



WES

SMT. MANORAMABAI MUNDLE
COLLEGE OF ARCHITECTURE

ARCHITECTURAL DESIGN

ALLIED DESIGN STUDIO

BUILDING CONST. & MATERIALS

ARCHITECTURAL GRAPHICS

STRUCTURAL DESIGN & SYSTEMS

HISTORY OF ARCHITECTURE

COMPUTER APPLICATION

CLIMATOLOGY

ELECTIVE

**THIRD
SEMESTER**

**ACADEMIC
BOOKLET
ODD SEMESTER
2021-22**

Index

Introduction

Policy for Students

Third Semester Faculty

Scheme of Examination

Submission Calendar

Teaching Program

- 1. Architectural Design-III**
- 2. Allied Design Studio-III**
- 3. Building Construction and Materials -III**
- 4. Architectural Graphics III**
- 5. Structural Design & Systems III**
- 6. History of Architecture II**
- 7. Computer Application III**
- 8. Climatology**
- 9. Elective III**

In Charge: - Ar. Sarika Joshi

Class Coordinators

Section A- Ar. Sarika Joshi

Section B- Ar. Sneha Bodhankar

Section B- Ar. Medha Pophale

Architectural Design

Coordinator: Ar. Sarika Joshi

Team- Dr Tarika Dagadkar, Ar. Sarika Joshi, Ar. Piyusha Rathod

Dr Roopal Deshpande, Ar. Sneha Bodhankar Ar. Rashmi Thakre

Ar. Seema Burele, Ar. Medha Pophale, Prof. Atula Patwardhan

Allied design III

Coordinator: Ar. Sarika Joshi

Team- Dr Tarika Dagadkar, Ar. Sarika Joshi, Ar. Piyusha Rathod

Dr Roopal Deshpande, Ar. Sneha Bodhankar Ar. Rashmi Thakre

Ar. Seema Burele, Ar. Medha Pophale, Prof. Atula Patwardhan

Building Construction & Materials –III

Coordinator: Ar. Seema Burele

Team - Dr Tarika Dagadkar, Dr. Madhura Rathod, Ar. Seema Burele, Ar. Sarika Joshi,

Ar. Sneha Bodhankar

Architectural Graphics-III

Coordinator: Ar. Vishwas Dikhole

Team – Ar. Vishwas Dikhole, Ar. Seema Burele, Ar. Sarika Joshi,

Ar. Medha Pophale, Ar. Rashmi Tijare

Structural Design & Systems –III

Subject Teachers Mr.Rupal Wadegaonkar

History of Architecture

Subject Teachers – Dr. Roopal Deshpande, Ar. Sarika Joshi

Computer Applications III

Subject Teachers – Ar. Seema Burele, Ar. Sarika Joshi, Ar. Samruddhi Amte

Elective - Rural Architecture

Subject Teachers – Dr. Tarika Dagadkar, Ar. Seema Burele

Elective – Institutional Project 3

Subject Teachers – Dr. Neeta Lambe, Ar. Sneha Bodhankar

Vision

The vision limits to the present situation or at best for the near future. We should mention that we equip students to venture into the future.

Our vision is to reach global standards by deliberate modernization without losing the essential characteristics of our tradition. Being a women's college we find it more pertinent to imbibe both these qualities very consciously in our girl students.

We wish to produce socially responsible architects with sensitivity towards social issues of immediate contexts, national concerns and global effects and positive and creative approach towards life.

Mission

To create an educational environment in which students are prepared to meet the challenges of a fast developing and changing world.

Hence the students are equipped with:

- Up to date knowledge
- Analytical and practical skills
- Creative approach towards everything that they undertake
- Attitude to be sensitive towards national, social and environmental issues

While addressing the global challenges we believe strongly in anchoring ourselves to the immediate context. We accept gratefully our role in preserving and enhancing Vidarbha and Nagpur- the place, its people and architecture.

Core Values

- | | | |
|--------------|-----------------|--------------|
| • Integrity | • Creativity | • Innovation |
| • Discovery | • Collaboration | • Respect |
| • Discipline | • Excellence | • Diversity |

Objectives

- To develop among students academic and Professional competency.
- To foster value-based, creative and critical learning
- To hone skills of living in a technological, globalized and ecologically aware environment
- To develop culture of commitment to excellence

Code of Conduct

Punctuality- It is mandatory for students to be punctual in the college and shall have to be present every day at 8.45 a.m.. Every student is expected to attend the morning assembly. Attendance of the students will be taken at the time of assembly by respective class co-ordinators.

The attendance will also be taken at the beginning of the classes in the afternoon after lunch break. The record of attendance shall be displayed at the end of each month for students. Every student is expected to go through the displayed attendance and request rectification of the record within 8 days by talking to the class teacher if her attendance has been wrongly recorded.

In case of absentism, student shall bring a letter of absence duly signed by her parents/guardian. However, a student having less than 75% attendance will face disciplinary action and will not be permitted to appear for University Examination.

Dress Code – Salwar suit/ Jeans /Leggings with long Kurti.

Extracurricular activities- Credits are allotted to each activity and students are required to attend the activities to earn these credits.

