



GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Diploma in Architecture

Level: Diploma

Branch: Architecture

Course / Subject Code : DA01063011

Course / Subject Name : Architectural Design - I

w. e. f. Academic Year:	2025-26
Semester:	First
Category of the Course:	Professional Core Courses (PC)

Prerequisite:	Students must have a keen interest in Design, construction, and problem-solving skills. Proficiency in drawing and sketching is required.
Rationale:	<p>Architectural design is the core course of this programme. Student has to learn about application of all other courses. Fundamental knowledge of measured drawings and anthropometry are essential for all design-oriented subjects. One component of this course introduces students to different building components and their measurements so that they develop skills to draw plans, elevations and sections of both buildings as well as the layout of the furniture inside, using appropriate scale. In short, this course prepares students for case study, conceptual drawings, presentation drawings, working drawings, etc. involved in architectural design subject of latter semesters of the programme.</p> <p>Thus, the learner is required to conceive ideology behind existing structures, different types of forms that will help to design a single volume building so as to be able to understand and apply the nuances of anthropometry by making a model in accordance with the furniture layout.</p> <p>In order to develop these skills among learners as mentioned above, this course has been introduced with its genesis as a contemporary technique where the expected output will be a conventional architectural representation. The purpose here is also to hone the respective skill-sets of the learners to enable them to approach ensuing design complexities in a strategic way to address their architectural representation capacity for conveying different ideas.</p>

Course Outcome:

After Completion of the Course, Student will able to:

No	Course Outcomes	RBT Level
01	Prepare measured drawings of objects and human body in different postures to a given scale	R,U,A
02	Analyze the collected primary and secondary data of a single volume building considering the given design project requirements	R,U,A
03	Prepare architectural design for the given single volume design project to the scale	R,U,A
04	Prepare a set of architectural presentation drawings for the designed single volume building along with its model to appropriate scale	R,U,A



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Teaching and Examination Scheme:

Teaching Scheme (in Hours)			Total Credits L+T+P	Assessment Pattern and Marks				Total Marks
L	T	P*		C	Theory		Tutorial / Practical	
			ESE (E)		CA (M)	CA (I)	ESE (V)	
4	0	6	10	0	0	100	100*	200

Legends: L-Lecture; T – Tutorial/Teacher Guided Theory Practice; P*- Studio; C – Credit, CA - Continuous Assessment; ESE -End Semester Examination. (As per Revised Bloom's Taxonomy)

Important note – The student will not be able to go to second semester till this subject is cleared.

The theory portion of this course will be evaluated during the practical/studio hours. No separate external exam (E) will be conducted. Faculties may conduct a time problem to evaluate student's understanding of the theory components. External Viva will be conducted for 'V' component.

***Appointment of External Examiners:** Faculties of other degree/diploma architecture colleges/courses can be appointed as External Examiners. Further, professionals with minimum 5 years of relevant experience drawn from the field of practice can also be appointed as External Examiners.

Course Content:

Unit No.	Content	No. of Hours	% of Weightage
1.	Measured drawings of objects and human body in different postures	08	15
	1.1 Introduction to scale : Graphical two dimensional representation of a given object/s 1.2 Introduction to Anthropometry: Importance of study of anthropometry and its need for architectural design		
2.	Primary and Secondary Data collection	12	20
	2.1 Primary Data Collection: Explanation and methodology of taking measurements on site and maintenance of observations in graphical form (sketching, measuring, photography, videography, etc.) 2.2 Secondary Data Collection: Collection of data from books, magazines, internet, etc.		
3.	Architectural design of the given design project	24	40
	3.1. Design Requirements : Application of inferences from primary and secondary data collection 3.2. Conceptual Design : Graphical representation of functional co-relationships between given requirements – Bubble Diagram 3.3 Derivation of Form : Derivation of a form with regard to functional requirements by developing activity-space relationship 3.4 Two Dimensional Graphical Representation: Development of plan, sections, elevations and spatial relationships at an appropriate scale		



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	3.5 Materials and Finishes: Development of elevations and sections with consideration of levels as well as building materials		
4.	Final presentation drawings and model of designed single volume building	16	25
	4.1 Preparation of presentation drawings : Draw plans, sections and elevations of designed building with rendering 4.2 3D Drawings : Draw a three-dimensional graphical representation of the designed building 4.3 Preparation of a model : Make a model of the designed building to scale		
	Total	60	100

Suggested Specification Table with Marks (Theory):

Distribution of Theory Marks (in %)					
R Level	U Level	A Level	N Level	E Level	C Level
15 %	20 %	65 %	0	0	0

Where R: Remember; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create (as per Revised Bloom's Taxonomy)

References/Suggested Learning Resources:

(a) Books:

