CATEGORY 2

TEACHING LEARNING AND EVOLUTION

2.6.1.PROGRAMME OUTCOME AND COURSE OUTCOME

INTRODUCTION

Vertical Integration of Courses:
In an Aayojan, the subjects across years courses are organized into four verticals: Design, Technology, Humanities, and Skill Development. Each vertical represents a crucial aspect of architectural education. Design focuses on creative, aesthetic and functional aspects, while Technology emphasizes technical skills and knowledge. Humanities provide a broader understanding of societal and cultural contexts, and Skill Development hones practical competencies necessary for architectural practice.

Outcome Mapping:
To ensure coherence and relevance, outcomes are mapped to specific subjects within each vertical. This mapping process aligns learning objectives with industry expectations, enabling students to develop the necessary knowledge and skills in each domain. For example, design-focused outcomes may include the ability to conceptualize and communicate architectural ideas effectively, while technology-focused outcomes may involve proficiency in utilizing computer-aided design software or understanding sustainable building practices

Horizontal Integration:
This system in Aayojan goes beyond vertical integration by promoting horizontal integration across the four domains. This approach encourages students to explore interdisciplinary connections and develop a comprehensive understanding of the architecture field. For instance, a project-based learning experience might require students to collaborate across verticals, integrating design principles, technology applications, humanities perspectives, and practical skills to create innovative architectural solutions.

Way of working:
The programme outcomes are derived from the Vision, Mission statements and the goals of the institution. These re deliberated in common faculty meetings that lead to the conclusion of the programme outcomes. The leads of each vertical formulate the outcomes of each vertical after deliberations with the smaller teams, Academic Advisor, Principal and Academic Coordinator. Based on these the subject teams decide the course outcomes for each subject. These too are deliberated and discussed multiple times. These also need to be aligned with the outcomes planned for each year.

Conclusion:
Aayojan, provides a comprehensive and student-centered approach to architectural education. By segregating courses into distinct verticals and mapping outcomes within and across these domains, students benefit from a well-rounded education that prepares them for the diverse challenges of the profession. OBE promotes holistic development, integration of knowledge, and alignment with industry expectations, ensuring that graduates are equipped with the necessary skills and competencies to excel in the field of architecture.

MISSION

To create a learning Environment driven by Research and Development, that provides equal opportunity to all the stakeholders and establishes a platform to train professionals who are sensitive, technically sound and who will contribute to the development of the Profession, Society and the Nation at large.

GOALS:

- To make Aayojan one of the best places for Architecture and Design Education in India
- To become a leader in providing academic and industry collaboration nationally and internationally
- To create a platform for students, academicians and professionals to experiment and innovate through applied research for a sustainable future.
- To establish a State-of-the-Art Research facility.
- To become a prime center for Design Thinking and Innovation.

GUIDING PRINCIPLES:

- **We Believe** that education is the best investment a nation can make for its bright and sustainable future.
- **We Believe** that all who get admitted to the course have the ability to become good professionals who can lead the society.
- **We Believe** that progress can be made if all the stakeholders of the Institute work together with clarity and transparency and non-hindering Hierarchy.
- **We Believe** that Every student is unique and has unique potential which needs to be identified and nurtured.
- **We Believe** that good education is beyond syllabus and classroom and trains the student not only as a proficient, skilled person but helps develop his entire personality.
- **We Believe** that students should be supported throughout their entire academic journey by qualified staff and faculty, as well as by institutional efforts.

Aayojan

B.Arch

Design

- Basic Design - FY
- Arch. Des. - FY to Fr.Y
- Landscape Design
- U S -VII & VII Sem
- Urban Insert -VII Sem
- ADP -X Sem
- Electives-VI to X Sem

Technology

- BCM -I to VIII Sem
- TOS -I to VI Sem
- Clim/ SSA - III& IV Sem
- BS -V to VIII Sem
- WD -V & VI Sem
- ABCS -VII & VIII Sem
- Electives-VI to X Sem

Humanities

- HOAC -I to IV Sem
- FOA -I Sem
- EL-OI V Sem
- Arch. Des. - I to VIII Sem
- PP -VII & VIII Sem
- Electives-VI to X Sem

Skill Development

- AGD -I to II Sem
- CADG -I to II Sem
- WSMM -I to II Sem
- CS -II Sem
- RIA -VI & VII Sem
- WD -V & VI Sem
- Electives-VI to X Sem

Programme Outcome at Aayojan

At the end of five years, Students GRADUATING FROM Aayojan will be equipped with…

- Produce a functional, structurally stable and aesthetically pleasing design in response to the immediate context i.e time, place and people.
- Produce the required documents for successful completion of a project.
- Demonstrate an understanding of Integration of structural systems, building codes and systems into comprehensive architectural solutions
- Respond in accordance to the rules, regulations and ethics of the profession.
- Develop a sensitivity towards the environment,
- Recognise their own expertise and make a place for themselves in the field of architecture.
- Demonstrate collaborative skills for carrying out a project to completion
- Demonstrate an ability to acquire and synthesize information from a variety of sources.
- Demonstrate an ability to offer simple solutions to complex problems.

Design

At the end of five years, the Students will be equipped with the following

- Produce a functional, structurally stable and aesthetically pleasing design in response to the immediate context i.e time, place and people.
- Demonstrate innovative thinking through the use of various tools of design like Bio-mimicry,
- Demonstrate knowledge of Theory of Design.
- Develop knowledge for critically analysing a built environment w.r.t various aspects of architecture.
- Demonstrate an understanding of the philosophy, design attitudes and works of master architects.
- Demonstrate an understanding of the inter-disciplinary nature of architecture.
- Demonstrate an ability to offer simple solutions to complex problems.
- Respond in accordance to the rules, regulations and ethics of the profession.

Technology

At the end of five years, the Students will be equipped with the following

- Demonstrate collaborative skills and synthesis thinking
- Demonstrate knowledge of building materials and assemblies
- Demonstrate an understanding of structural systems
- Practice responsible approaches to environmental conservation
- Demonstrate an understanding of building environmental and control systems
- Demonstrate an understanding of the integration of technology and aesthetics.
- Integrate building codes and systems, including HVAC, electrical, life-safety, communication, and acoustics, into comprehensive architectural solutions

Humanities

On completion of the five year course in Architecture, a student will be..

- demonstrate how architecture can shape and enhance human life and help address the issues and challenges of our times.
- Demonstrate knowledge of the inter relationship between nature, culture, technology and design.
- Develop ability to respond to different perspectives and points of view.
- Appreciate the differences and the common threads through different social and cultural scenarios
- Enable to take a stand and make informed decisions while designing built environments
- Aware of how current scenarios like political, social, cultural, economic, etc. shape architecture
- Students will be able to acquire and synthesize information from a variety of sources

Skill Development

At the end of five years, the Students will be equipped with the following

- Demonstrate written, visual, and/or oral presentation skills to communicate their work effectively.
- Produce effective and appropriate drawings, models for various stages of an architectural project.
- Represent architectural fraternity clearly and boldly
- enabled for keen observation, critical thinking and analytical skills to solve complex problems
- Demonstrate an ability to carry out research for problem solving.
- Demonstrate an ability to acquire and synthesize information from a variety of sources
- Apply tools and techniques for lateral thinking.
- Demonstrate soft skills like dealing with people, leadership abilities, organizational skills, time management etc.