Every student has to attend the programmes organized by the college from time to time.

Attendance for programme of 26th January and of 15th August is mandatory for every student and the dress code a white Salwar Suits/Leggings with Long Kurti.

Study tours- Every year study tours are arranged for students of different years as per their curriculum requirements. Active participation in Study Tour is necessary.

Academic Performance

Submission schedule of all the subjects of a semester will be displayed at the beginning of the session. Students must follow the submission schedules given by respective subject teachers. No late submissions will be accepted after the scheduled date.

Midterm assessment

A midterm assessment will be conducted to assess the progress of a student. It is mandatory for all the students to appear for this assessment.

Student Council

The Student Council will be formulated for the main purpose of empowering the students. Having a formal setup of a Student Council enables students to organize and conduct certain activities, co-

ordinate publications like 'Her Space', and properly convey any concerns students may have to the college administration and teaching faculty.

The student council also takes the lead in organizing and coordinating many events in the academic year – like daily assembly, Republic day and Independence day celebrations, NASA, Teachers Day, Archiventure, Women's day celebration and all other major events conducted by the college.

The structure of the council is such that students from all years find representation in it. The team is headed by fourth year students with representative from first, second and third year. Third year students take over the reins when fourth year students go for their training in the 8th semester. Final year students act as mentors to the council.

The organization set up for student council will comprise of President, Vice-president, Secretary, Vice-secretary, Treasurer. In addition, there are Class Representatives from first and second year – one representative from each of the three sections in a year.

SCHEME OF EXAMINATION – B.Arch.

SECOND YEAR B.ARCH.

Semester – 3

Sr. No.	Sub. Code	Sub. Name	PAPER CODE	Category	Board	Load Per Week					Credits					Paper / Sessional	Duration in Hours	Max. Marks	Total Marks	Min. Pass Marks
						L/D	T	S	P	Total	L	T	S	P	Total					
1	3S-A-1	Architectural Design III	BAR03S01	PC	AR	1	0	4	0	5	1	0	6	0	7	Sessional		150	200	100
			Viva Voce													50				
2	3S-A-2	Allied Design Studio-III	BAR03S02	PC	AR	1	0	2	0	3	1	0	3	0	4	Sessional		100	100	50
3	3S-A-3	Building Construction and Materials -III	BAR03T03	BS&AE	AR	2	0	3	0	5	2	0	4.5	0	6.5	Paper	3	100	150	40
			Sessional													50		25		
4	3S-A-4	Architectural Graphics III	BAR03S04	PC	AR	1	0	0	2	3	1	0	0	1	2	Sessional		100	100	50
5	3S-A-5	Structural Design & Systems III	BAR03T05	BS&AE	AR	2	1	0	0	3	2	0.5	0	0	2.5	Paper	3	60	100	50
																Sessional		40		
6	3S-A-6	History of Architecture II	BAR03S06	PC	AR	2	1	0	0	3	2	0.5	0	0	2.5	Sessional		100	100	50
7	3S-A-7	Computer Application III	BAR03S07	PC	AR	0	0	0	2	2	0	0	0	1	1	Sessional		50	50	25
8	3S-A-8	Climatology	BAR03T08	BS&AE	AR	2	1	0	0	3	2	0.5	0	0	2.5	Paper	3	60	100	50
			Sessional													40				
9	3S-A-9	Elective III	BAR03S09	EC	AR	1	2	0	0	3	1	1	0	0	2	Sessional		100	100	50
Total										30					30.0		1000	1000		

Elective III Scale and Proportion / Anthropometrics & Ergonomics / Rural Architecture / Traditional Arts and Crafts / Biomimicry / Institutional Project 3

ARCHITECTURAL DESIGN-III

Design Co ordinator: Ar. Sarika Joshi

Teacher's In charge: Dr Tarika Dagadkar, Ar. Sarika Joshi, Ar. Piyusha Rathod , Dr Roopal Deshpande, Ar. Sneha Bodhankar Ar. Rashmi Thakre , Ar. Seema Burele, Ar. Medha Pophale, Prof. Atula Patwardhan

Introduction

In the first year, the design methodology adopted was to take the students from known to not so known. Students worked on single activity, simple circulation and composition of activities on site. Design project in III Semester carries forward the understanding of the previous semester with the added complexities of multiple activities with application of knowledge of climatology.

This semester students will start with understanding the core of the design which is based on the theme 'National Educational Policy'. The introduction of the National Education Policy (NEP 2020) has a completely new vision for Indian Education System. Honorable President, Ramnath Kovind stated that the NEP 2020 has a holistic vision of transforming the way children and youth will be educated to make learning a part of personal development while also serving the needs of society. It is bound to bring changes from Montessori to Post-doctoral programs. The curriculum of architecture studies will also take its due twists and turns accordingly and thus it will be interesting to work on a project of similar idea. The students will also be of a mix of disciplines. This will call for an open campus with adequate accommodation facilities for its director, faculty, students and guests.

About the project:

The design studio is focused to work upon design of "Guest house". Here more emphasis will be given to the context and functionality of the building within the institutional campus. Due consideration on understanding of issues related to composite activities, impact of site and site features on planning and implementing the climate responsive strategies in design will be given importance. The site selected for this project is L. A. D. College Campus, Seminary Hill, Nagpur.

