



WOMEN'S EDUCATION SOCIETY'S
SMT. MANORAMABAI MUNDLE
COLLEGE OF ARCHITECTURE
NAGPUR

FIRST
SEMESTER

ACADEMIC
BOOKLET

2022-
2023





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IN-CHARGES

First Year In-Charge
Ar. Piyusha Rathor

Section Co-Ordinator
Ar. Rashmi Thakre

Design Co-Ordinator
Ar. Piyusha Rathor

Construction Co-Ordinator
Ar. Rashmi Thakre

Graphics Co-Ordinator
Ar. Piyusha Rathor

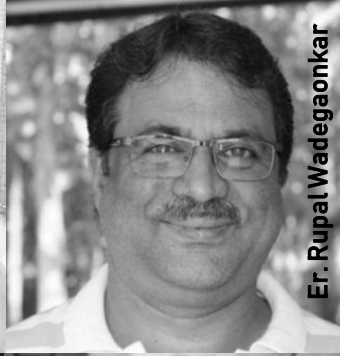
ODD SEMESTER 2022-23



FIRST YEAR FACULTY



Dr. Roopal Deshpande



Er. Rupal Wadegaonkar



Dr. Sampada Peshwe



Prof. Atula Patwardhan



Ar. Piyusha Rathor



Ar. Rashmi Thakre



Ar. Samruddhi Amte



A blue ink signature of Dr. Sampada Peshwe.

Dr. Sampada Peshwe
Dean Academics, SMMCA, Nagpur

A blue ink signature of Dr. Roopal Deshpande.

Dr. Roopal Deshpande
Principal, SMMCA, Nagpur

ODD SEMESTER 2022-23

INTRODUCTION

Architecture is a noble profession and demands a set of dedicated personnel for creating an environment necessary to stimulate inquisitive urge amongst students to learn Architecture. Architecture is an Art and Science of built environment and plays an important role in the development of a nation. Supply of trained and skilled individuals to the society enhances the quality of environment and thus braces the National Policy.

Women's Education Society was established in Nagpur in the more than 80 years ago in 1932. Driven by the mission of holistic development of women, the members have always strived hard towards this goal. Thus as an integral part of the society Women's Education Society, has joined hands with the national policies of development of women.

The main objectives of the Society are:

To meet the needs of the Nation by providing human resources with required knowledge and skill.

To provide human resource which can effectively function in a variety of social, cultural, geographical, economic and technological needs of the nation.

To support the development of the nation with special emphasis on progress of women and establish their identity.

Vision

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
- Discovery
- Discipline
- Creativity
- Collaboration
- Excellence
- Innovation
- Respect
- 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.

POLICIES FOR STUDENTS

Code of Conduct

Punctuality - It is mandatory for students to be punctual to 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 coordinators.

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 the month for students. Every student is expected to go through the displayed attendance and has a chance to rectify the record within 8 days by talking to the class teacher if her attendance has been wrongly recorded.

In case of absenteeism, student shall bring a letter of absence duly signed by her parents/guardian. However, as per RTM Nagpur University norms, a student having less than 75% attendance 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 programs organized by the college from time to time.

Attendance for programme of 26th January and of 15th August is mandatory for every student.

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

Facilities

Library : A well equipped library is maintained by the college

Laboratories (The material bureau, Climatology lab, survey lab and services lab): These laboratories are well maintained to help the students keep themselves well updated with the various tools and materials and its application.

Computer center: A fully equipped computer lab with terminals, plotter, printer, scanner and facility for LCD projection is available.

Workshop: A fully equipped workshop to enhance practical skills and for hands on experiences.

Brain gym: Encourages and nurtures creative thinking in students as well as teachers through many experimental art and design activities.

Reprography Centre: It is in computer lab wherein drawings can be plotted on sheets as per requirement.

Participation in NASA -Students who are regular to class and have cleared all examination of the previous semesters will be allowed to take part in the various activities of NASA.

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.