Learning Outcomes	BD	FOA	AD-I	AD-II	AD-III	AD-IV	AD-V	AD-VI	AD-VII	PP	ADP
Produce a functional, structurally stable and aesthetically pleasing design			I	R	R	E	E	E	E		E
Produce a design in response to the immediate context i.e time, place and people.			I		R		E		E		E
Demonstrate innovative thinking through the use of various tools of design like Geometry, Bio-mimicry, Abstraction, Transformation etc	I		R	R			E				
Demonstrate knowledge of Theory of Design.	I					I		R	E		E
Demonstrate ability for critically analysing a built environment w.r.t various aspects of architecture	I	I	I	R	R	R	E	E	E		E
Demonstrate an understanding of the philosophy, design attitudes and works of master architects		I	I	I	R	R	E	E	E		E
Demonstrate an understanding of the inter-disciplinary nature of architecture.		I	I	I	R	R	E	E	E		E
Demonstrate an ability to offer simple solutions to complex problems.		I	I	I	R	R	E	E	E		E
Respond in accordance to the rules, regulations and ethics of the profession.								I	R	I	E

Letters “I,” “R,’ and “E” to designate which courses in the program “introduce,” “reinforce,” or “emphasize” the corresponding learning outcomes.

Learning Outcomes	BCM-I&II	BCM-III & IV	BCM-V & VI	ABCS-I & II	CLIM	EVS	SSA	BS-I - II	BS-III - IV	WD-I & II	ADP	
Demonstrate knowledge of building materials and assemblies	I	R	R	E							E	
Demonstrate an understanding of structural systems	I	R	R	E							E	
Practice responsible approaches to environmental conservation					I	R					E	
Demonstrate an understanding of building environmental and control systems					I	R					E	
Demonstrate an understanding that architecture form, structural systems, construction details are a result of site forces	I	R			I	R	R				E	
Demonstrate an understanding of the integration of technology and aesthetics.		I	R	E						E	E	
Integrate building codes and systems, including HVAC, electrical, life-safety, communication, and acoustics, into comprehensive architectural solutions				R				I	R	E	E	
Demonstrate collaborative skills and synthesis thinking			I	I						R	E	

Letters “I,” “R,’ and “E” to designate which courses in the program “introduce,” “reinforce,” or “emphasize” the corresponding learning outcomes.

Learning Outcomes	HOAC-I	HOAC-II	HOAC-III	HOAC-IV	EL-I CA	PP	RIA	AD (ALL YRS)	ADP	
Demonstrate how architecture can shape and enhance human life and help address the issues and challenges of our times.	I	R	R	R	E				E	
Demonstrate knowledge of the inter relationship between nature, culture, technology and design.	I	R	R	E						
Develop ability to respond to different perspectives and points of view.				I	E					
Appreciate the differences and the common threads through different social and cultural scenarios					I		R			
Enable to take a stand and make informed decisions while designing built environments				I	R		R	R	E	
Aware of how current scenarios like political, social, cultural, economic, etc. shape architecture	I	I	R	E	E					
Students will be able to acquire and synthesize information from a variety of sources							I	R	E	

Letters “I,” “R,’ and “E” to designate which courses in the program “introduce,” “reinforce,” or “emphasize” the corresponding learning outcomes.

Learning Outcomes	AGD -I & II	CADG -I to II	WSMM -I to II	EL-I CA	RIA VI & VII	WD -V & VI	BD	AD	HOAC		ADP
Demonstrate written, visual, and/or oral presentation skills to communicate their work effectively.	I	I						E	E		E
Produce effective and appropriate sketches, drawings, models for various stages of an architectural project.	I	R	I				I	E	E		E
Document a building using various tools	I								E		
Demonstrate an ability to observe, critically think, interpret and analyse data from various sources.				I	R		E	E			E
Demonstrate an ability to carry out research for problem solving.					R						
Demonstrate an ability to acquire and synthesize information from a variety of sources				I	R						E
Apply tools and techniques for lateral thinking.							I	E			
Demonstrate soft skills like dealing with people, leadership abilities, organizational skills, time management etc.								R			E

Letters “I,” “R,’ and “E” to designate which courses in the program “introduce,” “reinforce,” or “emphasize” the corresponding learning outcomes.

multi-sensory aspects of space.
of space making

- Demonstrate the skill to communicate deign in the form of 2D and 3D representations.

As the years progress, the complexity of projects increases and students deal with various issues across various semesters. … thus culminating to **Thesis**

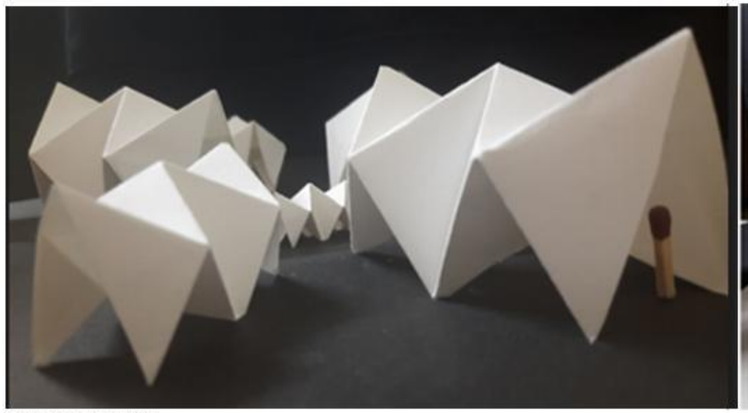
.. An increase in scale is a given but not necessarily in all projects... Students are introduced to new aspects or processes of design

- Demonstrate and ability to analyze simple spaces w.r.t the factors of design.
- Develop an understanding that architecture is a response to various aspects.
- Demonstrate and ability to design a simple space for human use.