This guest house will accommodate guests coming at our campus and may be VIP, VVIP officials, directors and number of other visitors. Though the building is primarily a guest house, it also acts as a node for meetings, discussions among the guests and various departments within the campus.

As a guest house, the building has to have cozy ambience as well as capacity to accommodate 20 guests (single & double occupancy, VIP suits etc) , food court with kitchen, wash areas, storage and other required spaces (meeting rooms, caretaker room, janitors spaces, etc.). The support facilities are also very essential to sustain the main function of the building. The typology selected will facilitate students to understand the concept of modular co-ordination along with the climate responsive strategies

Aim: The design studio aims at making students understand the concept of Modular Co-ordination and able to design activity of guest house on the given campus.

Learning Objectives:

1. Understanding Complexity in circulation- and pattern of horizontals as well as vertical movement (at site and building level)
2. interactive relationships between outdoor and indoor spaces , hierarchy of spaces
3. learning Integration in terms of facilitation, planform, volume, concept and space organization
4. application of basic building materials to evolve a design with their aesthetic appeal, functional quality and elementary structural concepts to evolve specific form
5. implementing the climate responsive strategies in design.

Course Objectives:

1. The focus at this stage will be on detailing of various architectural elements in the context of functions, construction techniques, characteristics of material and its implications on architectural form.
2. Introduction to organizational, spatial strategies, circulation within and around the built form.
3. Conceptual and Contextual exploration with respect to climate, culture, etc

About the site: The area of site selected for the project which is within the LAD campus Seminary Hills, Nagpur abutting the Seminary Hills Road is 1525SqM. 1.5 Acre. The site dimensions and other site features are marked on the site plan attached herewith.

Stages of working: The Details of stages of working, reviews, submission requirements and evaluation criteria and marks allotted are described in detail in the following table

Modules	Objectives	Teacher's input	Expected output	Time duration
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Module 1: Formulation of Design Programme	<ol style="list-style-type: none"> 1) To identify the activities and the area required for designing the given typology (design program) 2) Taking inspiration from creative exercise and making composition of modules, super module and cluster with Facilitation according to circulation diagram 	Presentation on Organisational and Spatial strategies	A2 size sheets	Week 4 (15 th - 21 st Nov)
Module 2: zoning and site plan	<ol style="list-style-type: none"> 1) To understand the site context, viewpoints from the site and to the sites. 2) To identify areas for placement of activities on site and decide orientation of blocks on site (Zoning) 3) To identify the construction techniques and material identification 	Discussion	A2 size sheets	Week5 (22 nd - 28 th Nov)
First Submission- Review-I (4th Week of Nov 2021)				
Module 3: 3D compositions	<ol style="list-style-type: none"> 1) To derive a balanced composition (2d plans) 2) To make student understand and visualize the 3D form of the final composition 	Discussion and hands on exercise.	1 A2 sheet with model	week 6 (29 th - 5 th Dec)
module 4: Revision of 3D composition with respect to site and climatological consideration	<ol style="list-style-type: none"> 1) To make student understand the application of climate responsive strategies. 2) To analyse the composition and rectifying the same with respect to the climatical constraint (3d compositions and volumetric study) 3) To identify the construction techniques and material identification 	Presentation by faculty on climate responsive design elements	1 A2 sheet with model	& Week 7 (6 th – 12 th Dec)
Second Submission- Review-II (2nd week of Dec 2021)				
Module 5: Architectural detailing	<ol style="list-style-type: none"> 1) To represent and explain the entire proposal in the form of detail drawings of plans, elevations, sections, views (perspective views and sketch up views) 		Sheets with detail finished model	Week 8 13 th – 19 th Dec & Week 9 (20 th - 24 th Dec)
Third Submission- Review-III Pre final Submission (24th Dec 2021)				
Final Portfolio submission (24th December 2021)				
Submission requirements (sheets and models):				

1. Composition of modules, super module and cluster with Facilitation
2. 3D Composition
3. Site plan (scale 1:200)
4. Details of each block
 - Plans (scale 1:100)
 - Elevations (scale 1:100)
 - Sections (scale 1:100)
 - Sketch up views / perspective views
5. Models- study models and final model

Attendance	CO1 / Review 1	CO 2 / Review 2	CO3 / Review 3	Internal viva / Final submission	TOTAL 150
	Zoning, design program, Facilitation and circulation	Site plan and plans, climatic considerations)	Elevations, sections, views, architectural expression (material and construction techniques)	Entire portfolio	
30	20	40	20	40	150

The selected site is L.A.D. college Campus, Seminary Hills Nagpur. The total site area of the campus is 26 Acres. As the 3rd semester students will work on designing guest house, selected site is adjacent to existing garden and hostel (as marked on Fig. 1 Existing site plan). The site (1525 Sq M i.e., 1.5 Acre) is mostly flat and near to the second entrance gate of the campus. The site dimensions and other site features are marked on the site plan.



