GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Diploma in Architecture

Level: Diploma

Branch: Architecture

Course / Subject Code : DA02063051

Course / Subject Name : Architectural Design - II

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

Prerequisite:	Students must have a keen interest in Design, Construction and Problem-Solving skills. Proficiency in Architectural Design Fundamentals, Drawing/sketch and Mathematics subjects is essential.
Rationale:	Advanced Architectural Design is in continuation with the course 'Architectural Design Fundamentals' offered in the First Semester of this programme. In this course, the study, knowledge and appropriate application of the relationship between form & space helps the learners to design a building with multiple volumes (e.g. design of a residence) in relation to the given site conditions. Knowledge about characteristics of architectural spaces both built & open and their use, allows them to create functional hierarchy of spaces within the designed form for specific use (e.g. residential, etc.). Understanding of suitable structural systems as applicable to various kinds of buildings helps the learner select an appropriate one for his design for any building. A learner is required to create architectural space and form considering variables like anthropometry, light, movement, transformation, scale, structure and skin in the formation and evolution of architectural form. Learners need to develop an understanding about space standards and basic local building control regulations. Design proposals should be conceptualized with the help of models and sketches. The learner learns to formulate the scale of project as a process of integrating the various elements of space-making (which was taught in the previous semester). The purpose here is also to hone the respective skillsets 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. Presentation drawings & models help in visualizing and comprehending the overall form and function of given projects.

Course Outcome:

After Completion of the Course, Student will able to:

No	Course Outcomes
01	Analyze the collected primary and secondary data of existing residential bungalows considering the given parameters.

02	Prepare an architectural design for the residential bungalow as per given requirements.
03	Prepare a set of architectural presentation drawings for the designed residential bungalow along with its model to appropriate scale.

Teaching and Examination Scheme:

Teaching Scheme (in Hours)			Total Credits L+T+P	Assessment Pattern and Marks				Total Marks
				Theory		Tutorial / Practical		
L	T	P*	C	ESE (E)	PA / CA (M)	PA/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**.**

Important note – ***The student will not be able to go to the third semester as per CoA norms 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.	**Primary and Secondary Data collection** **1.1 Introduction to existing residential Bungalow designed for some professionals/characters like Doctor, Actors, Politician, Musician, etc.** (Concerned faculty is free to decide on any other appropriate character apart from the above). • **Primary data collection:** With the help of site visit/visits, existing drawings, measurements and prepared drawings, photos, sketches, etc. • **Secondary Data Collection:** Collection of data from books, magazines, internet, etc. **1.2 Formulation of requirements**	8	13
2.	**Architectural design of the given design project**	28	47

	2.1 Development of Concept **Various design development parameters** ▪ **Design Requirements:** Application of inferences derived from primary and secondary data collection. ▪ **Conceptual Design:** Graphical representation of functional corelationships between given requirements. ▪ **Derivation of Form:** Derivation of a form with regard to functional requirements by developing activity-space relationship. ▪ **Building orientation on site with respect to –** Form & Space, Margins, Wind direction, Natural light & ventilation, Openings, Qualities of architectural space, Structural system, landscaping, parking, etc. ▪ **Land-building relationship –** Understanding and application of various principles of design like creating a hierarchy of spaces with reference to site topography, site surroundings, climatic considerations, etc. **2.2 Preparing Sketch Design** ▪ Order of spaces based on organizing principles like Axial, Symmetrical, Clustered, Grid, Centralized, Linear, any other, etc. ▪ Two-Dimensional Graphical Representation: Development of plan, sections, elevations in sketch form with spatial relationships ▪ Light, space and form as essentials of architecture ▪ Materials and Finishes: Development of elevations and sections with consideration of levels as well as building materials **2.3 Design & Development of Drawings** ▪ Development of floor plans, sections, elevations and spatial relationships at appropriate scale ▪ Development of sections and elevations with respect to building finishes fenestrations and levels ▪ Development of site layout with road network and landscaping ▪ Axonometric/isometric view of the designed building as well as of the site layout **2.4 Space – Activity Relationship**		

