

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

Course Title: Architectural Design – II(Single Volume)

(Code: 3325001)

Diploma Programme in which this course is offered	Semester in which offered
Architectural Assistantship	Second Semester

### 1. RATIONALE

This is a primary course about learning and applying fundamentals of design. The process of learning to design a single volume building allows a student to express his ability to conceive different types of forms. It facilitates the student to understand and apply the nuances of anthropometry by making a model with furniture layout.

### 2. COMPETENCIES

The course content should be taught and implemented with the aim to develop different types of skills so that students are able to acquire following competencies:

- i. **Develop a sketch design based on visualized single volume building according to given requirements and justify its concept and design.**
- ii. **Prepare a model of the designed building.**

### 3. TEACHING AND EXAMINATION SCHEME

Teaching Scheme (In Hours)			Total Credits (L+T+P)	Examination Scheme				Total Marks
L	S/T	P		Theory Marks		Practical Marks		
			C	ESE	PA	ESE	PA	
0	0	8	8	00	00	80	120	200

**Legends:** L-Lecture; S/T- Tutorial/Teacher guided theory Practice – Studio; P - Practical; C – Credit; ESE - End Semester Examination; PA - Progressive Assessment

**Note:** It is the responsibility of the institute heads that marks for **PA of theory & ESE and PA of practical** for each student are entered online into the GTU Portal at the end of each semester within the dates specified by GTU.

#### 4. DETAILED COURSE CONTENT

Term work shall consist of two Design Projects

- Project-I - Design of a Single volume building should be given from the following:  
Telephone booth, Food Kiosk, Milk booth, Watch man's cabin with compound gate, Bus Stop, Public Toilets, etc.
- Project-II - Any one project from the above to be given as Time Problem

Unit	Major Learning Outcomes	Topics and Sub-topics
<b>Unit – 1 Data Collection</b>	1a. Study an existing single volume building 1b. Identify problems, functional usability and architectural innovations in real life situations. 1c. Analyze the form, functional clarity, furniture layout and design innovations of the studied buildings. 1d. Formulate design requirements for the given design project.	Design Project - I 1.1 Case Study of existing single volume buildings - from any of the above topics.  <ul style="list-style-type: none"> <li>Primary data collection : On Site</li> <li>Secondary data collection : From Books, Magazines, Internet, etc.</li> </ul>
<b>Unit– 2 Development of Concept and Preparing Sketch Design</b>	2a. Sketch design alternatives and ideas considering various design fundamentals. 2b. Finalize the concept for further design development. 2c. Prepare a functional relationship diagram.	2.1 Form - primary tool for a designer 2.2 Shape - principal identifying form as it results from the specific configuration of a form's surfaces and edges 2.3 Size - dimensions of form i.e. length, width & depth which determine the proportions 2.4 Scale and proportion 2.5 Function – as the precondition for the design <ul style="list-style-type: none"> <li>State the requirements</li> <li>Derivation of the form keeping in mind the functional requirements.</li> </ul> Activity-space relationship
<b>Unit – 3 Preparing Site Plan</b>	3a. Provide specific site location with reference to the surrounding conditions, topography, landscape, climate, etc.	3.1 Building orientation on site
<b>Unit – 4 Design Development Drawings</b>	4a. Develop the sketch at an appropriate scale as per anthropometric requirements & show furniture layout 4b. Develop the sketch showing façade treatment and massing 4c. Visualize and draw the building to scale in 3D	4.1 Development of floor plans, sections, elevations and spatial relationships at appropriate scale. 4.2 Development of elevations and sections with respect to building finishes fenestrations and levels. 4.3 Draw an axonometric/isometric view of the designed building
<b>Unit – 5 Final Presentation Drawings and model</b>	5a. Prepare a set of final presentation drawings including all of the above. 5b. Make a model of the designed project to a suitable scale with surrounding	5.1 Final presentation drawings with rendering 5.2 Preparation of a model

Unit	Major Learning Outcomes	Topics and Sub-topics
Unit -6	6a. Sketch design alternatives and ideas considering various design fundamentals. 6b. Finalize the design and prepare presentation drawings.	Design Project - II Time Problem of single volume building e.g.: Milk booth, Watch man's cabin, Bus Stop, etc.

## 5. SUGGESTED SPECIFICATION TABLE WITH HOURS (Theory)

Not Applicable

## 6. SUGGESTED LIST OF EXERCISES/PRACTICAL

The assignment/practical/exercises should be properly designed and implemented with an attempt to develop different types of skills so that the students are able to acquire above mentioned competencies.

S. No.	Unit No.	Practical/ Exercises	Approx Hours Required
1	01	Design Project - I (Design of a Single Volume Building) Collect data related to the given building, select case study and appraise them.	16
2	02	Prepare conceptual sketches and finalized design for the given requirements.	32
3	03	Draw site plan, floor plans, sections, elevations and axonometric/isometric view of the design project.	16
4	04	Prepare final presentation drawings with one perspective view	16
5	05	Prepare a model to suitable scale	12
6	06	Design project - II (Time problem )	20
<b>TOTAL</b>			<b>112</b>

### Important Notes:

This subject has extensive theory component taught in the practical classes itself; so as to develop and encourage subject related skills. Theory is to be taught during design process and in co-relation to other subjects.

- For this unique teaching process, each student needs to be attended by the concerned faculty individually and hence this subject should be treated as a 'Tutorial' subject.
- The design process is carried out with the help of individual discussions and design jury sessions arranged by the faculty.

## 7. SUGGESTED LIST OF STUDENT ACTIVITIES

Following is the list of proposed student activities like: interactive group discussions, 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.

7.1 Identify and explore the design of single volume buildings from surroundings.

7.2 Explore various concepts for designing small buildings.

## 8. SUGGESTED LEARNING ACTIVITIES

### A. List of Books

Sr. No.	Title of Book/Journals	Author	Publication
1.	Architecture – Form, Space & Order	Francis D.K.Ching	John Wiley & Sons
2.	Visual Dictionary of Architecture	Francis D.K.Ching	John Wiley & Sons
3	Neufert Data Standards	Ernst Neufert	Archon Books
4	Building Drawing	Shah, Kale, Patki	Tata Mcgraw Hill Publishing
5	Architecture + Design	Journal/Magazine	Media Transasia Group
6	Inside Outside	Journal/Magazine	Business India Group

### B. List of Major Equipment/ Instrument

8.1 Measuring Tape, Laser Distance Measurer, Digital Camera, etc.

8.2 Architectural Drafting instruments

### C. List of Software/Learning Websites

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## 9. COURSE CURRICULUM DEVELOPMENT COMMITTEE

### Faculty Members from Polytechnics

- **Prof. Bhaskar J. Iyer**, H.O.D Architecture, Govt. Polytechnic, Vadnagar
- **Prof. Poonam A. Trambadia**, Lecturer in Architecture, Govt. Girls Polytechnic, Ahmedabad
- **Prof. Vishal K. Mashruwala**, Lecturer in Architecture, Govt. Polytechnic for Girls, Ahmedabad
- **Prof. Astha J. Panchal**, Lecturer in architecture, Govt. Girls Polytechnic, Ahmedabad.

### Co-ordinator and Faculty Members from NITTTR Bhopal

- **Prof. M. C. Paliwal**, Associate Professor Dept. of Civil and Environmental Engg.