ALLIED DESIGN-III

Design Co ordinator: Ar. Sarika Joshi

Teacher's In charge: Dr Tarika Dagadkar, Ar. Sarika Joshi, Ar. Piyusha Rathod , Dr Roopal Deshpande, Ar. Sneha Bodhankar Ar. Rashmi Thakre , Ar. Seema Burele, Ar. Medha Pophale, Prof. Atula Patwardhan

Objective of Allied Design III:

- Developing the basic understanding of composite activity like Guest house and skills required to design "Guest house"

Module-1

Understanding what a composite activity is and the concept of guest house as architectural typology (User group study, hierarchy of spaces etc.)

Module-2

Understand the concept of Modular Co-ordination and utilizing it on the principles of Design (2 D and 3 D compositions through creative exercise)

Module-3

Understanding the circulation, facilitation, functioning, spatial requirements, movement pattern etc. within the guest house through precedent studies

Module-4

Understand the impact of site and site features on planning (site analysis)

Studio Modalities:

Module	Description Of Objectives	Teacher's Input	Expected Output	Duration / Time/Week
Stage-1:	Developing the basic understanding of composite activity like Guest house (why is, what is, for whom and where it (guest house) is constructed)	Introductory discussion with students	Introductory sheet	Week 1(18 th -24 th Oct)

Stage-2: Creative exercise - 2D Composition and 3D block model	recapitulation of principles of aesthetic and making 2D compositions using the theory of modular coordination and developing it into 3D block model.	Instructions regarding hands on exercise	A2 (half imperial) sheet with model	
Stage3: Precedent study and data collection	Data collection and precedent study to understand the concept of composite typology respect to the activity of Guest house (different activities associated with it) and inferences from case studies.	Discussion with students	A2 size sheets	Week 2 (25 th -31 st Oct)
Submission- Review- I- (October 31st)				
Stage 4: site and climate study	To analyse the site and the typology with climate responsive approach	Presentation by faculty on site analysis	A2 size sheets	Week 3 (11 th Nov-14 th Nov)
Final Portfolio submission (NOV 15th 2021)				
Submission requirements (sheets and models):				
<ul style="list-style-type: none"> 6. Introduction to Guest house 7. Creative exercise 2 D and 3D (model) 8. Precedent study and data collection 9. Site analysis 				

Evaluation Scheme

Attendance	Module1	Module 2	Module 3/ review 1	Sub 4	Internal viva /Final submission	TOTAL 100
	intro sheet	creative exercise sheet and model	Precedent study and data collection	Site analysis and climate responsive strategies		
20 marks	10	20	20	10	20	100

CONSTRUCTION TECHNOLOGY AND MATERIALS- III

Construction Coordinator - Ar.Seema Burele

Team: Ar.Tarika Dagadkar , Ar.Madhura Rathod, Ar. Sarika Joshi, Ar. Sneha Bodhankar

Sr. No	TOPIC	Objectives	Time Period	Expected output For evaluation Sheets, Sketches, tutorials, market survey of materials
1	Recapitulation of Timber as building material and its Joinery details.	To make students aware of joinery details in timber	October Week 1	Market Survey and Tutorial
2	Introduction to floor as building element & different types of flooring materials. Timber flooring - Single, double and triple flooring. Other types of floors	Timber flooring and its construction techniques	October Week 1 and Week 2	
3	Introduction to staircases – materials and guidelines and design consideration	To study Design guidelines for staircases and its graphical representation	October Week 3	Tutorial
4	Introduction to wooden, steel and stone staircase.	Wooden, steel and stone as a construction material for staircase		
5	Introduction to materials of RCC, cement, sand aggregates	To understand R.C.C as a building material, availability and its application.	October Week 4	Tutorial
6	Formwork and shuttering used for R.C.C component			
7	Reinforcement arrangement and Schedule of Reinforcement for different types of columns	To understand the geometry of RCC Columns	November Week 3	Sheets

8	Reinforcement arrangement of RCC footings- Isolated, combined and eccentric footing	To understand the reinforcement details of foundations	November Week 3 and Week 4	Sheets
SUBMISSION – 1 (27th November)				
9	Reinforcement of RCC Beams, chajjas and fins.	To understand reinforcement details of Beams, chajjas and fins.	November Week 5	Sheets
10	Slab reinforcement – one way and two-way slab, continuous slab, cantilever slab and sunken slab	To explain the difference bet. one way, two way, continuous and cantilever slab	December Week 1,2 and Week 3	Sheets
11	Introduction to RCC staircase	Reinforcement of RCC staircase	December Week 3	Sheets
12	Stainless steel, copper, aluminium and titanium as a building material	To strengthen students' knowledge about material application in buildings.	December Week 4	Market survey and Tutorial
FINAL PORTFOLIO SUBMISSION - (27th December)				

3S-A-2	Construction Technology & Materials III			
CO 1	Unit -1 Study of different types of floors in timber. Knowledge of Flooring materials-specifications.			
CO 2	Unit - 2 Learning design guidelines for staircases, its geometry & understanding its graphical representation. Study of Staircases in Timber R.C.C, stone and Steel.			
CO 3	Unit - 3 Gaining knowledge of RCC structural systems. Understanding proportions, geometry & materials of RCC structural elements. Studying Reinforcement details of foundations, one way & two-way slab & other RCC structural elements. To understand how to read structural drawings			
CO 4	Unit -4 Studying Mild steel, Stainless steel, copper, aluminium and titanium as a building material			
CO 5	Unit -5 Formwork and shuttering used for R.C.C component			