Student Council

The Student Council is 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. 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. The organization set up for student council comprises of -

President
Vice-president
Secretary
Vice-secretary
Treasurer

ODD SEMESTER 2022-23



UNIVERSITY SCHEME OF EXAM

SCHEME OF EXAMINATION – B.Arch.

FIRST YEAR B.ARCH.

Semester – 1

Sr. No.	Sub. Code	Sub. Name	Load Per Week					Credits					Paper / Sessional	Max. Marks	Total Marks	Min. Pass Marks
			L/D	T	S	P	Total	L	T	S	P	Total				
1	1S-A-1	Architectural Design -I	1	0	3	0	4	1	0	4.5	0	5.5	Sessional	200	200	100
2	1S-A-2	Allied Design Studio-I	1	0	2	0	3	1	0	3	0	4	Sessional	100	100	50
3	1S-A-3	Building Construction and Materials -I	2	0	3	0	5	2	0	4.5	0	6.5	Sessional	150	150	75
4	1S-A-4	Architectural Graphics I	2	0	0	2	4	2	0	0	1	3	Sessional	100	100	50
5	1S-A-5	Structural Design & Systems-I	2	1	0	0	3	2	0.5	0	0	2.5	Sessional	100	100	50
6	1S-A-6	History of Civilization	2	1	0	0	3	2	0.5	0	0	2.5	Sessional	100	100	50
7	1S-A-7	Computer Application I	1	0	0	1	2	1	0	0	0.5	1.5	Sessional	50	50	25
8	1S-A-8	Workshop I	0	0	0	3	3	0	0	0	1.5	1.5	Sessional	100	100	50
9	1S-A-9	Elective I	1	2	0	0	3	1	1	0	0	2	Sessional	100	100	50
Total							30					29.0		1000	1000	
	Elective I	Art Appreciation / Numerical Ability / Presentation Skills / Sketching and Rendering / Public Speaking / Institutional Project 1														

ODD SEMESTER 2022-23



Principles of aesthetic - (3 Hours)

Assignment - Understanding Basic Principles of Aesthetics through photographs of other artists and photographs clicked by students (group 5 assignment). Student have to select any art form - Painting/ Movie/ Drama/ Music/ Literature, & analyze it from Aesthetic point of view.

Teachers Input- Power point Presentation on Principles of aesthetics.

Objective - To Understand basic of Aesthetics and application in various art forms.

Expected Output- A2 sheet with proper analysis & photographs.

Introduction of Elements of Design & Organizational Principles in Composition - (9Hours)

Assignment - Creating 2D composition from - a)Point, line, plane b)Fractions

Objective - Introduction to Principles of composition.

Teachers Input- Power point Presentation.

Expected Output- A2 sheet

Sketching and drawing of natural and manmade objects. - (3 Hours)

Assignment - Sketching and drawing of natural and manmade objects.

Expected Output- A2 sheet with sketches.

Colour wheel - (3 Hours)

Assignment- Rendering the 2D composition with colour scheme.

Objective - To understand Color theory through color wheel and get proper knowledge of how to use colors in designs or any art work.

Teachers Input- Power point Presentation

Expected Output- A2 sheet of creative Color Wheel & 2D rendered composition.

TEST - Creative Colour Wheel (2 Hours)

EVALUATION SCHEME

COs	Description of COs - ALLIED DESIGN STUDIO - I	Weightage
CO1	To explain the Basic Principles of Aesthetics & illustrate its application (analyzing other forms of art).	Assignment 1 = 10
CO2	To explain basic elements of Design & visual arts - point, line and plane. To analyze 2-Dimensional forms (both geometrical and non-geometrical) and importance of textures.	Assignment 2 = 20
CO3	To illustrate sketching style for drawing natural and manmade objects and study of shades and shadows and to understand the techniques of Sketching the structures with architectural importance using different medium.	Assignment 3+4 = 15
CO4	To study color theory Color wheel and color composition, properties of color and To classify colors with different hues, values, and shades.	Assignment 4 = 15

Attendance	CO1	CO2	CO3	CO4	Sessional	Total marks
	A1	A1	A1	A2	A1	
20	10	20	5	10	15	20
						100

Design Co-Ordinator
Ar. Piyusha Rathor

Team

Dr. Sampada Peshwe
Prof. Atula Pathwardhan
Ar. Piyusha Rathor
Ar. Rashmi Thakre

Objective of Allied Design Studio -I:
Developing skills in manual presentation techniques, use of various media of presentation, Principles of 2-D & 3-D compositions, Principles of Design.