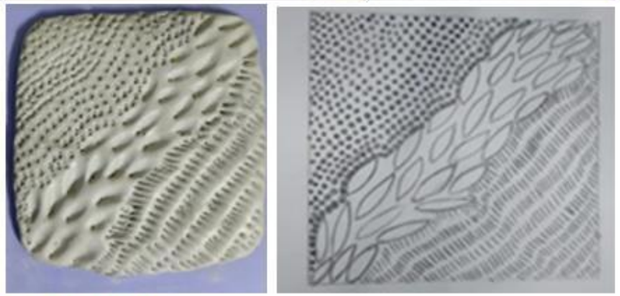
Year-wise Progression for Design

POSITIVE AND NEGATIVE SPACES

FLUID FORMS

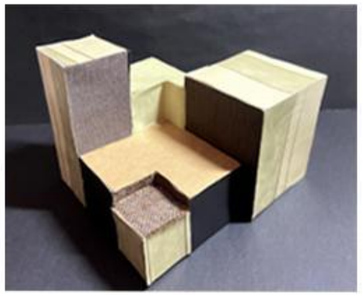


PAVILLION -
FORM EVOLUTION



PATTERNS

MASS AND VOID



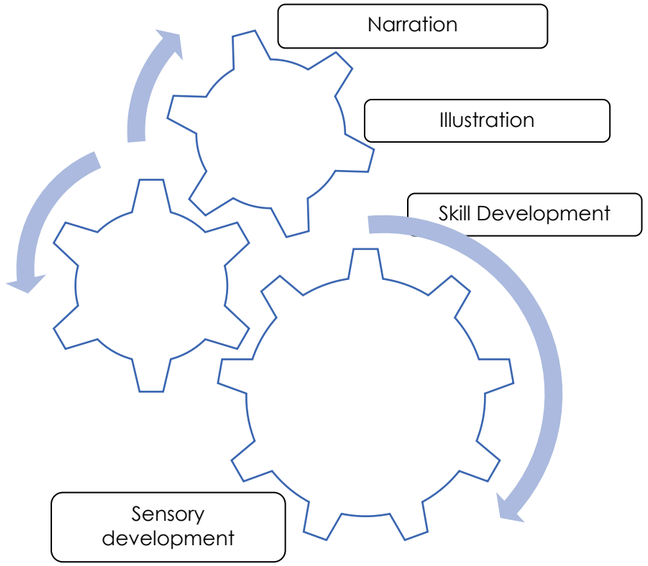
BASIC DESIGN

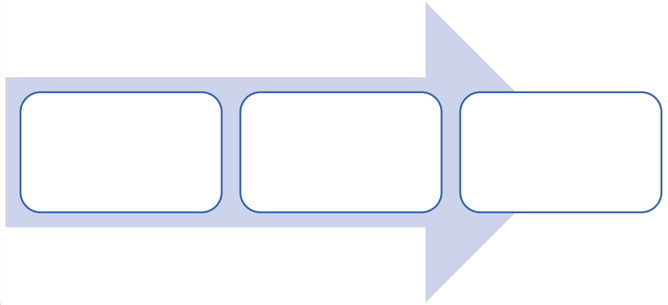
FIRST YEAR

Basic Design Exploration

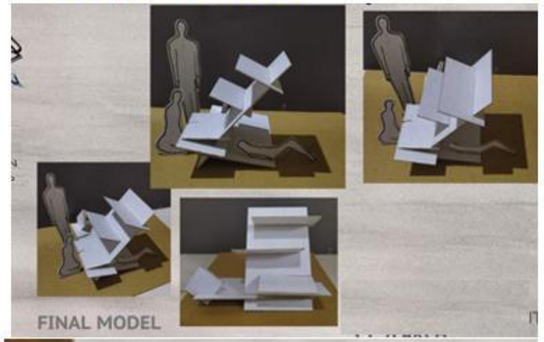
QUESTIONS....

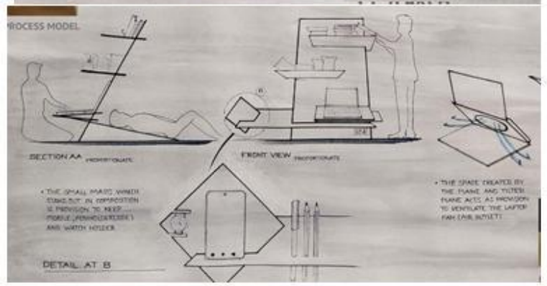
- How do other disciplines teach Architecture?
- What is the importance of sensory development in Architecture?
- How does one develop an eye and knack for design?