											Teachers' evaluation		
CO1	Attainment	CO2	Attainment	CO3	Attainment	CO4	Attainment	CO5	Total	Attainment	Sessional	Attendance	TOTAL
U-1		U-2		U-3		U-4		U-5					
6	Y/N	6	Y/N	15	Y/N	8	Y/N	5	40	Y/N	40	20	100

Assignments shall be evaluated on the basis of following criteria:

Sketch book	Tutorials	Market Surveys(material)
Quality of Sketches	No. of questions	Information from surveys
Proportion	Contents of Ans.	Reviews

Evaluation Scheme

S.No.		%
1	Attendance	20
2	Sheets, Tutorials and Sketch Books	40
4	Sessional	40
5	Total	100

ARCHITECTURAL GRAPHICS- III

Team –Prof. Vishwas Dikhole, Dr.Seema Burele, Ar. Rashmi Tijare, Ar.Sarika Joshi, Ar.Medha Pophale

Graphics is a communication tool that plays an important role in architecture. Architecture can be very well expressed through graphical representation. It enhances the ability of the students to visualize the object through different perspectives. Thus, third semester Graphics comprises of two main topics perspective and sciography. The details are given in following table.

Teaching Program

MONTH	WEEK	TOPIC	OBJECTIVES	ASSIGNMENTS
UNIT I PERSPECTIVE				
October and November	Week 2	1. Introduction to perspective - vocabulary, types and methods 2. Introduction and problems on Parallel Perspectives by direct method. 3. Detail explanation of angular perspective/ two-point perspectives and One point perspective – Direct Method and measuring point methods	1. To know the basic concepts of perspective like stand point eyelevel, picture plane and to understand the different methods of drawing perspective.	Sheets
			2. To understand the methods of drawing parallel perspective. Various examples on blocking, height reductions and for interiors 3. To understand the methods of drawing angular perspective. Various examples on blocking, height reductions and for interiors	Sheets
Submission of Unit-I on 1st December 2021				
UNIT II SCIOGRAPHY				

November and December	Nov Week 4 and 5 Dec Week 1 and 3	<ol style="list-style-type: none"> 1. Introduction to Sciography 2. Sciography of lines, planes and 3 dimensional forms 3. Sciography of various building elements (voids and solid, chajjas, niches, steps, etc.) 4. Sciography for Landscaping elements along with building (site plan) 	<ul style="list-style-type: none"> • To understand the concepts of shades and shadows. • To understand and learn the technical methods of drawing the Sciography • To understand the technical methods of drawing Sciography with respect to Building and landscaping elements. 	Sheets
Pre-Final Submission on 20th December 2021				
Final Portfolio submission on 25th December 2021				

Evaluation Scheme: -

Sessional Marks only- 50

Mini. Marks: 25

Topics	Max Marks
Portfolio	30
Attendance	10
Sessional	10
Total	50

Sr. No	Roll No.	NAME OF STUDENT	CO1	Attainment	CO2	Attainment	Sessional	Attendance	TOTAL
			U-1		U-2				
		Max. Marks	15	Y/N	15	Y/N	10	10	50

Sr. no	Description of CO	Weightage in terms of marks (cumulative marks should not exceed 60)	Output (Test/Essay/ Sheets/ppt/model/Review/any other)
1	Introduction to Sciography and problems on developing the sciography of lines, 3d objects and various design elements.	15	Sheets
2	Introduction to perspective - vocabulary, different types of perspective, methods for drawing the perspective, one point and angular (two-point perspective)	15	Sheets

COMPUTER APPLICATION-III

Teacher in charge: Ar. Samruddhi Amte, Ar.Sarika Joshi, Ar. Seema Burele

Objectives: To learn drafting skills and design testing methods with the help of computer software

1. Unit I: Auto CAD and equivalent software –drafting commands on Auto CAD, Appropriate graphical representation with the software as per requirements of architectural drawings.
2. Unit II: Introduction to simulation and simulation software as a tool to test the response of designed building in given situation. Introduction to Simulation softwares used for building services, climate, acoustics and illumination, construction, structures etc.

Units To Be Covered	Inputs And Out Puts	WEEK
Introduction about AutoCAD Introduction to working environment. Introduction to status Bar. Navigating through the GUI. Line with dimension & without dimension. Drawing angular lines, Ray, construction line, Multiline. Ortho, O snap, O snap setting, Polar, O track, Poly line. Poly line edit, Selection Window, Polygon, Undo, Redo, Trim, Rectangle, Helix, Arc, Circle, Donut, Erase, Ellipse, Copy, Mirror, Array – rectangular, polar, path, offset, Move.	Hands on software, guidelines Instructions and students will work	OCT 3 RD WEEK
Rotate, scale, stretch, Lengthen, Extend, Break, Break at point, Join, Chamfer, Fillet, Blend curves, Area, Distance, Radius, Angle, Properties, Quick Properties, Selection Cycle, Dyn	Hands on software, guidelines Instructions and students will work	OCT 4 TH WEEK
Make Block, Insert Block, Boundary, Point, Divide, Measure, Point style, Table, Hatch, Hatch Edit, Gradient, Layer Properties Manager, LWT, TYP, Properties Toolbar, Tool palettes, Design Center, Unit Conversion, Text single and Multiline, Match Properties	Hands on software, guidelines Instructions and students will work	NOV 3 RD AND 4 TH WEEK WEEK
CO1 / Assignment 1: Site plan of Guest House-2D ONLY (Nov 2021)		