Visual art :

Visual Art is aimed at providing knowledge and understanding of various visual arts and its importance. It further aims at developing the freehand drawing and rendering skills in different medium and using it as tool of expressing ideas visually.

Keywords :

Point, line and plane, visual textures, optical illusion, Repetition, Variety, Radiation, Rhythm, Gradation, Emphasis & Subordination, Proportion, Harmony, Balance, hues, values, and shades. Color wheel, color composition, properties of color.

Anthropometry & Ergonomics - (7 Hours)

Assignment- Documenting their and their family members measurements (2 positions-standing and sitting).

Documenting different spaces in their house along with furniture dimensions.

Objective -To understand the human dimensions anthropometry ergonomics- functional spaces and circulation spaces for various activities(formal & informal).

Teachers Input-
Demonstrations

Expected Output- A2 sheet for group assignment .

Creative exercise - (7 Hours)

Objective -To convert 2d composition to 3d form & Application of scale, material and spatial experience to 3d form.

Teachers Input-
Demonstrations and PowerPoint presentation.

Expected Output- A2 sheet

Documentation of Single activity (G+1)- (6 Hours)

Assignment - Documenting G+1 single activity for 8 to 10 people.

Objective - To understanding the architectural intervention through single activity unit .

Teachers Input- Discussion and guidance for documentation.

Expected Output- A2 sheet showing the following: Location map, plan with facilitation, 2 section, elevations .

Major project (Individual work) - (9Hours)

Assignment - Designing the space for any selected activity and application of anthropometry and ergonomics.

Objective - To understand the space requirement for any activity.

Teachers Input- Discussion and guidance.

Expected Output- A2 sheet showing site plan, Plans ,sections ,elevation and views.

Design Co-Ordinator
Ar. Piyusha Rathor

Team

Dr. Sampada Peshwe
Prof. Atula Pathwardhan
Ar. Piyusha Rathor
Ar. Rashmi Thakre

Objectives of Architectural Design I

The primary objective shall be to develop in students the understanding and relevance of human scale and space formation, elements of built form and its role in spatial realms.

Keywords :

Anthropometry, Human dimensions, Circulation spaces, Form & Spaces, Spatial Experience, Elements of Built Form.

References :

·Ching Francis D. K., Form Space and Order.
·Ching Francis D. K., A Visual Dictionary of Architecture.
·Pierre Von Meiss -Elements of Architecture from form to place.
·Yatin Pandya- Elements of Space Making
Christopher Alexander- Pattern Language.

EVALUATION SCHEME

COs	Description of COs - ARCHITECTURAL DESIGN-I	Weightage
CO1	To understand the concept of Human dimensions (Anthropometry), concept of percentile in Indian standards, space required for various simple activities, circulation spaces.	Assignment 1 = 15
CO2	To illustrate concept of Form and Space. To understand concept of elements of volumes, enclosure of space, semi-enclosed spaces, to define spatial elements, light and shade as contributing factors, color, texture & form, view, visual relationship. To analyze the characteristics of various forms and describe its impact on spatial experience.	Assignment 2 = 20
CO3	To comprehend the functional organization and spatial configuration of activities with respect to anthropometrics, ergonomics and transition spaces through case studies.	Assignment 3 = 25
CO4	To understand basic elements of built form like walls, floors, windows, doors, staircase, facade, etc. and ancillary elements like courtyards, balconies, canopy, patio, sit-outs, water bodies, pergola, etc. To formulate the design solution incorporating required functionality, spatial quality and architectural expression through presentation of entire design scheme.	Assignment 4 = 60

Attendance	CO1	CO2	CO3	CO4	Sessional	Total marks
	A1	A1	A1	A1		
40	15	20	25	60	40	200

Introduction to Building Construction as a subject & its relevance to Architectural Design - (2 Hours)

Topic – Building elements, types and subtypes, basic understanding of elements from foundation to roof - Purpose / function, utility and necessity of all such elements.