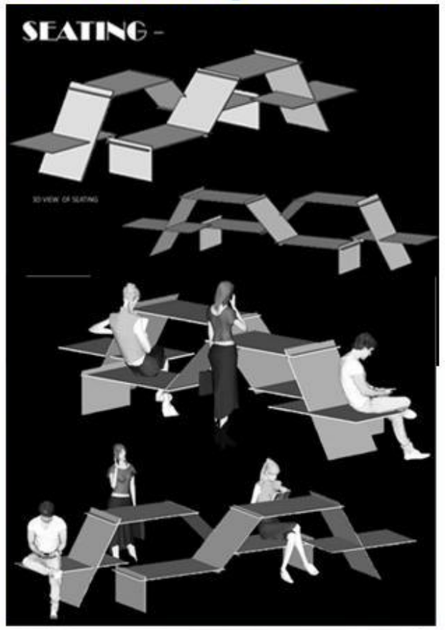


Conceptual Ideas

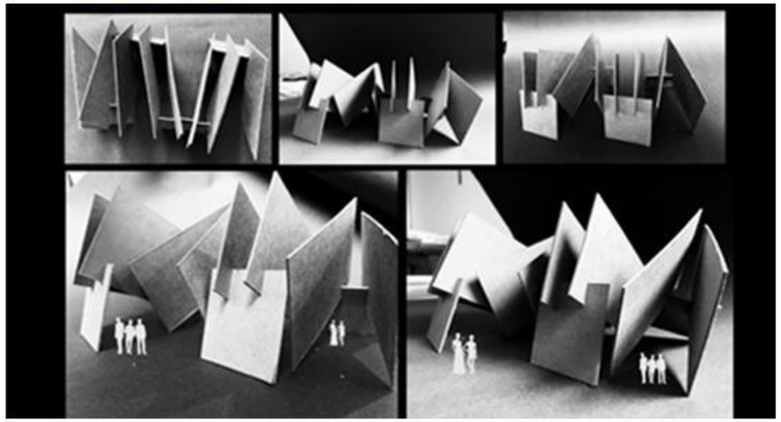


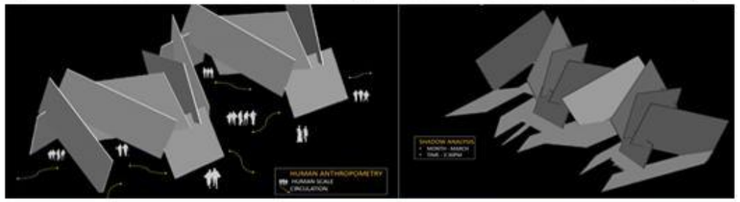


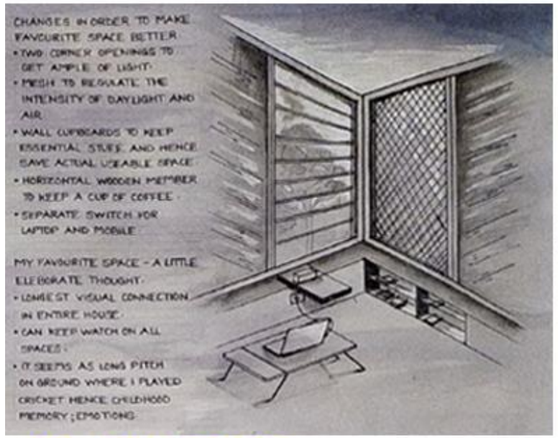
Understanding the User

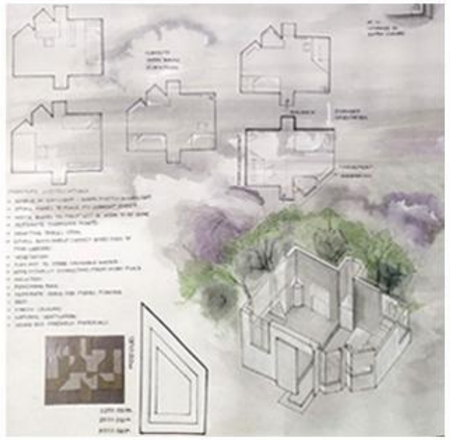


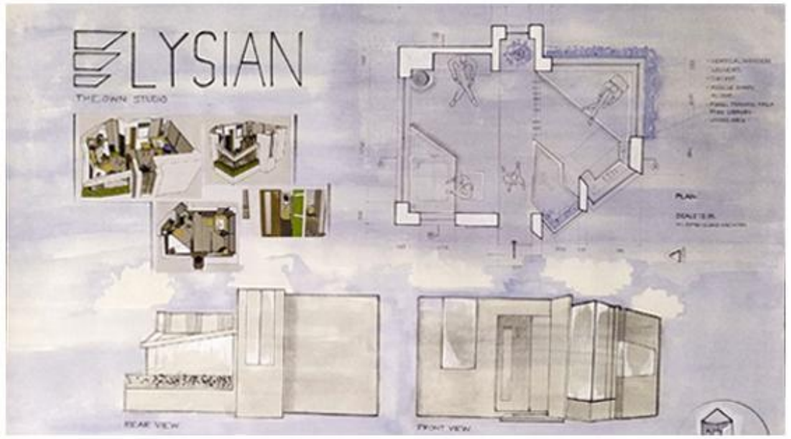
Scale Transformation







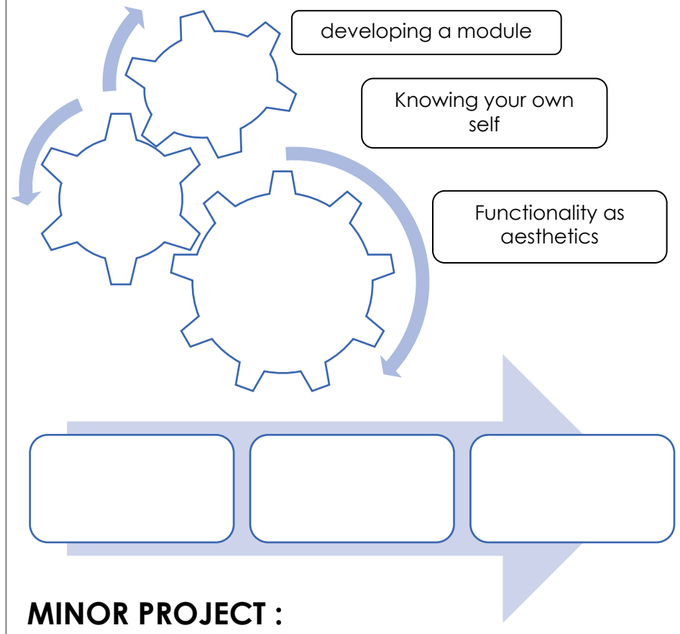




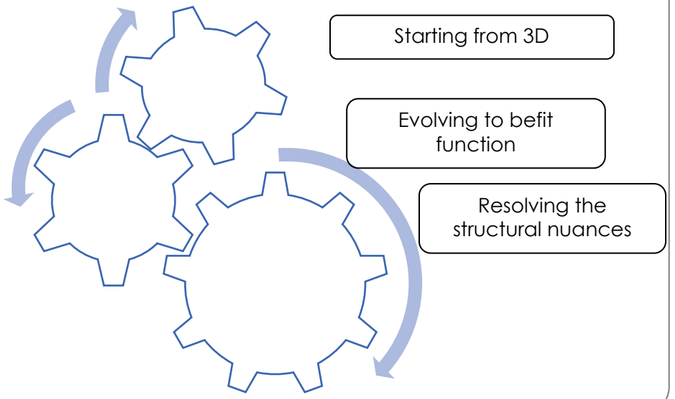
MY OWN SPACE

SECOND YEAR MINOR PROJECTS

MINOR PROJECT :
My Own Space



MINOR PROJECT :
Shelter / Object Design

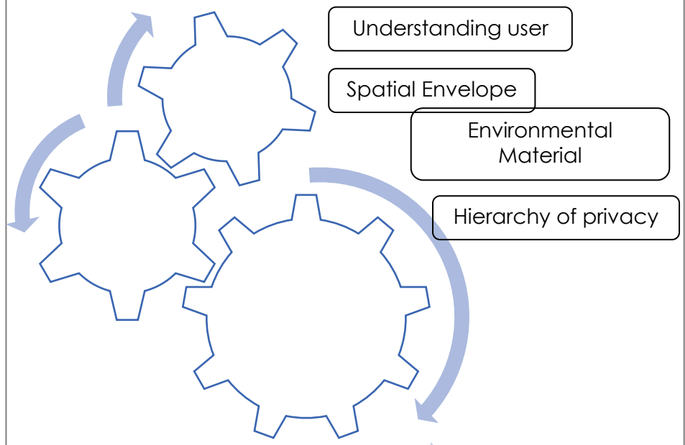


MAJOR PROJECT :

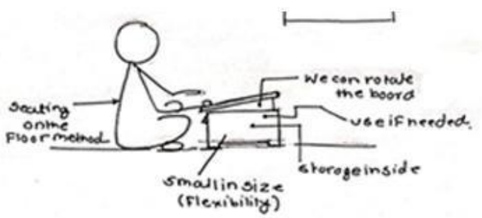
Public Plaza and Palazzo

QUESTIONS....

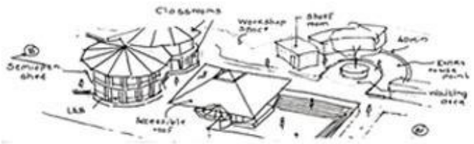
- What is a public plaza?
- How does the settlement reflect its requirement for public space?
- What kind of spatial ambience are required in a public space// building?
- How does the context guide a public building's design?

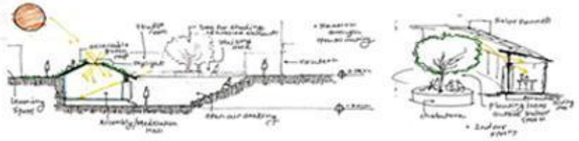


Understanding the User

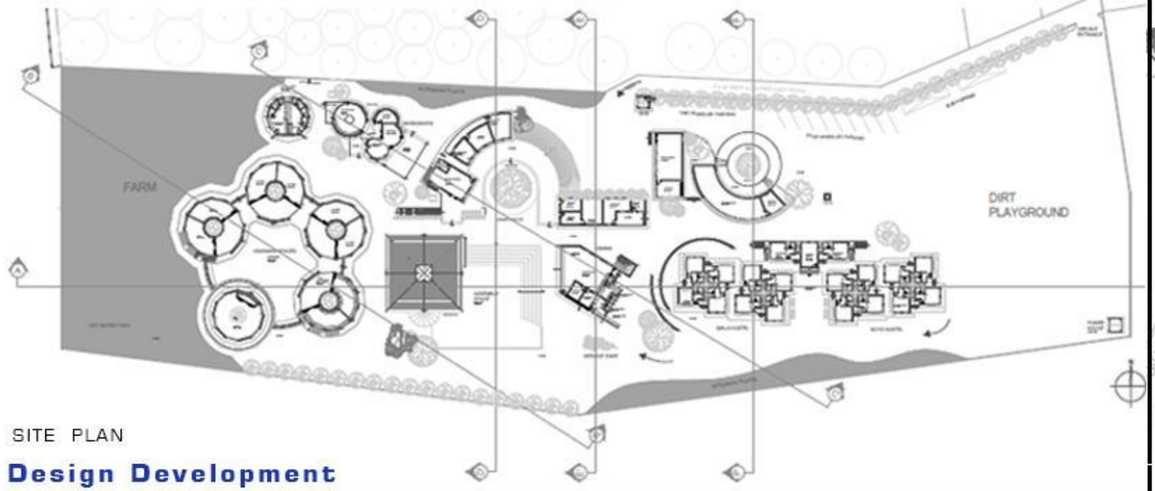


Conceptual Ideas






SITE SECTION BB'



SITE PLAN

Design Development

LEARNING CENTRE TY DESIGN V MAJOR PROJECT

Exploration to development


SECTION

FLOOR PLAN

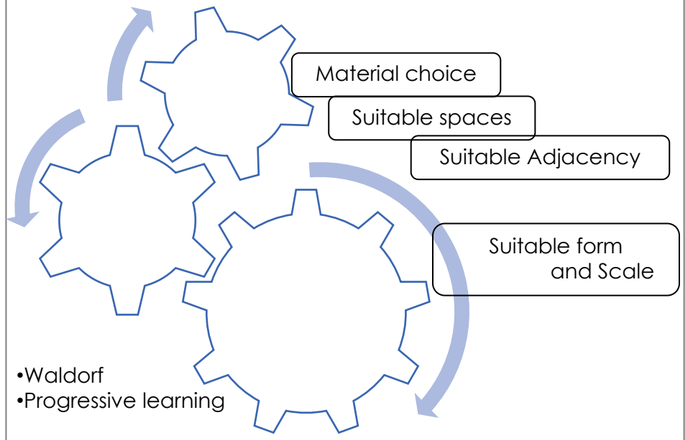
HILLDORADO MINOR PROJECT

MAJOR PROJECT :

Learning Centre for Children aged 6 to 18

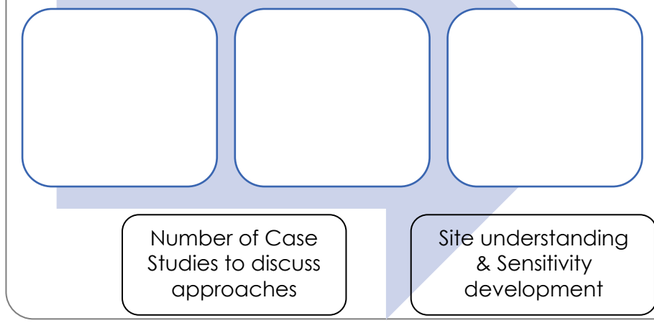
QUESTIONS....