GOOGLE SKETCH UP Introduction	Basic introduction to explore software	DEC 1 ST WEEK
Overview of sketch up Creating an environment Using Shapes to 3d objects Creating and modifying primitive objects Colour and textures Extensions, nodels and related software	students will make the site and conceptual massing in sketch up of Guest House	DEC 2 ND AND 3 RD WEEK
CO2- Date of submission- Dec 2021 Assignment 2- 3d view in SketchUp -Design minor project with Sloping Site, exploration of roofs and materials and effects Assignment 3- 2no.s - 3d models with Sciography of Graphics –IV Subject		

Evaluation scheme

Attendance	CO1 / Assignment 1	CO2 / Assignment 2 and 3	TOTAL 50 marks
20 marks	15 marks	15 marks	50

Structural Design & Systems III

Teachers in charge: Er. Rupal Wadegaonkar

Objectives:

The course would enable students to understand various principles of strength of materials like various kinds of simple, shear & bending stresses in beams & arches. It gives a fair understanding of behaviour of different types of arches in architecture.

CO1 - understand various principles of strength of materials like various kinds of simple, shear & bending stresses in beams & arches

CO2 - understanding of behaviour of different types of arches in architecture

Time/ duration	Description of Units to be covered
October 2021 week 3 and week 4	Unit I: Overview of the Structural System in Architecture. <ul style="list-style-type: none">To Study the behavior of fixed, two hinged & three hinged arches.Stability of Structural elements of Dam structure & Retaining wall,The concept of Flinched beam.
Nov week 3 and week 4	Unit II: <ul style="list-style-type: none">Shear Stresses: Concept and application of Shear stresses and its distribution in Rectangular, Circular, Triangular, I, L & T section (Numerical on I& T section only)Bending stresses: Circular bending: Concept and application.
Dec week 1	Unit III: Direct and bending stresses: Concept and application.
Dec week 2 & week 3	Unit IV: Column and Struts: <ul style="list-style-type: none">Euler's and Rankine's theory

Dec week 4 & week 5	Unit V: Analysis of Three hinged Circular Arches <ul style="list-style-type: none"> Determination of Normal thrust , horizontal thrust, radial shear force & Bending moment
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Evaluation Scheme

Attendance	Sessional exam / tests	TOTAL 40 marks
20 marks	20 marks	40

References:

- Bansal, R. K.(2011). A Textbook Of Strength Of Materials Si Units. New Delhi: Laxmi Publications (P) Ltd.
- Rajput, R.K.(2012). Strength Of Material (Mechanics And Solids) S.I. Units. New Delhi: S.Chand And Co Ltd
- Subramanian, R. (2010). Strength Of Materials. New Delhi: Oxford University Press.
- Reddy, K. Vijaya Kumar; Kumar J. Suresh.(2011). Singers Engineering Mechanics Statics And Dynamics (SI Units). Hyderabad: B.S Publications.
- Ramamrutham , S. : Narayanan, R.(2008). Engineering Mechanics. New Delhi:Dhanpat Rai Publications Ltd
- Shah, H.J. ;Junnarkar, S.B.(2012). Mechanics of Structures. Anand: Charotar Publishing House Pvt. Ltd.
- Khurmi, R. S.(2006). A Textbook of Strength of Material (SI Units). New Delhi: S.Chand And Co Ltd.

History of Architecture II

Teachers in charge: Dr. Roopal Deshpande, Ar. Sarika Joshi

Objectives:

CO1 - To provide an understanding of religious typologies in India based on individual philosophies, material and construction techniques.

CO2 - Interpretation of Spatial Configurations, form or art and the proportioning systems derived from religious symbolism in each belief system.

Date	Topics to be covered	Task given
Oct3rd week	<ul style="list-style-type: none">• Introduction to syllabus, purpose of learning history• Rise of Buddhism and role of Emperor Ashok, Spread of Buddhism to South East Asia.	
Oct4th week	<ul style="list-style-type: none">• Buddhist building typologies, Chaityas, Viharas, Stupas, Stambha etc.• Influence of Silk Road on transmission of Buddhism and Architectural language and its transformation	
Nov 2nd and 3rd week	<ul style="list-style-type: none">• Understanding Importance of material and construction technique in Jain temple architecture.	
Nov 4th and Dec 1 st week	<ul style="list-style-type: none">• Classification of North Indian Temples.• Examples from Orrisa, Khajuraho• Examples from Gujarat and Rajasthan.	
Dec 2 nd week	<ul style="list-style-type: none">• Hemadpanthi Temples Architecture of Central India. Amruteshwar Temple, Ratangad, Tulja Bhawani Temple,	
Dec 2 nd week	<ul style="list-style-type: none">• Tuljapur, Trimbakeshwar Temple, Nashik, Bhuleshwar temple, Pune , Bhimashankar Temple, Pune	
Dec 2 nd week	<ul style="list-style-type: none">• South Indian temple architecture• Pallava, Chalukyan, Chola,• Chera, Vijaynagar and Pandya	