Introduction to common architectural vocabulary by moving around the college building.

Teachers Input– Demonstration and Discussion.

Expected Output– Sketches in A3 Sketchbook.

Topic – Construction and the Logic of Stability as its basis, construction principles with respect to structural stability. Support and supported elements, concept of span and span - loading co-relation.

Teachers Input–Discussion.

Expected Output– Sketches in A3 Sketchbook.

Introduction to Building Materials – (2 Hour)

Topic - Introduction to Brick as a Building Materials and its compositions.

Teachers Input - Tabular compilation on board.

Types of Bricks - (2 Hours)

Topic– Introduction to Various Types of Bricks.

Teachers Input– Discussion and board sketching.

Expected Output– Sheets & Sketches in A3 Sketchbook.

Brick Masonry – (4 Hours)

Topic– Introduction to principles and rules in Brick Masonry.

Teachers Input– Discussion and board sketching.

Expected Output – Sketches & notes in A3 Sketchbook.

Building materials- (2 Hours)

Topic– Introduction to Stone as Building materials.

Teachers Input– PPT Presentations & Videos..

Expected Output – Sketches & notes in A3 Sketchbook.

Brick Masonry - (6 Hours)

Topic - Types of Brick Masonry used in Load Bearing Walls such as English Bond & Flemish Bond (Single Flemish & Double Flemish Bond).

Teachers Input– Site visit for basics of Brick masonry and basic building components & elements.

Expected Output - Sheets & Sketches in A3 Sketchbook.

Building materials- (4 Hours)

Topic– Presentation on Lime and Cement as Building materials.

Teachers Input– PPT Presentations & Videos..

Expected Output – Sketches & notes in A3 Sketchbook.

Construction Co-Ordinator
Ar. Rashmi Thakre

Team

Dr. Sampada Peshwe
Ar. Rashmi Thakre

Objectives of Building Construction and Materials

- To develop understanding about building materials and construction of various elements with its design principle and decision making process for selection of each.
- This also aim at introducing students with design ability for a certain building element integrating with architectural space and demand of time and place.

Keywords :

Building Elements & Components, Building Materials, Brick & Stone Masonry, Piers, Structural systems.

References :

- Building Construction by W.B.McKay,
- Barry – The Construction of Buildings.
- Building Construction by Sushil Kumar.
- The Textbookj of Building Construction by Bindra Arora.
- Building Construction by Rangwala.



Piers – (2 Hours)

Topic –Introduction to use of Piers (Attached & Detached Piers) in Load Bearing Walls.

Teachers Input– Discussion and board sketching.

Expected Output – Sketches in A3 Sketchbook.

Stone Masonry – (2 Hours)

Topic –Types of Stone Masonry with Dressed and Undressed Stones, Composite Masonry.

Teachers Input– Discussion and board sketching.

Expected Output– Sheets & Sketches in A3 Sketchbook.

Structural Systems – (8 Hours)

Topic – Introduction to Basic Structural Systems, Load Bearing, Frame Structure and Composite structure, load transmission, suitability, merits, demerits etc. Introduction and understanding of various Subsystem such as Horizontal, Vertical and foundation Sub systems with respect to structural functions, utility and application in building design and construction.

Teachers Input–Site visit for basics of structural systems, Load Bearing, Frame Structure and Composite structure. Discussion and board sketching.

Expected Output– Sheets & Sketches in A3 Sketchbook. Group work exploring systems through models/ Isometric views.

