

DESIGN STUDIO II

ENAR 152

Lecture : 2
Tutorial : 0
Practical : 8

Year : I
Part : II

Course Objectives:

The course objective is to analyze anthropometric data and spatial configurations, for exploring human dimensions and ergonomic (Design efficiency and comfort) considerations. This course deals with spatial configurations effectively, integrating anthropometric data and consider environmental factors like natural light and ventilation this course introduce anthropometrics and design concepts, to study existing building and extract insights for personal space design, learned design principles to their designs.

- 1 Introduction to Design Standards (6 hours)**
 - 1.1 Understand and investigate the measurement of human figures and their movements in spaces
 - 1.2 Anthropometric data collection methods
 - 1.3 Application of anthropometric data with function and space in design
 - 1.4 Case studies and real-world examples

- 2 Visual Perception and Form Transformations (10 hours)**
 - 2.1 Analysis of the key characteristics of natural objects and understand visual perception (Form, colour, background and so on)
 - 2.2 Transformation of original forms into abstract/ architectural elements through dimensional alterations, addition, subtraction, and interplay between mass and void
 - 2.3 Development of architectural forms and compositions maintaining the integrity of the original characteristics
 - 2.4 Analysis on human scale; Proportion with architectural elements and also in relation with culture and social aspects
 - 2.5 Creation of 3D models based on transformed forms, exploring various configurations and spatial arrangements

- 3 Research and Design Building Programs, Architectural Spaces and Compositions (14 hours)**
 - 3.1 Site, building programs and design principles of architect (Literature and interview base studies)
 - 3.2 Analysis of existing architectural spaces and compositions (Case Study)

3.3 Different design concepts and spatial arrangements (Experiments)

Practical

(120 hours)

1. Study of a project from site, building, architects and client perspective. Make a report and poster of the same. (Group Work)
2. Continue of same project understating aspect of site by making model of the project. (Group Work)
3. Project design on the basis of all above study and design process like bubble diagram, schematic layout, zoning, concept all as following design process with case study examples of projects: Residences, restaurants, workshops, filling station, show room, city service centers, book shops and so on
4. Individual studies on anthropometric data for human proportion as well human in relation to position and functional aspects of human activity. Both international standard and Nepali standard should be studied and presentation by drawings.
5. Standard space referencing international and national design standards. Examine and make case study of different element like furniture, fixture vehicle etc. with its use and required space for those element.
6. Individual studies on anthropometric data for humans and its relation with surrounding, spaces referencing international and national design standards. To create space standard as module. Example like standard toilets, kitchen, class room, office, parking, ramp etc. (Data base design of anthropometric data)
7. Apply knowledge from group case study on anthropometric data with space and elements and create own design of similar functions. For example, design of café if they make a study of restaurant or book store if they make a case study of library etc. interior base project focus on data base.
8. Exercise on a natural object and identify its distinctive characteristics in terms of form, pattern, and shape. To abstract these features through dimensional transformations, additions, and subtractions, exploring foreground-background interplay and mass-void relationships. Final output in architectural forms while maintaining identity, employing ordering principles like axis, symmetry, and hierarchy.
9. Exercise with case study on an architecture element to study human proportion and scale with Nepali traditional building as well international architecture to know the change in standard of scale to define volume and value of space
10. To develop a program for a designer project (Vehicle service center, bus park, public toilet, studio, etc.). Collection of anthropometric data, site visit (Case study) for insights, and prepare bubble diagrams based on user analysis. Finally, formulate a program specifying target users, space requirements

References

1. Gill, R.W. (2011). *Rendering with pen and ink*. Thames & Hudson.
2. Neufert, P. (2000). *Architects' data* (Latest Edition). Blackwell Science.
3. Ching, K.D. (2022). *Architecture graphics*. John Wiley & Sons.
4. Watson, D. (Ed.). (2005). *Time-saver standards for architectural design: Technical data for professional practice*. McGraw-Hill.
5. Doorley, S., Witthoft, S. (2012). *Make space: How to set the stage for creative collaboration*. John Wiley & Sons.
6. Ching, F.D.K. (1998). *Design drawing* (Latest Edition). Van Nostrand Reinhold.