Dec 3rd week	<ul style="list-style-type: none"> • Indo-Islamic Architecture during Qutub, Khilji, • Tughlaq, Sayyid, and Lodi sultanates. 	
	<p>CO 1 Assignment 1: Documentary film on any one temple having importance in your city / village with respect to its social / religious importance, historicity, style (like Nagar, Dravidian) etc.</p> <p>CO 2 Assignment 2: Describe four elements of temple (shikhara, columns, garbhagriha, mandapa) in detail with respect to its dimensions and proportions, materials and construction techniques used in its construction.</p>	

Evaluation Scheme

Attendance	Sessional exam/ test	Assignments and sketchbook	TOTAL 100
		2 assignments and sketchbook	
20 marks	40 marks	40 marks	100

**Unit I:
Buddhist**

Exercises: Design of exercises to understand, analyze, interpret, synthesize the historical studies to develop understanding of architecture

The course should culminate in a term paper, documentation or design interpretation and transformation.

References:

- Brown, P. (2010). Indian Architecture: Buddhist and Hindu period. Mumbai: D. B. Taraporevala Sons and Co.
- Fletcher, B. (1996). A History of Architecture on the Comparative Method. 20th Ed. London: B.T. Batsford Ltd.
- Grover, S. (2003). Buddhist and Hindu Architecture in India. 2nd Ed. New Delhi: CBS Publishers.

CLIMATOLOGY

Faculty Incharge : Ar. VaijayantiYadav& Ar. Sneha Bodhankar

Objectives: Understanding fundamentals of climatology and its relation to human thermal comfort, and buildings.

COs	Weeks	Units	Inputs to be Given
1	1 st and 2 nd Week October 2021	Unit I	Introduction to climatology, climate and weather, importance of climatology in Architecture, Global climatic factors.
2	3 rd and 4 th Week October 2021	Unit II	Elements of climate such as temperature, wind, humidity, precipitation, solar radiation and various instruments, graphical representations to record climatic data.
4	1 st Week November 2021	Unit III	Scales of climate, global climatic zones, micro-climate
5	3 rd and 4 th Week November 2021	Unit IV	Climate analysis tools, Mahoney tables ET/CET nomograms, bio-climatic charts, temperature isopleths, horizon and celestial coordinate system, solar geometry, shading device calculations, heliodon, solar scope
6	1 st Week December 2021	Unit V	Thermal comfort factors, thermal comfort indices, heat exchange process of buildings, building heat gain calculations
8	2 nd week December2021	Unit VI	Natural ventilation in and around the building, ventilation systems.
30th March 2017 – TUTORIAL SUBMISSION			
Marking Scheme	Sessional Exam Marks: 30	University Exam Marks: 70	Total Marks: 100

Sessional works: Sessional Exam, Sketches, tutorials, use of climatology lab instruments, tests and experimentations

ELECTIVE: ANTHROPOMETRICS AND ERGONOMICS

Teachers in charge: Ar. Medha Pophale, Ar. Namrata Gaurkhede

Aim: To make students understand the application of the subject in design.

Course Outcomes:

CO1: Understanding the human functions according to anthropometry and its documentation

CO2: Conclusive understanding of ergonomics in a space, ex. Kitchen

CO3: Relation of scale and ergonomics through model making

Date	TOPIC / ASSIGNMENTS	INPUT BY FACULTY	EXPECTED OUTPUT
5 th October	<ul style="list-style-type: none">• Introduction to anthropometry & ergonomics and its importance in architecture• Study of human dimensions and study of relationship between user and space	Presentations	Assignment 1 to be presented on 7 th October
7 th October	Student presentations on Assignment 1	Remarks	Sketches and A2 sheets
8 th October	Introduction to kitchen design in institutes and Guest Lecture	Students will be briefed about the measurement of user group and data collection	Institutional kitchen layout in A2 sheets
12 th October	Detailed drawings to Assignment 2	Additional Input and review	
14 th October	Student presentations on Assignment 2	Review	
	Introduction to model making		Model of Assignment 2
18 th October	Sessional Exam		Submission of Model

EVALUATION SCHEME

First assignment	Second assignment	sessional exam	Attendance	Total marks
30 marks	30 marks	20 marks	20 marks	100

ELECTIVE: ARCHITECTURAL DOCUMENTATION

Teachers in charge: Ar. Neeta Lambe, Ar. Sneha Bodhankar

Introduction:

Architectural documentation is the capture of information relevant to understanding the physical configuration, history, evolution and condition of historic sites at known points in time. It is based on the recording of primary evidence (the historic fabric itself as well as documentary, pictorial and other evidence) and the research of secondary sources.

Through this elective, a structure would be identified and efforts would be taken to prepare record of these buildings in terms of its historical background, measured drawings and photographic documentation.