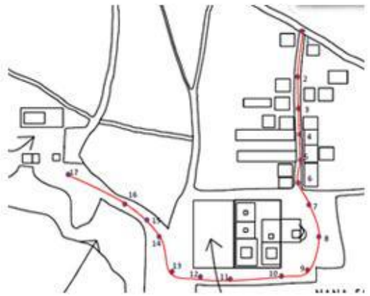
- How does Learning really Happen?
- What are the environments for Learning?
- What kind of students- teacher seating arrangement will inspire students?
- What role does Nature Play in the process?



MINOR PROJECT :

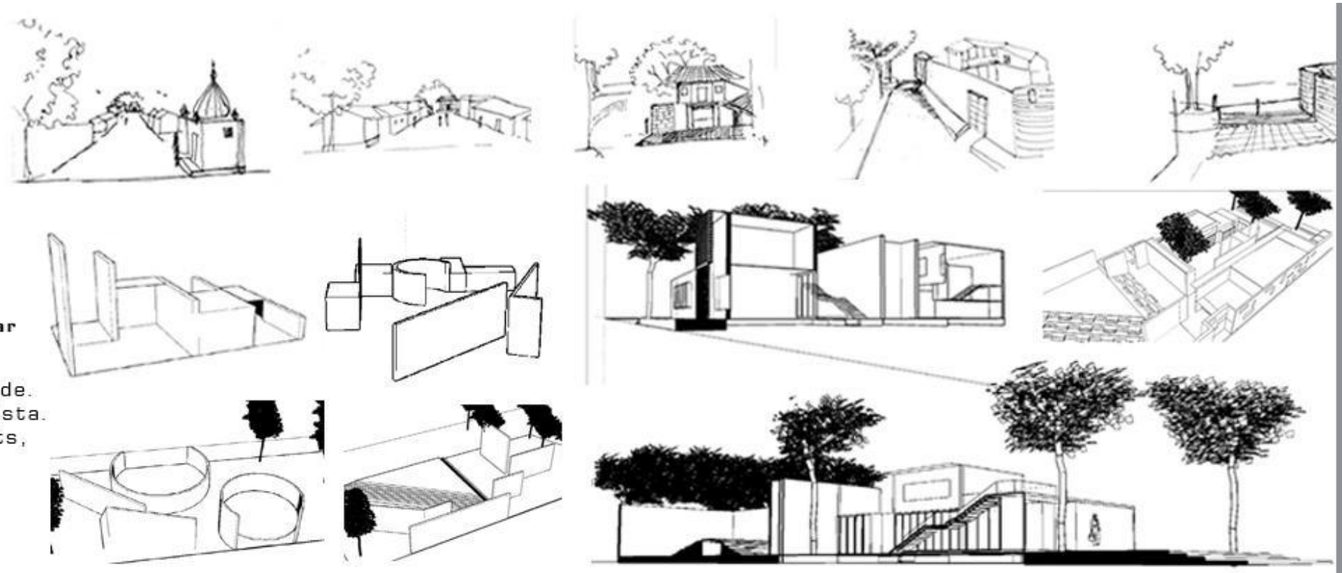
Hilldorado – A facility Centre on a Hillslope



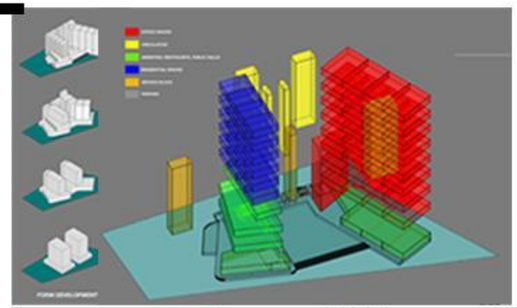


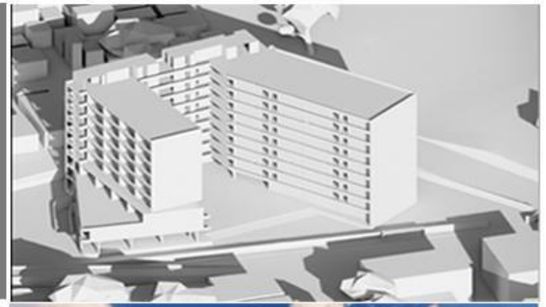
Key Plan of Menawali Ghat Parisar and Nana Phadanvis Wada

Unfolding of spaces at every node.
Each node reveals a different vista.
Each node is marked by elements,
- a shrine
- a katta
- series of steps
- walls
- uneven base planes



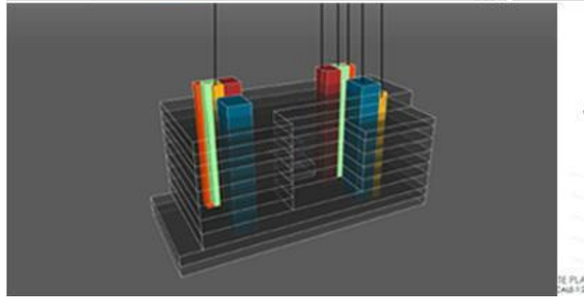
CONTEXTUAL STUDIES T Y DESIGN VI MINOR PROJECT





Student - 2

BRUTALISM
POWER
SIMPLE AND FUNCTIONAL



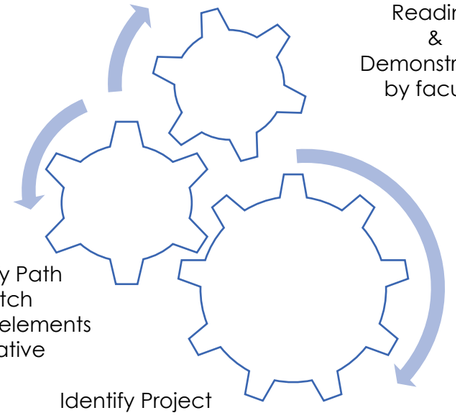
Student -1

CONNECTIVITY
OPENNESS
HUMAN SCALE

COMMERCIAL COMPLEX T Y DESIGN VI MAJOR PROJECT

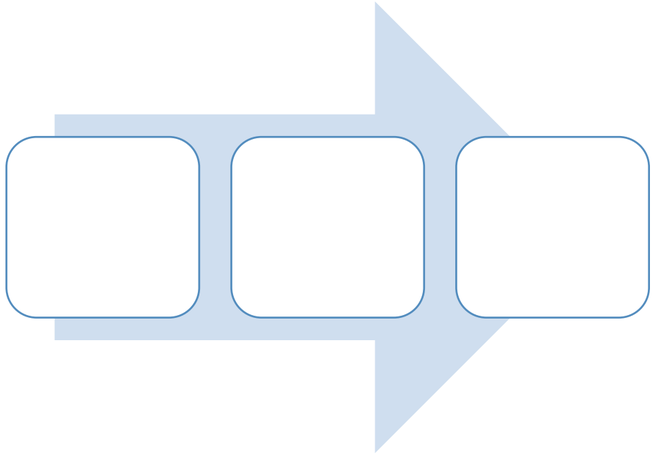
MINOR PROJECT :

