

**DESIGN STUDIO - 1**  
**FIRST YEAR, SEMESTER 1 - SECTION B**  
**INSTITUTE OF ARCHITECTURE AND PLANNING - NIRMA UNIVERSITY**

**Space and shaping of space:**

Space is a concept central to the field of architecture. We as architects design these spaces to be habitable by the living beings. We design these voids with specific desired qualities to make them comfortable for the living beings to use them or adapt them for various activities.

Therefore the entire first year studio focused on understanding this concept of space, volume of required minimum and comfortable space and spatial qualities

The first year studio exercises were framed with an aim of developing -

- A basic understanding of a Human being and its space requirement - Anthropometry
- Understanding of the concept of space and its various parameters or characteristics
- Understanding the idea of varying requirements of space and its qualities when a group of human beings come together i.e. The idea of the personal volumetric space vs the comfortable and appropriate social volumetric space when a group of human beings come together

Thus following four exercises were framed for this semester to achieve the above aim:

**Exercise 1 - Anthropometry:**

The first exercise begins with the basic unit of a human being for which the spaces need to be designed. Thus the first step is to understand the minimum space required by the human being or the volume of space the human being requires.

**Aim:**

Understanding of human dimensions and the space it requires or occupies.

To develop an understanding of the volume of space a human being requires to complete an activity from the commencement till the finish of the activity.

**Exercise:**

- To measure and draft oneself in a standing posture - Plan, Front and side elevation
- To select 6 different regular activities and to measure and draft them, along with the movements made to begin and finish the activities (to be shown with dotted lines)
- To draw bubbles on these activities showing the minimum volumetric space required to perform the complete activity

**Expected Outcome:**

- Develop understanding of human dimensions
- Ability to understand and technically draw plans, front elevations and side elevations and therefore to be able to communicate effectively through technical drawings
- Develop understanding of the concept of space and required minimum volume of space to execute one activity from start to finish.

**Exercise 2 - Vendor study:**

The next step is to understand this concept of minimum space requirement in a real case of a vendor where the space has been specifically designed to fit in the working of the vendor movement and his customers.

**Aim:**

Understanding the space occupied by the vendor to perform his activity completely

Understanding the space occupied by the customer and the minimum and maximum distances to maintain the connection with the vendor

**Exercise:**

- To select a vendor of a given type in a group of four to five students and to measure and draw the details individually

**Expected Outcome:**

- Develop an understanding of the space requirement in a given setting and the comfortable distances between people while being part of the activity and still retaining the connection to the activity

- Develop ability to technically draw and communicate information

### **Exercise 3 - Space Making**

The next exercise was to understand the required space (volume of space) to perform an activity and how the required spaces overlap for various activities.

#### **Aim:**

Application of understanding from previous two exercises and be able to carve out the minimum space required for performing the activity for themselves.

Understand the overlap of space requirements between two activities

Understanding of thus the occupied space and the elements creating the desired space

Understanding of the quality of space created and the impact of opening and its placement in the quality of the space

#### **Exercise:**

Taking 4 daily activities including 3 given compulsory of cooking-eating, sleeping and toilet - bathing and one activity of their choice they had to compose the minimum space required to perform all the four comfortably.

To create model and drawings of the same

To then create one opening of any size and anywhere with appropriate reasoning within the designed space and generate final drawings and a detailed sketch of the inner space as seen from the human eye placed within the designed space

#### **Expected Outcome:**

Application of previous learnings with the ability to understand the extent of comfortable overlap of different activities for oneself

Ability to take decision to design desired spaces with desired positioning and sequence of activities, transitions between them and spaces with desired attributes and qualities.

Develop technical ability to develop effective models and rendered technical drawings to convey their ideas

### **Exercise 4 - Hang-out space Design**

This exercise explored the application of learning from previous exercises in a design problem with certain fixed attributes and rules with the aim of developing following understandings among the students.

#### **Aim:**

Understand space requirement for more than one person or a group of persons and be able to create desired space for hang-out or spaces to socialize with a group of friends.

Understand the impact on the spacial quality, activity and movement with the change in levels

Understand the various ways and methods to generate desired movement at varying levels within the site and be able to create movement in a desired manner

Understand the importance and impact of location and orientation of Approach roads, access, vendor and toilet block in achieving desired spaces and generating desired movement within the design

Understand the importance and impact of site features - Trees in the way spaces are designed and used.

#### **Exercise:**

For a given site of 16m x 8m with two trees at a given location:

- Identify an appropriate approach road along any of the four sides
- Identify suitable location and orientation for a given food vendor and a given toilet block
- Design suitable hang-out, seating spaces using 3 different levels - Assuming road level as 0m and maximum +1.5m above ground to maximum -1.5m below ground level
- Prepare appropriate technical drawings and model of the same

#### **Expected Outcome:**

Develop ability to visualize desired quality of spaces, desired activities within them and various approaches to achieve the same.

Understand the importance of movement and activities within the design and ability to design them and their transitions in a desired and effective manner

Develop sensitivity towards site access, transitions within and existing features