EVALUATION SCHEME

COs	Description of COs	Output (Test/Essay/ Sheets/ PPT/model/Review/any other)
C01	<ul style="list-style-type: none"> Unit I: To outline construction as a subject and extend its relevance to Architectural Design, to summarize construction principles with respect to structural stability. 	Market Survey Report
C02	<ul style="list-style-type: none"> Unit II: To explain properties of various building materials & identify its application in building industry. 	MCQ
C03	<ul style="list-style-type: none"> Unit III: To classify Load Bearing, Frame Structure and Composite structure. To illustrate various Subsystems such as Horizontal, Vertical and Foundation, Sub systems with respect to stability and utility and to identify its application in building design and construction. 	MCQ
C04	<ul style="list-style-type: none"> Unit IV: To describe principles and rules of Masonry (Brick & Stone) & understand standard terminology used for masonry work. 	MCQ

Attendance	Plates, Models	Site Visit	Sessional + Test	TOTAL
30	50	10	60	150

BUILDING CONSTRUCTION AND MATERIALS - I

Construction Co-Ordinator
Ar. Rashmi Thakre

Team

Dr. Sampada Peshwe
Ar. Rashmi Thakre

Objectives of Building Construction and Materials

- To develop understanding about building materials and construction of various elements with its design principle and decision making process for selection of each.
- This also aim at introducing students with design ability for a certain building element integrating with architectural space and demand of time and place.

Keywords :

Building Elements & Components, Building Materials, Brick & Stone Masonry, Piers, Structural systems.

References :

- Building Construction by W.B.McKay,
- Barry – The Construction of Buildings.
- Building Construction by Sushil Kumar.
- The Textbookj of Building Construction by Bindra Arora.
- Building Construction by Rangwala.

Assignment 1- (2 Hours)

Assignment – Architectural lettering and numbering in varying heights and thickness and dimensioning -To develop one's own style of writing

Expected Output– Exercise on writing alphabets and numerical in various font style in sketchbook

Teachers Input– Introduction to Architecture lettering, dimension

Assignment 2- (2 Hours)

Assignment–Applications of scales to Enlarge True, or to Reduce the objects in drawing.

Expected Output –Submission in sketchbook/A2

Teachers Input– Introduction to application of scales to object drawing

Assignment 3- (12 Hours)

Assignment– Study of scales, their use in practice and construction and problems of Plain scale and diagonal scale

Expected Output– Submission on A2 size sheets.

Teachers Input– Introduction to plain and diagonal scales

PLANE AND SOLID GEOMETRY

Assignment 1- (2 Hour)

Assignment– Construct planes like square, triangle ,Pentagon ,Hexagon, circle etc.

Expected Output– Submission in sketchbook/A2

Teachers Input – Introduction to construction of planes using drafting instruments.

Assignment 2- (6 Hours)

Assignment –Examples explained and solved on black board

Expected Output– Solved problems on A2 size sheets.

Teachers Input– Orthographic, Isometric and Axonometric projection.

SCALE DRAWING

Assignment 1- (8 Hours)

Assignment –Examples explained and solved on black board

Expected Output– Drafting on A2 sheet

Teachers Input– Scale drawing (plan/elevation/section) of a simple G+1 building indicating the vertical circulation & toilet details in section.

EVALUATION SCHEME

COs	Description of COs
CO 1	To demonstrate various styles for architectural lettering, dimension style and other architectural annotations and conventions which include representation of various building materials, building components and to demonstrate concept of graphical scales and their application in architectural drawings.
CO 2	To demonstrate techniques to represent simple three dimensional objects and building components using various graphical projection systems such as Orthographic, Isometric, Axonometric projections.
CO 3	To demonstrate students the concept of scale in drawings with plan/elevation/sections of a G+1 structure and describe the use of various metric scales especially indicating the vertical circulation & toilet details in section.