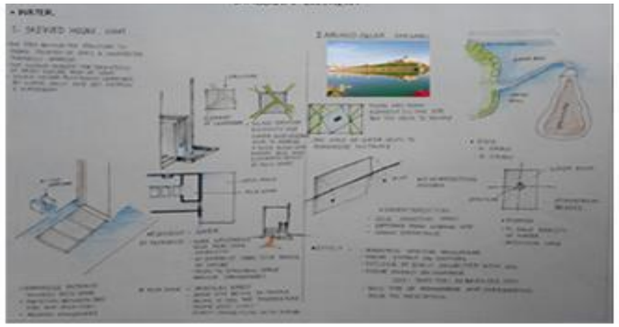
Based on Settlement Studies

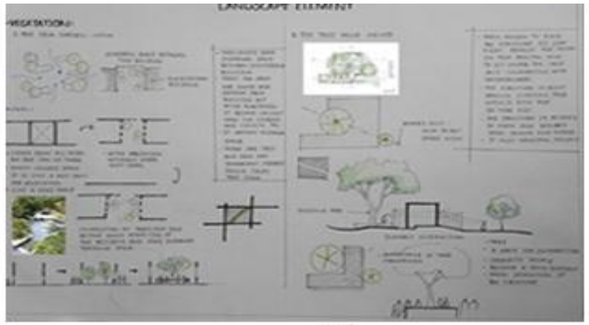


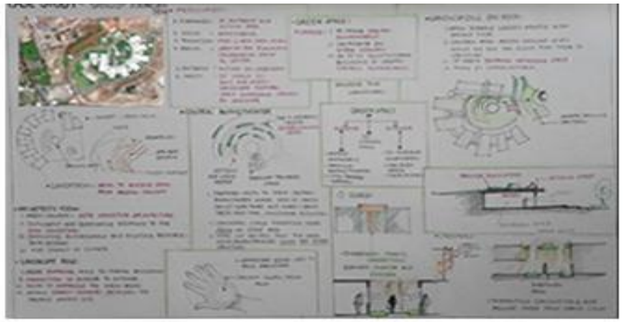
MAJOR PROJECT :

Orientation to services



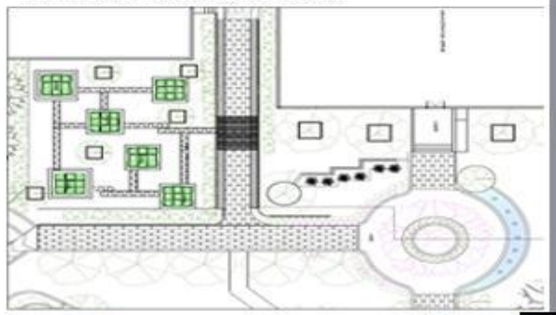






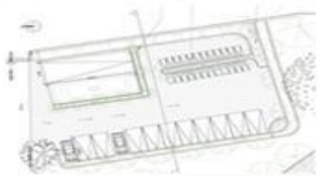
LA I
ORIENTATION TO THE SUBJECT
ELEMENTS OF LANDSCAPE ARCHITECTURE
HISTORY OF LANDSCAPE ARCHITECTURE
CASE STUDIES

LA II -
LANDSCAPE DESIGN OF A PREVIOUS PROJECT
KEEPING THE PHILOSOPHY INTACT
OVERALL LAYOUT
DETAILSOF VARIOUS SPACES



T Y LANDSCAPE ARCHITECTURE I & II

LANDSCAPE LAYOUT

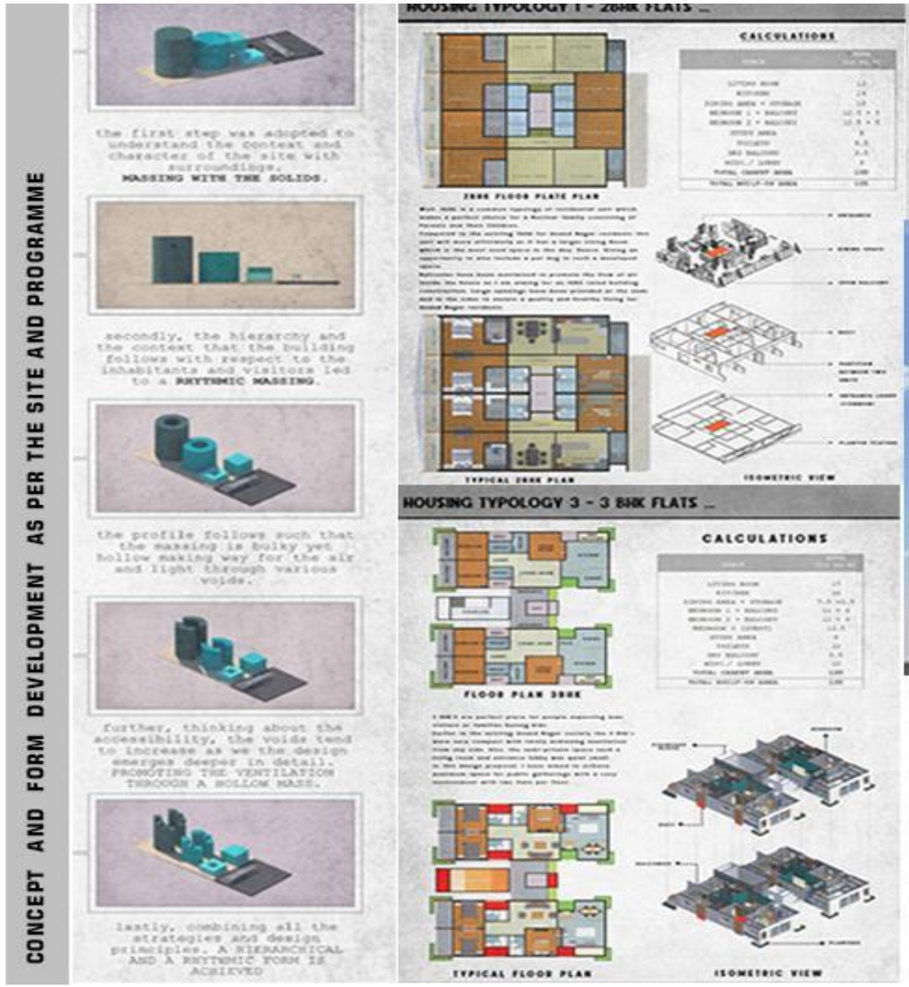


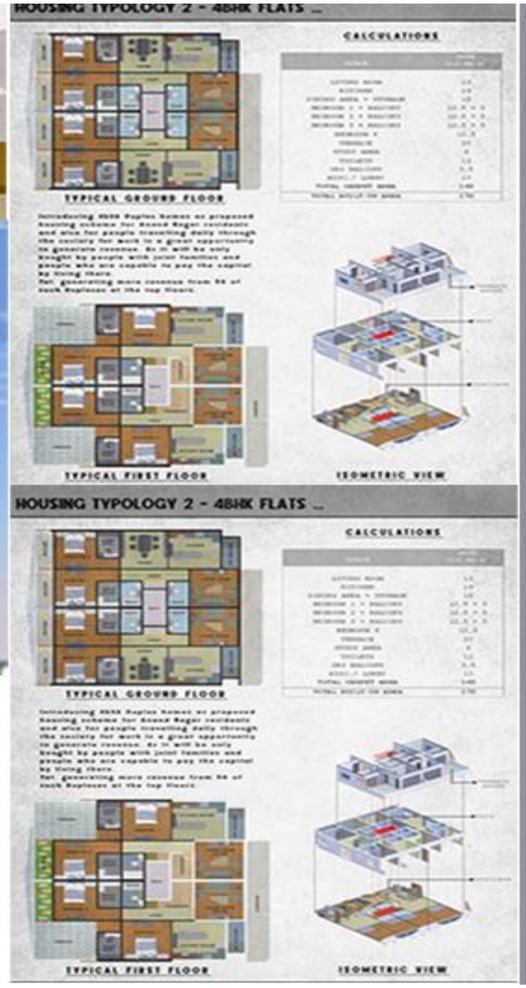
SECTION AA'