	▪ Furniture Layout drawings for various activities / functions of the house based on given requirements ▪ Site layout drawing for various activities/functions based on given requirements		
3.	**Final Presentation of Drawings and Models** **6.1 Preparation of presentation drawings:** Draw final plans, sections and elevations of designed building with rendering **6.2 3D Drawings:** Draw a three-dimensional graphical representation of the designed building **6.3 Preparation of a model:** Make a model/s of the designed building to scale	24	40
	Total	**60**	**100**

Suggested Specification Table with Marks (Theory):

Distribution of Theory Marks					
R Level	**U Level**	**A Level**	**N Level**	**E Level**	**C Level**
15%	**25%**	**60%**	-	-	-

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 , 4th Edition (September 2014)
2	Principles of three-Dimensional Design	Wucius Wong New York, Van Nostrand Reinhold Co., 1977.	ISBN :0442295618 9780442295615 1 March 1977
3	Daylighting – Natural light in Architecture	Derek phillips	Architectural press An Imprint of Elsevier, Burlington

S. No.	Title of Book	Author	Publication with place, year and ISBN
			ISBN 0750663235 First Publication 20041
4	Time Saver Standards for Architectural Design	Michael Crosbie, Donald Watson	McGraw Hill Education India, December 2011; ISBN-10 7981257002872 : ISBN-13 12570028-798 : 92
5	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)
6	Neufert,Architects' Data	Ernst Neufert	Wiley-Blackwell, United Kingdom ISBN-10 : 111928435X ISBN-13 : 978-1119284352, 5th edition (12 July 2019)
7	Architecture + Design	Journal/Magazine	Burda Media India ISSN: 0970-2369
8	Inside Outside	Journal/Magazine	Business India Group ISSN: 0970-1761
9	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 Practical List:

S. No.	Practical Outcomes (PrOs)	Unit No.	Approx. Hrs. required
1	**Collect Primary Data**: Collect/Prepare data of existing Residential buildings which includes circulation plan, floor plans, sections, elevations, furniture layout and related drawings. **Collect Secondary Data**: Collect/Prepare similar data of an existing Residential building from books, journals, magazines, internet, etc.	I	06
2	Graphically analyze collected data of existing residential bungalows with respect to all architectural design parameters like area, lighting & ventilation, form, space design, circulation, structure, façade and inter-connectivity.	I	06
3	Prepare conceptual drawings and models on the basis of given requirements.	II	12
4	Prepare a set of preliminary architectural presentation drawings.	II	18
5	Prepare a site layout with all necessary components.	II	06
6	Prepare a furniture layout for the designed building.	II	06
7	Prepare a set of final presentation drawings including all relevant plans, sections and elevations for the designed building	III	24
8	Draw an axonometric/isometric/perspective view of the designed building	III	06
9	Make a model of the designed project to scale.	III	06
	Total Hrs.		**90**

List of Laboratory/Learning Resources Required:

S. No.	Equipment Name with Broad Specifications	PrO.No.
1	Measuring Tape, Laser measure tape	1-9
2	Drawing Board (A1 size @ 23”X32”)	1-9
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.	1-9

S. No.	Equipment Name with Broad Specifications	PrO.No.
4	Interactive board with LCD overhead projector	1-9

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:

a) Undertake periodic site visits to relate to the present architectural practices.
b) Identify and explore the design parameters of an architect-designed residential bungalow/s
c) Collect samples of alternative green building material and prepare a report.
d) Attend Interactive sketching workshops and design juries in other architecture institutes
e) Visit and explore art exhibitions and libraries
f) Teacher guided self-learning activities like time problems.
g) Give seminar on the relevant topic under consideration.
h) Develop Power point presentation or animation for demonstrating architectural concepts, Climatic/Site analysis, Design methodology and laying and fixing the construction materials.
i) Participate in design / model making workshops

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