Attendance	Portfolio	Test + Sessional	Total
20	60	20	100

ARCHITECTURAL GRAPHICS - I

Graphics Co-Ordinator
Ar. Piyusha Rathor

Team

Prof. Atula Patwardhan
Ar. Piyusha Rathor

Objectives of Architectural Graphics :

To introduce students to architectural drawing techniques and to the language of graphics, its vocabulary and grammar such as scale, annotations, labeling and dimensioning.

To enable students to express simple three dimensional objects and building components through Technical Drawings, using various graphic projection systems

Keywords :

Architectural lettering and dimensions, scale ,construction of planes, projections

References :

- Ching Francis D.K.: Architectural Graphics
- Gill Robert: Rendering with pen and ink
- H. Joseph and Morris: Practical plane and solid geometry

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HISTORY OF CIVILIZATION

Introduction – (1 Hour)

Architecture of early civilizations as an expression of art and culture of that place.

Unit I: Prehistoric Architecture – (3 Hours)

Evolution of architecture. A study of primitive people, shelters, settlements.

Unit II: Nile Valley Civilization – (4 Hours)

The impact of the context, culture and society on art sculpture and Architecture of the Egyptian Civilization. evolution of tombs, valley of Kings, necropolis.

Unit III: Indus Valley Civilization – (3 Hours)

The impact of the context, culture and society on art sculpture and Architecture during Early Indus settlements in Mehrgarh, Harrapa, Mohenjo Daro, Dholavira.

Test–1 Hour

Unit IV: Euphrates & Tigris river valley Civilization – (3 Hours)

The impact of the context, culture and society on art sculpture and Architecture of Assyrian, Sumerian, Mesopotamian and Babylonian period.

Unit V: Yellow River Civilization – (3 Hours)

The impact of the context, culture and society on art sculpture and Architecture during Prehistoric, Xia Dynasty, Shang Dynasty and Zhou Dynasty.

Unit VI: Vedic Architecture and Settlements–(3 Hours)

Rise of cities, Mahajanapadas, Introduction to scripture.

Revision class & test – 2 Hours

EVALUATION SCHEME

COs	Description of COs
CO1	To identify characteristic features of Prehistoric Architecture , Evolution of architecture, primitive people, shelters, settlements.
CO2	To summarize Nile Valley Civilization .This includes key features about its impact of the context, culture and society on art and architecture of the Egyptian Civilization including evolution of tombs, valley of Kings, and necropolis.
CO3	To describe key characteristics of Indus Valley Civilization. This includes impact of the context, culture and society on Art and architecture during Early Indus settlements in Mehrgarh, Harrapa, Mohenjodaro, Dholavira.
CO4	To describe key features of Euphrates & Tigris river valley Civilization. This includes the impact of the context, culture and society on art and architecture of Assyrian, Sumerian, Mesopotamian and Babylonian period.
CO5	To describe Yellow River Civilization. This includes impact of the context, culture and society on art sculpture and Architecture during Prehistoric, Xia Dynasty, Shang Dynasty and Zhou Dynasty

Attendance	Assignments	Sessional	Test	Total
20	40	30	10	100

HISTORY OF CIVILIZATION

Team

Dr. Roopal Deshpande
Ar. Piyusha Rathor

Objectives

- To provide an introduction to the architecture of early civilizations as an expression of art and culture of that place.
- To understand and interpret basic needs and lifestyle as the deciding factors for growths of early settlements.

References :

- History of World Civilizations by J.E. Swain.
- A Short History of the World – H. G. Wells.

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Unit I:

Overview of the Structural System in Architecture (6 Hours)

TOPIC

- Study of types of beams and types of loads.
- Load bearing structures
- Rcc frame structure
- Steel trusses in residential & industrial bldg.
- With suitable examples from historical and contemporary architecture

In charge

Er. Rupal Wadegaokar

Objectives of Structures

- This course provides students with a basic knowledge of structural systems used in buildings.
- Emphasis will be more on structural concepts stability of forms rather than intricate numerical calculations while dealing with different structural concepts. This will make the student familiar with basic structural mechanics concepts.

