

GUJARAT TECHNOLOGICAL UNIVERSITY

DIPLOMA IN ARCHITECTURE

FIRST SEMESTER SYLLABUS(W.E.F.JULY 2013)

SUBJECT NAME –DESIGN STUDIO I

SUBJECT CODE – 3316201

FOCUS:

Design studio is application of all the subjects. It deals with understanding the human body in space, activities and their relationship with spaces. The students should also have knowledge of different building components and their measurements. Exposure to architecture, architects and their works should be enhanced. Skills to draw and develop plans, elevations and sections of both buildings as well as the layout of the furniture inside, using appropriate scale.

Session work based on the basis of above.

CONTENTS:

- Introduction to Built environment, through seminars and visuals.
- To create the understanding and sensitivity about human proportions with space.
- Identify activities for the assigned body posture and enact them, with experience of comfort and discomfort.
- Understanding live architectural projects, architects and work of the area.
- Design of Shelter and small enclosure.

SUGGESTED BOOKS

- Form Space & Order by Francis D.K.Ching John Wiley & Sons, Latest
- Building Construction by Rangwala S.C. Charotar Publishing House, Latest
- Building Drawing by Shah, Kale, Patki Tata Mcgraw Hill Publishing, Latest
- Towards New Architecture by Le Corbusier
- Lateral thinking by Edward De Bono
- Architecture: Scale and proportion by Eugene Ruskin

SUBJECT NAME – TECHNICAL DRAWING I

SUBJECT CODE – 3316202

FOCUS:

To introduce the students to the fundamental techniques of architectural drawings by practice on drawing board by conventional method. Detailed understanding terminologies 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. Measure drawing of the residential building.

CONTENTS:

- Introduction to the basic principles of drawing, sign conventions (Line types, Materials, Graphical presentation on arch drawings, Landscape, furniture etc.)
- Practice in lettering, lettering used in architectural drawings, including different fonts.
- Introduction to plane geometry and exercises in lines and angles, construction of triangles, quadrilaterals and regular polygons.
- Construction of plane curves (ex: ellipse and ovals), arches- typical arch forms (ex: segmental, semicircular, three centered, four centered arches) and methods of drawing them.
- Orthographic projection (first angle projection). Principles of orthographic projection, projection of points, lines, planes, and solids.
- Three-dimensional representation, isometric and axonometric projection of solids.
- Measure drawing of the residential building, making proper plans elevations and sections of the same.

SUGGESTED BOOKS

- IS 962 for Architectural graphics standards
- Engineering Drawing by N D Bhat
- Geometrical Drawing for Arts Students By IH Morris
- Engineering Drawing Vol I and II by KR Gopalkrishna
- A primer on computer aided engineering drawing by VTU
- Architectural Rendering the techniques of contemporary presentation by Albert o Halse

SUBJECT NAME – CONSTRUCTION TECHNOLOGY I

SUBJECT CODE – 3316203

FOCUS:

Understanding of basic building materials, basic building components in construction, building systems and related construction technology. Introduction to the basic building materials, their manufacturing process and properties.

CONTENTS:

- **CONSTRUCTION**
 - Introduction to the various components of building like floors, roofs, openings, staircase etc. Preparing a wall section to understand these components.
 - Study of all the types of masonry in Brick and Stone construction
 - Detail Study of brick masonry.
 - Understanding the concept of load bearing & framed structures & composite structures
 - Study of building components such as foundations, walls, floors, openings etc .in Load bearing & framed structures.
 - Introduction of basic foundations strip, pad etc

- **MATERIALS**
 - Study of basic materials of construction such as sand cement lime aggregates; brick, stone their structural & physical behavior with respect to its properties & application in building.
 - Study through practical site visits, presentations, case studies & workshop based on the application of theory to construction field.

SUGGESTED BOOKS

- Engineering Materials , Rangwala S.C Charotar Publishing House, latest
- Building Construction, Punmia B.C. Laxmi Publishing, latest
- Building Construction, Arora, S.P. ,Bindra Dhanpat Rai Publications, latest
- Building Construction, Vol –I,II,III, Mackey W.L
- The Construction of Building by Barry .R
- Handbook of Architectural Technology by Cowan Henry J
- Fundamentals of Building Construction by Allen Edward

SUBJECT NAME – DESIGN FUNDAMENTALS I

SUBJECT CODE – 3316204

FOCUS:

Introducing the student to free-hand drawing of object/ building, with the help of site visits, they are able to express their ideas through free-hand sketches. Developing visual literacy and basic expressional skills that involve the ability to perceive, abstract and create as a process of the design of objects and spaces. Knowledge of color schemes & compositions helps the student to instill life into their drawings/sketches.