Course Objectives:

To create resource material through understanding the heritage for education and training of students in enabling them to develop their skills and comprehension of the discipline of architecture.

CO1- To make students understand to acquire knowledge to advance the understanding of our past, our history, cultural heritage, and its associated values and thus forward the understanding of life, as it is today and helps to explain present phenomena.

CO2- To learn and understand the history of Architecture of Place and how the Architecture Evolve?

CO3- To provide/create a permanent record /reference of historic buildings and sites. To rediscover historic buildings and sites and demonstrate the importance of 'looking, seeing and interpreting through hands'.

Studio Schedule

Date/Duration	Module	Contents	Objectives	Assignment Submission	for	Submission Date
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1 st week of October 2021	Module A	Introduction to Elective- Architectural Documentation Introduction to Architectural Documentation schedule, Purpose of Documentation, types of documentation, Explanation about the methods of documentation Introduction about compilation of documentation, scales used, sheet formats etc	CO1- To make students understand to acquire knowledge to advance the understanding of our past, our history, cultural heritage, and its associated values and thus forward the understanding of life, as it is today and helps to explain present phenomena. .	A1- Poster Making for “Representing the Idea/ understanding of Architectural Heritage”	2 nd week of October (20 marks)
2 nd Week of October 2021	Module B	Introduction to the Nagpur History, explore the Architectural History of Nagpur From Different eras and establishment and How the Architecture developed in different Period?	CO2- To learn and understand the history of Architecture of Place and How the Architecture Evolve? Primary Data Collection For the Field Study	A2- Presentation on “Architectural History Of Nagpur” Groups to be identified	3 rd and 4 th Week October 2021 Presentation and sheets

4 th week of October 2021 1 st , 3 rd and 4 th November 2021	Module C	<p>Site Identified: Krishna Temple and Precinct of Nagpur</p> <ul style="list-style-type: none"> • On site measurement-2nd week October 2021 onwards (On Saturdays) • Documentation of Main structures along with construction style. • Research on Hidden Architectural History of Temple complex 	<p>To provide/create a permanent record /reference of historic buildings and sites</p> <p>To rediscover historic buildings and sites and demonstrate the importance of 'looking, seeing and interpreting through hands'.</p>	<p>A3- Groups to be identified for field work</p> <p>On site measurements</p> <p>And</p> <p>Compilation of Folio</p>	<p>Portfolio Requirements- Introduction Sheets(About Temple, Building History, Location, Etc.)</p> <p>2D AutoCad Drawings(Site Plan, plans, elevation, Section, elements Details)</p> <p>Construction Details</p> <p>3D Views</p> <p>Sketches</p>
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Evaluation Scheme

S.No./ CO	Submission for evaluation	Marks	Attendance(20)	Total marks(100)
1.	Assignment A1- Tutorial (10marks) And Poster Submission (10marks)	20	20	100
2.	Assignment A2 – Presentation on Architectural History of Nagpur	30		
3.	Assignment A3- Documentation portfolio of Temple	30		

ELECTIVE: RURAL ARCHITECTURE

Teachers in charge: Dr. Tarika Dagadkar, Ar. Seema Burele,

Rural Architecture plays an important role in showcasing local heritage of building and craftsmanship. It reflects the rural fabric of particular place/ village with their own cultural values and beliefs. It has its own characteristics showcasing the local craft through the detailing of the structure by using locally available materials.

Thus, the aim of this subject is to make student understand the concept of rural architecture and impact of local art and craft on its evolution.

Objectives:

- To develop understanding regarding rural architecture.
- Understanding of requirement of functional spaces, material and its construction technique.
- To understand the local art and craft of the place.

Sub Topics:

1. Social Structure.
2. Daily life and recreation.
3. Built Spaces- Understanding material and construction techniques.
4. Custom and rituals.
5. Art and artifacts.

Date/ Week	Topic	Teachers input	Expected output	Duration / submission
14/9/21	Introduction to rural architecture Aim: to make students aware about the concept of rural, traditional and vernacular architecture.	Discussion with the students about the Social Structure and Art and artifacts of rural areas of India		
15 th September	Aim: understanding of Informal and functional spaces design in rural setting	Discussion with students on the research papers based on the study of rural architecture of specific region.	Research paper review	Submission on 20 th (10 marks)
Submission – I (21st Sep 2021)				
16-21 th Sep 2021	Aim: To develop the understanding of rural Construction Techniques and planning strategies.	Ppt on said topic	Study of at least 3 papers published by researchers on the said topic and writing the summary of the research paper	(Identification of case studies from the research papers and presentation in ppt format) (presentation on 21 st) (20 marks)
Submission – II (24th Sep 2021)				
22-25 th Sep 2021	Aim: understanding the local art and craft of	Ppt	Documentation of local art and craft.	(Photographic documentation, sketching, and sheets) (submission 27 th) (30 marks)

	identified region from the research paper.			
Final Submission (30th September 2021)				

Sessional Work: Assignments (Power point presentation)

Evaluation Criteria:

Attendance	Sessional exam	Assignment 1	Assignment 2	Total
20	20	30	30	100