References :

- Khurmi, R. S.(2006). A Textbook Of Engineering Mechanics (SI Units). New Delhi: S.Chand And Co Ltd.
- Reddy, K. Vijaya Kumar; Kumar J. Suresh.(2011). Singers Engineering Mechanics Statics And Dynamics (SI Units). Hydrabad: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.
- Singer, FerndinandL.(1975). Engineering Mechanics Statics & Dynamics. New Delhi :Harpercollins Publishers.

Unit II:

Introduction to Structural Mechanics(6 Hours)

TOPIC

- Introduction of forces, composition, resolution, moments and couples
- Resultant forces, concurrent and non-concurrent
- co planar force systems
- Principle of moments
- Virignon's theorem

Unit III:

Principle Of Equilibrium -2D Elements (9 Hours)

TOPIC

- Basic principles and conditions of equilibrium
- Study of lami's theorem and free body diagrams
- Study of structural support reactions:-study of reactions of simple support, hinged support, roller support and fixed support.

Unit IV:

Geometric Properties of Plane sections(7 Hours)

TOPIC

- Centre of gravity
- Moment of inertia
- Section modulus
- Radius of gyration
- Polar moment of inertia

Unit V:

Analysis of Trusses (9 Hours)

TOPIC

- Perfect Frames

EVALUATION SCHEME

Assignments	Test + Sessional	Total
30	70	100

Team

Ar. Piyusha Rathor
Ar. Rashmi Thakre

Objective of Computer Application I :

This subject is to empower students with computer software useful for architects to enhance the skills of presentation, drafting and coordination of design and other subjects.

To learn presentation software for enhancement of architectural drawings, sketches and convey ideas through presentations.

Introduction to M.S. Word - (2 hours)

Topics-

User interface
Use of command line
Page setup
Page background
Paragraph Formatting
Use of Commands-
find, replace, select
Mail merge

Expected Output - Resume

Introduction to M.S. PowerPoint - (2Hours)

Topics -Formatting pictures and clip arts
Inserting and editing a smart art,
Gifs images
Creating a photo album
Applying themes
Animation

Expected Output -. Animated video
on Principles of Aesthetics
(Group Work)

Introduction to Photoshop - (2 Hours)

Topics - Page setup
Layer setup
Basic Editing Tools
Font

Expected Output -. Poster on a
selected social issue

Introduction to M.S. Excel - (2 Hours)

Topics -Selecting/deselecting cells
Entering data in a cell
Editing and moving cell content
Inserting/deleting cells
Rows and columns.

Expected Output -. Compilation of
Anthropometric Measurements.

EVALUATION SCHEME

COs	Description of COs
CO 1	To explore usage of MS WORD
CO 2	To explore usage of MS POWERPOINT
CO 3	To explore usage of ADOBE PHOTOSHOP (Presentation skills)
CO 4	To explore usage of M.S EXCEL

Attendance	Assignments	Test	Total
10	30	10	50

TIME SLOT	TASK
2 Hours	Introduction to cutting tools and various qualities of model making papers and materials. Drafting, Cutting and pasting negative shapes with various thickness of paper.
2 Hours	Composition of negative spaces on sheet.
2 Hours	Understanding and drafting the geometrical construction of various solids such as cube, cuboids', cylinder, pyramid, prism, etc.
2 Hours	Creating solids
2 Hours	Creating solids
2 Hours	Sessional Exam

Team

Ar. Rashmi Thakre
Ar. Samruddhi Amte

Aim

To provide the foundation and capability to represent the concepts three dimensionally.

Objectives

- To introduce the students the various skills and techniques necessary to produce scaled models (Paper and Wooden)
- Expected skills in this subject or area is dexterity, Learning by doing ,knowledge of materials (wooden carpentry joints and cutting paper with different thickness) and their properties ,crafts skills and visualization skills.
- Teacher's Input - Demonstrations
- Students Output- Models(Paper),sheet.