CONTENTS:

- Compositions of positive and negative, 2D compositions based on geometrical forms and other object.
- Design exercises for developing abstract reasoning, model making and volumetric compositions.
- Principles of 2D and 3D composition and introduction of basic terminologies related to it,
- Introduction to the Color theories, Elements of Composition,
- Explorations of various materials and mediums, developing visual literacy through the process oriented exercises and lateral thinking.
- Different types of Model making techniques.

SUGGESTED BOOKS

- Meaning of Art: Herbert Read by Faber & Faber
- Art in everyday life by Hetta Gol'stir
- Art & Visual Perception by Rudocy Arhhim
- Free Hand Drawing & Self Taught by Arthur Guptill
- Pencil Sketching by Thomas Waug.
- Drawing & Painting Course by Hashmi A.H.
- Drawing for Beginners by Peter Parrington
- Form, Space and Order by Ching, Francis D. K.
- Ways of Seeing by Berger, John
- Rendering with pen and ink by Gill, Robert

SUBJECT NAME – HUMANITIES

SUBJECT CODE – 3316205

FOCUS:

Elementary concept of civilization, society, settlements, culture and its articulation in Architecture and built form; Historical context of building forms. Growth of civilizations; societal institutions, operational cultural elements, significance of sacred & secular spaces.

CONTENTS:

- Understanding, culture and cultural elements, traits, attributes important theories of society and change, urbanization – its impact on various cultural attributes and on the built form.
 - World History
 - Prehistoric shelters – evolutionary stages of man.
 - Early settlements and evolution of Settlement patterns
 - Life in a pre-historic period
 - Egyptian
 - Geographical and climatic conditions
 - Society
 - Prominent structures/ buildings/ architectural style
 - Materials used for buildings and construction method
 - Script/ Decorations/ Ornamentations
 - Mesopotamian civilization
 - Geographical and climatic conditions
 - Society
 - Prominent structures/ buildings/ architectural style
 - Materials used for buildings and construction method
 - Script/ Decorations/ Ornamentations
 - Code of Hammurabi
 - Minoan & Mycenaean civilization
 - India
 - Indus valley civilization
 - Geographical and Climatic conditions
 - Society
 - Construction material and methods
 - Town planning and drainage
 - Vedic period / Aryanisation of India
 - Geography
 - Society
 - Influences
 - Hinduism

SUGGESTED BOOKS

- History of Architecture : Settings and Ritual by Kostof, Spiro, , Oxford Press , N.Y. ,1995
- The Bronze Age, Past and Present, Childe, Gordon, Penguin, 1942 (reprints thereafter)
- The Birth of Civilization in the Near East, Frankfort, Henri, Williams and Norgate,1951
- Ancient Egypt , Casson, Lionel, (ed.), Time Life Books, Amsterdam , 1987
- The Wonder that was India., Basham , A.L. , Penguin, Delhi, 1992
- Hindu Art & Architecture, Michell, George, Thames & Hudson, 2007

SUBJECT NAME – ENGLISH COMMUNICATION AND ARCHITECTURE VOCABULARY

SUBJECT CODE – 3316206

FOCUS:

A need to deal successfully in the globalized and competitive market by developing functional and communicative abilities of the students in English. Teaching appropriate architectural vocabulary and terminologies.

CONTENTS:

- English Grammar
 - Applying correct verb.
 - Active passive voice
 - Prepositions
 - Connectors - And, But, Or, Nor, Though, Although, If, Unless, Otherwise, Because, as, Therefore, So, Who, Whom, Whose, Which, Where, When, Why.
 - Writing skills – different types of letter writing
- Architectural Vocabulary
 - Different terminologies of Architecture used in various fields
 - Site Visits and Structure appreciation in architectural manner

SUGGESTED BOOKS

- Wren & Martin High School English Grammar S. Chand & Co. Ltd
- M. Gnanamurali English Grammar at Glance S. Chand & Co. Ltd.
- E. Suresh Kumar & Others Effective English Pearson
- S. Chandrashekhar & Others English Communication for Polytechnics Orient BlackSwan
- English Fluency Step 1 & 2 Macmillan
- Active English Dictionary Longman
- Visual Dictionary of architecture, Francis D K Ching