S. No.	Title of Book	Author	Publication with place, year and ISBN
1	Form Space & Order	Francis D.K.Ching	John Wiley & Sons, United States. ISBN-10 : 9781118745083 ISBN-13 : 978-1118745083 , 4 th Edition (September 2014)
2	Building Construction	Rangwala S.C.	Charotar Publishing House, Anand, Gujarat. ISBN-10 : 9385039040 ISBN-13 : 978-9385039041, 33rd Edition (1 January 2016)
3	Building Drawing	Shah, Kale, Patki	Tata Mcgraw Hill Publishing, India. ISBN-10 : 9389538122 ISBN-13 : 978-9389538120, Sixth edition (28 October 2019)
4	Visual Dictionary of Architecture	Francis D.K.Ching	John Wiley & Sons, United States ISBN-10 : 8126535644 ISBN-13 : 978-8126535644, Second edition (23 April 2012)



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S. No.	Title of Book	Author	Publication with place, year and ISBN
5	Neufert, Architects' Data	Ernst Neufert	Wiley-Blackwell, United Kingdom ISBN-10 : 111928435X ISBN-13 : 978-1119284352, 5th edition (12 July 2019)
6	Architecture + Design	Journal/Magazine	Burda Media India ISSN: 0970-2369
7	Inside Outside	Journal/Magazine	Business India Group ISSN: 0970-1761
8	Indian Architect and Builder	Journal/Magazine	Jasubhai Media Pvt. Ltd. ISSN:0971-5509

(b) Open source software and website:

1. www.greatbuildings.com
2. www.architecturalrecord.com
3. www.archdaily.com
4. www.dezeen.com
5. www.archpaper.com
6. www.architectmagazine.com
7. www.archello.com
8. www.designboom.com

Suggested Course/Studio Practical List:

S. No.	Practical Outcomes (PrOs)	Unit No.	Approx. Hrs. required
1	Draw front view, side view and top view of any given object/s to the given scales. (1:1, 1:2, 1:5, 1:10, etc.)	I	06
2	Draw various anthropometric figures in different postures to a given scale	I	06
3	Collect Primary Data: Prepare a set of measured drawings of a designed single volume building which include its plan, sections, elevations and furniture layout with human figures to an appropriate scale (E.g. a watchman's cabin, milk booth, food kiosk, BRTS bus-stand, construction site office etc.) Collect Secondary Data: Collection of required details of similar single volume building with respect to all architectural design parameters from various secondary sources like internet, books, journals, magazines, etc.	II	12
4	Comparison of Data: Comparison of primary and secondary collected data and prepare architectural presentation.	II	06
5	Formulate design requirements for a given single volume design project	III	12
6	Prepare conceptual design to scale for a given single volume design project	III	06



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	using anthropometric considerations		
7	Prepare preliminary designs for a given single volume design project to the scale and Development of plan, sections, elevations and spatial relationships at an appropriate scale and building materials	III	24
8	Prepare a set of final presentation drawings including all relevant plans, sections and elevations for the designed building	IV	06
9	Draw an axonometric/isometric view of the designed building	IV	06
10	Make a model of the designed project to scale	IV	06
Total Hrs.			90

List of Laboratory/Learning Resources Required:

S. No.	Equipment Name with Broad Specifications	Pr.No.
1	Measuring Tape, Laser measure tape	1-10
2	Drawing Board (A1 size @ 23"X32")	1-10
3	Other Instruments: Parallel, Set squares (45° and 30°-60°), Triangular scale, Roller Scale, Protractor, Drawing Compass, Dividers, Drawing Pencils, Circle Master, French Curves, Stencils (8-6-4 mm, All in One), Eraser, Drawing sheets, Drawing Pins/Clips, Sheet Container and Drawing instrument box.	1-10
4	Interactive board with LCD overhead projector	1-10

Suggested Project List:

- * **Collection and understanding:** Collect different types of building drawings and understand various terminology and representation of building elements in Plan, Elevations, Sections and Views
- * **Collection of anthropometric data:** Collect anthropometric data in Indian scenario to understand human body structure and its relevance to dimensional design
- * **Market survey:** Survey of different building (construction/finishing) materials available in the market.

Suggested Activities for Students:

- Undertake periodic site visits to relate to the present architectural practices.
- Identify and explore the design parameters for the locally available single volume buildings.
- Collect samples of alternative Green building material and prepare a report.
- Attend Interactive sketching workshops.
- Visit and explore art exhibitions and libraries
- Teacher guided self-learning activities.
- Give seminar on the relevant topic under consideration.
- Develop Power point presentation or animation for demonstrating architectural concepts, Climatic/Site analysis, Design methodology and laying and fixing the construction materials.
- Participate in model making workshops

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