens, circle templates, French curves, templates, etc. 1.2 Draw the various instruments used for drafting.
Unit– II: GEOMETRICAL CONSTRUCTION	2a. Draw parallel and perpendicular lines and divide them into various parts with the help of drafting techniques using different instruments. 2b. Draw different geometrical shapes with the help of drafting techniques using different instruments.	2.1 Draw a perpendicular to a given line with different conditions. 2.2 Draw a line through a given point parallel to a given straight line. 2.3 Divide a given straight line into any number of equal parts by various methods. 2.4 Trisect the given right angle. 2.5 Construction of different types of regular polygons given the length of a side. 2.6 Inscribe circles in polygons with different conditions. 2.7 Inscribe different regular polygons in a circle. 2.8 Draw circles outside the polygon touching the sides. 2.9 Construct an ellipse by concentric method, arcs of circles method, oblong method, loop & thread method.
Unit– III GOTHIC LETTERS	3a. Draw Gothic letters with different proportions of letters 3b. Free Hand Lettering	3.1 Gothic letters with different proportions of letters FREE HAND LETTERING: Lettering composition and styles of letters in free hand
Unit– IV SIGNS SYMBOLS	4a. Draw graphical presentation of different building materials,	4.1 Conventional graphical presentation of different building materials, doors and windows, electrical fittings, water supply & sanitary fittings, furniture, vehicles, shrubs, trees, parking, etc.

Unit	Major Learning Outcomes	Topics and Sub-topics
Unit-V ORTHOGRAPHIC PROJECTIONS	5a. Draw the projection of points, lines when placed in various positions with respect to H.P & V.P. 5b. Draw the projection of planes when placed in various position with respect to H.P. & V.P.	5.1 Theory of projections such as object projectors, planes of projections (views), direction of vision 5.2 Quadrant in which the object is located 5.3 Projection of points, lines when placed in various positions with respect to H.P & V.P. 5.4 Projection of planes when placed in various position with respect to H.P. & V.P
Unit-VI ISOMETRIC & AXONOMETRIC VIEWS	6a. Develop the concept of pictorial drawing 6b. State the advantage and limitation of orthographic projection. 6c. Draw Isometric and Axonometric views of geometrical forms, building components and furniture	6.1 Concept of pictorial drawing 6.2 Orthographic projection. 6.3 Isometric projection. 6.4 Isometric and Axonometric views of geometrical forms, building components and furniture

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
1.	PRACTICE OF DRAFTING TECHNIQUES	4	0	2	4	6
2.	GEOMETRICAL CONSTRUCTIONG	10	2	4	6	12
3.	GOTHIC LETTERS	6	0	2	6	8
4.	SIGNS & SYMBOLS	4	2	0	2	4
5.	ORTHOGRAPHIC PROJECTIONS	16	3	7	10	20
6.	ISOMETRIC & AXONOMETRIC VIEWS	16	3	7	10	20
Total		56	10	22	38	70

Legends: R = Remembrance; U= Understanding; A= Application and above levels (Revised Bloom's taxonomy)

6 SUGGESTED LIST OF ASSIGNMENTS (PRACTICAL)

The assignments should be properly designed and implemented with an attempt to develop different types of skills leading to the achievement of the competency – ARCHITECTURAL DRAFTING SKILLS

S. No.	Unit No.	Assignments (Practical)
1	PRACTICE OF DRAFTING TECHNIQUES	Use drafting techniques using various drafting instruments. Prepare drawing sheets showing various drafting instruments.
2	GEOMETRICAL CONSTRUCTIONG	Prepare drawing sheets for all the topics mentioned in table : 4 (One sheet each)
3	GOTHIC LETTERS	Prepare drawing sheets for (a) One Gothic Letters (b) One Free hand lettering.
4	SIGNS & SYMBOLS	Prepare drawing sheets showing conventional graphical presentation of different building materials, doors and windows, electrical fittings, water supply & Sanitary fittings
5	ORTHOGRAPHIC PROJECTIONS	Orthographic projection – (a) Point and line - One sheet (b) Planes - One Sheet (c) Orthographic views - Two Sheets
6	ISOMETRIC & AXONOMETRIC VIEWS	Two Sheets on Axonometric view containing 6 problems. Two sheets on Isometric view containing 6 problems.

Note: The above assignments are for guideline only. The remaining practical hours are for revision and guidance.

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.

- i. Identify signs and symbols from architectural drawings of architects
- ii. Learn about use of various architectural drawing instruments used for drafting

8. SUGGESTED LEARNING RESOURCES

A. List of Books

S.No.	Author	Title of Books	Publication
1	Bhatt ,N.D.	Engineering Drawing	Charotar Publishing House
2	Shah, P. J.	Engineering Drawing	Prof. Pravin J Shah

B. List of Major Equipment/ Instrument

1. All Architectural Drafting instruments

9. COURSE CURRICULUM DEVELOPMENT COMMITTEE**Faculty Members from Polytechnics**

1. Shri. Bhaskar J. Iyer, H.O.D Architecture, Govt. Polytechnic, Vadnagar,
2. Smt. U.U.Anerao, H.O.D Architecture, Govt. Polytechnic for Girls, Ahmedabad
3. Smt. P.A. Trambadia, Lecturer in Architecture, Govt. Polytechnic for Girls, Ahmedabad
4. Shri. V. Mashruwala, Lecturer in Architecture, Govt. Polytechnic for Girls, Surat
5. Shri. N.M.Chhatwani, Lecturer in Architecture, Govt. Polytechnic for Girls, Ahmedabad
6. Shri. A. R. Rathod, Lecturer in Architecture, Govt. Polytechnic for Girls, Ahmedabad
7. Shri. Hemant Wala, Architect, Ahmedabad

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Co-ordinator and Faculty Member from NITTTR Bhopal

1. Prof. M.C.Paliwal, Associate Professor, Dept. of Civil Engg, NITTTR, Bhopal.