FURNITURE LAYOUT

ELECTRICAL LAYOUT

T Y INTERIOR DESIGN ELECTIVE





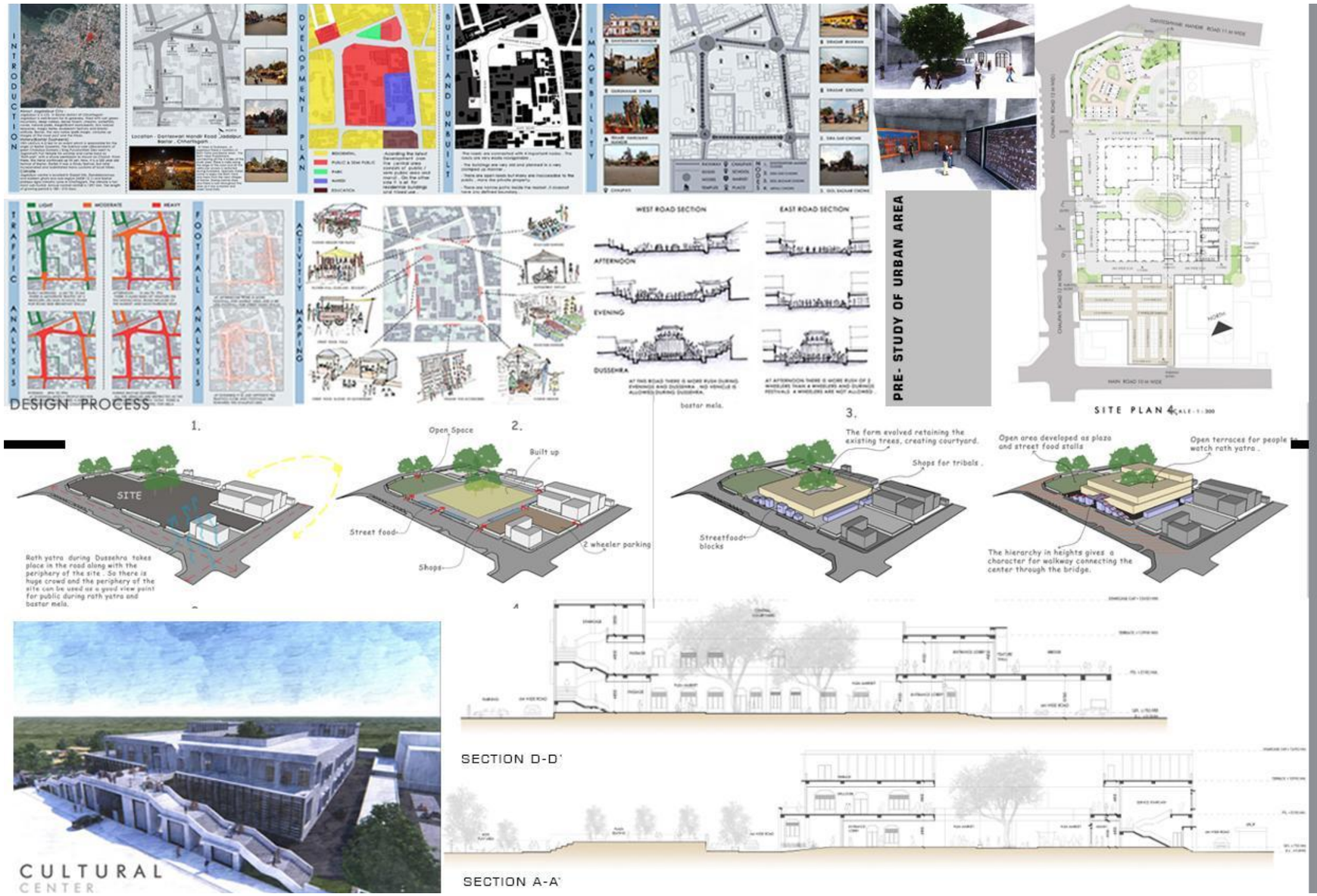
OBJECTIVES

HOUSING STUDIO : REDEVELOPMENT OF ANAND NAGAR, KOTHRUD

The project's goals included not only accomadating the existing residents and shop owners and providing them upgraded housing and better facilities, but also utilizing the increased development opportunities provided by the site and its urban context in a sensitive manner that retained the existing scope for interaction and sense of community.

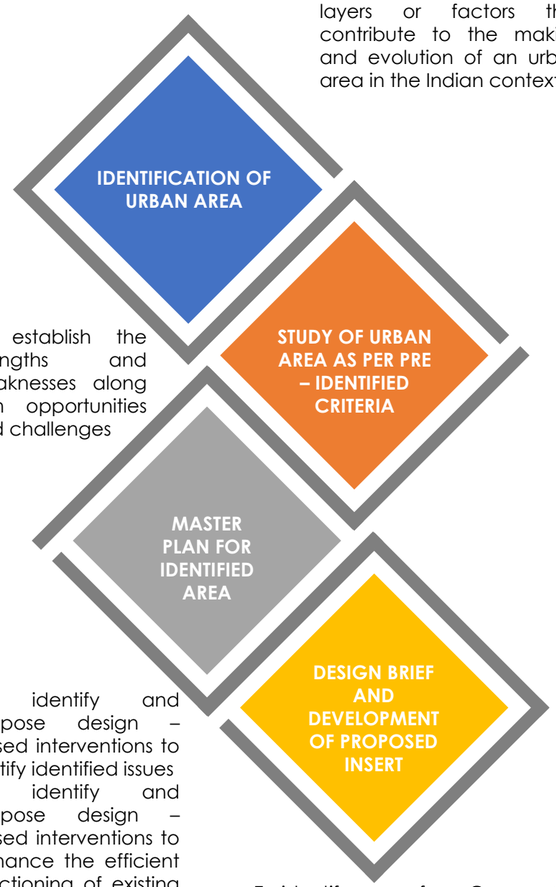
WAY OF WORKING

After a detailed study of site and its opportunities and challenges, along with mapping of existing development and user expectations, various redevelopment and design options were explored by the students to achieve the above objectives, and discussed and detailed out in the studio



URBAN INSERT:

- To discuss the different layers or factors that contribute to the making and evolution of an urban area in the Indian context.



- To establish the strengths and weaknesses along with opportunities and challenges
- To identify and propose design – based interventions to rectify identified issues
- To identify and propose design – based interventions to enhance the efficient functioning of existing activity patterns or socio – cultural character.
- To identify scope for a Community space as an urban insert – functions and architectural manifestations of the same.
- To determine the context – based design constraints imposed by the surrounding urban area on the urban insert.

		SPPU		
	BD	□ Creation using elements and principles of design. □ Synthesis of multi-sensory aspects of space. □ Space making.	AD-I	The student would be able to analyze simple spaces, identify factors affecting their design and be able to design a simple space for human use.
	BCM-I	Students will develop a basic understanding of the relationship of materials to construction systems, techniques and methodology with specific reference to load bearing construction	BCM-II	Students will expand a basic knowledge about earthquake, understanding of properties, construction techniques of timber with specific reference to use of timber in superstructure (spanning, framing techniques).
	TOS-I	At the end of semester student develops □ The understanding of building/structure as a system of forces and transfer of forces/load from roof to foundation and soil. □ The understanding of various loads acting on a structure □ The understanding of behavior of elements like walls, beams and columns subjected to tension, compression, shear and bending.	TOS-II	At the end of semester student develops □ The understanding of effect of various forces in terms of various stresses and deflection for various structural members like beams and columns. □ The understanding of trusses as lattice construction and structural actions in its members.
	AGD-I	Students at the end of the Semester should be able to comprehend and express nuances of graphic language through various methods learnt. □ Students should be able to communicate various ideas through Architectural Graphic representations including building plans and sections (drafting and sketching).	AGD-II	Students at the end of the Semester should be able to comprehend and express composite solid geometry through sketches and drawings leading to comprehension of building components.
	HOAC-I	1. An understanding of architecture, including settlements, landscapes and buildings as a cultural product shaped by various factors. 2. An understanding of the formal, structural, and stylistic aspects of architectural development.	HOAC-II	1. An understanding of architecture as a cultural product shaped by various factors. 2. An understanding of the formal, structural, and stylistic aspects of architectural development. 3. An understanding of Indian architecture of the twentieth century in the context of its historical precedents.
	CS	At the end of the course the student should be able to communicate fluently in English language and also use tools of communication such as written and graphical for effective communication.	FOA	NOT GIVEN
	WS-I	Students at the end of Semester should be able to understand relevance of model making both in the process of design and as a Product	WS-II	Students at the end of Semester should be able demonstrate sufficient skills in making architectural models.

Course Outcomes – First Year 2019 pattern

		SPPU		
	AD-II	At the end of the course the student is equipped to take design decisions by considering various aspects and methodically evolve a design and communicate it in the form of 2D and 3D representations.	AD-III	At the end of the course the student is equipped to take design decisions by considering various aspects and methodically evolve a design where two or more buildings are to be planned on a site and communicate it in form of 2D and 3D representations.
	BCM-III	Students will develop a basic understanding of the relationship of materials to construction systems, techniques and methodology with specific reference to reinforce cement concrete construction; an understanding of the concepts of concrete as a building construction material.	BCM-IV	Students will develop an understanding about concrete and its variants and artificial materials such as glass and plastic and their application in construction. Students will be developing knowledge about the vertical transportation systems and their design and construction requirement.
	TOS-III	1. The understanding of the concepts of Fixity, Continuity and Torque 2. The Skills to Design small spanned Wooden Beams 3. The Skills to Design Small Spanned R.C.C Structure w.r.t Slabs, Beams and Columns and use it for his B.C.M and W.D. subjects	TOS- IV	At the end of course students develop 1. The understanding of supporting Balconies and Staircases 2. The Understanding of Dividing Larger Rooms in Smaller One Way or Two Way Slab Units 3. The Understanding of Steel as a Material and Various Steel Sections and their use. 4. The understanding of using Steel Girders and Stanchions
	CADG	Students should be able to comprehend and express nuances of graphic language through various presentation techniques and methods learnt. · Students should be able to communicate various ideas through architectural graphic representations (drafting and sketching).	EVS	Students should be able to grasp the interdisciplinary nature of environment science and its interdependence on development and society. They should be able to think holistically about environment when taking architectural design decisions
	HOAC-III	An understanding of architecture as a product shaped by various factors like religion and society. 2. An understanding of the formal, structural, and stylistic aspects of architectural development. 3. An understanding of the factors that bring about the processes of change in architectural manifestations and its meanings.	HOAC-IV	1. An understanding of architecture as a product shaped by various factors like technological developments, colonization, globalization, economy, and urbanization. 2. An understanding of the formal, structural, and stylistic aspects of architectural development. 3. An understanding of contemporary architecture of the world with reference to historical precedents and responses to the same. 4. An understanding of the architecture of colonial and post-independence India.
	BS-I	NOT GIVEN	BS-II	Students should be able to understand basic principles of daylight and artificial lighting and should be able to design a lighting plan for a space. They should be able to calculate the energy requirement of building electrical systems. Students should be able to identify space requirements and integration of these systems in architectural design.
	WS	NOT GIVEN	SSA	At the end of the course students would be able to comprehend the site characteristics, reading and interpreting survey drawings, understanding equipment and methods of surveying leveling.

Course Outcomes – Second Year 2019 pattern

		SPPU		
	AD-IV	1] Build competency and ability to make communicative architectural drawings that are of readable scales, preferably in: 1:200 (Site level drawings & Model) 1:100 (Cluster level drawings) Appropriate details to be explored at 1:50/20/10 etc. 2] Be able to negotiate various scales in drawings and models. 3] Be equipped to resolve structural systems of various construction techniques and services.	AD-V	1] Build competency and ability to make communicative architectural drawings that are of readable scales, preferably in: 1:200 (Site level drawings & Model) 1:100 (Cluster level drawings) Appropriate details to be explored at 1:50/20/10 etc. 2] Be able to negotiate various scales in drawings and models. 3] Be equipped to resolve structural systems of various construction techniques and services.
	BCM-V	Students will understand the principle, methods, advantages and disadvantages of concrete floor construction systems and single basement construction. Students will get to know the proprietary construction techniques for partition ceilings with the latest available materials.	BCM-VI	Students will develop an understanding of possibilities of steel as an important building construction material. Understanding of properties of ferrous and non ferrous metals as materials for buildings will able students to use Steel innovatively in building projects.
	TOS-V	1. The understanding of larger space spanning both in R.C.C and Steel 2. The understanding of carrying vertical loads by R.C.C. Columns and Stanchions: 3. The understanding Lateral pressure and structural principles for overcoming it.	TOS-VI	1. The Understanding Effects of Lateral Pressure of Soil and Water 2. The sense to frame R.C.C and Steel Buildings 3. The Understanding of different Structural Systems for Larger Spans and Tall Buildings with an understanding of Wind Load
	LA	Not Given	RIA-I	Not Given
	ELECTIVE I [CA]	1. Application of the knowledge gained through the study of history of architecture to analyze contemporary architecture. 2. Development of individual viewpoints and construction of an argument to put it across. 3. Skill of orally presenting a topic of choice, and generating a discussion.	ELECTIVE II	Not Given
	BS-III	Principles of working of natural ventilation, heating, cooling and HVAC systems, components, materials and provisions in architectural design Functional and aesthetical aspects of building services coordination in architectural design	BS-IV	Not Given
	WD-I	Not Given		Not Given

Course Outcomes – Third Year 2019 pattern

AS per SPPU Syllabus

		SPPU		
	AD-VI	Not Given	AD-VII	Not Given
	ABCS	Not Given	ABCS	Not Given
	US-I	Students will develop a basic understanding of urban planning, urban design, studying urban planning principles and application of the same. Students will know about housing types, concerns & issues related to it and strategies to resolve issues.	US-II	Students will develop a basic understanding of Planning and Urban Design legislation; studying planning process, survey, and application of the same to know about issues like urban economics, transportation.
	RIA	Not Given	ELECTIVE IV	Not Given
	Elective-III	Not Given	ELECTIVE V	Not Given
	QS & SW-I	Not Given	QS & SW-II	Not Given
	PP	Not Given	PROJECT MANAGEMENT	After completing this course students will be exposed to basic key concepts of Project Management and its importance in managing Project. The student should be competent enough to handle and manage a small-scale project from conceptualization to completion (hand over). Subject knowledge gain may help few of the students to pursue master's education in the field of Project Management.

Course Outcomes – Fourth Year 2019 pattern