EVALUATION SCHEME

COs	Description of COs
CO 1	To demonstrate working with cutting pasting with various thickness of paper.
CO 2	To classify Negative and positive spaces and apply it in creation of composition
CO 3	To study the method surface development and create geometrical solids

Attendance	Sessional	Test	Total
20	60	20	100

ELECTIVE – A : SKETCHING & RENDERING

BASICS OF SKETCHING

Exercise 1st – (3 Hours)

Topic- Introduction to sketching material (Grade pencils, charcoal, paint, paper type and quality etc.)

Assignment- Students are required to make a plate using various grade pencils by giving pressure to know the quality/lightness/darkness of it.

EXERCISE 2nd – (3 Hours)

Topic- Introduction to Texture.

Assignment- Explore various material textures visually with pencil as medium(sketches in sketch book).

RENDERING TECHNIQUES

EXERCISE 3rd – (3 Hours)

Topic - Geometrical object drawing and Rendering Techniques.

Assignment- To draw geometric objects and render with various techniques considering light and shades.

EXERCISE 4th -- (6 Hours)

Topic - Complete the picture .

Assignment-As per given half picture students have to complete it by visualizing the complete picture.

Topic- One point perspective (tree, building etc.)

EXERCISE 5th – (6 Hours)

Assignment- Sketches of small objects in one point perspective.

EXERCISE 6th - - (6 Hours)

Topic- Story Making (including or with the help of one point perspective).

Assignment-Make storyboard by using one point perspective elements as part of the story.

FINAL test-3 hours

EVALUATION SCHEME

COs	Description of COs
CO 1	To get acquainted with world of sketching material (Grade pencils, charcoal, paint, paper type and quality)
CO 2	To study techniques to create various textures
CO 3	To explore various rendering techniques
CO 4	To develop lateral thinking through tasks like Complete the picture and story making .

Attendance	Assignments	Test	Total
20	60	20	100

SKETCHING AND RENDERING

Team

Prof. Atula Patwardhan

Vision- Sketching is central to Architecture. It is, along with a presentation technique, a tool for thinking. Often it is observed that even a minimal sketch is more expressive than a page full of text. The body of architectural sketches by master architects, from doodles to those rendered with painstaking details remains an inspiration for designers across generations.

List of material required - A3 size padding board, cartridge sheet, checkered handmade sheet, sketchbook-a4 size

Grade pencils -2b,4b,6b,8b,10b, charcoal stick/pencil ,black marker pen, rotaring - point 2,4, waterproof ink, round brush-no.-2,5,7 ½ inch flat brush, palate, water container, cloth, sponge.

Objectives of Sketching & Rendering

-Students to equip with fundamental techniques of sketching and rendering.
-To develop a medium for thinking and explorations.

Keywords :

Visual thinking , representation, Geometric Drawings, Rendering techniques

References :

-Robert Gill, Rendering with pen and Ink
-Thomas & Hudson Publishers, 1993

ODD SEMESTER 2022-23



GRAPHICAL PRESENTATION

Exercise 1st – (6 Hours)

Topic– Basics of Graphic Design Unit 1 – Typeface & Fonts

Assignment–Design of a Signboard for a business or shop.

EXERCISE 2nd – (6 Hours)

Topic– Basics of Graphic Design Unit 2 – Sheet Composition.

Assignment– Design of Formal and Informal layouts for a magazine.

EXERCISE 3rd – (6 Hours)

Topic– Logo and Letterhead design.

Assignment– Design of logo and letterhead of an architect.

VERBAL PRESENTATION

EXERCISE 4th – (3 Hours)

Topic - Introduction to Extempore Speech (Body language, Stage fear, Engaging audience, Eye contact, Voice modulation, etc.) .

Assignment– 1 minute extempore speech by all students.

EXERCISE 5th – (6 Hours)

Topic - Introduction to Jury Presentation (Effective communication of concept & Design, Effective communication, Confidence, etc.)

Assignment– Mock jury of all students with students as jurors. Students to present any Design or Presentation Skills assignment.

FINAL TEST-3 hours

EVALUATION SCHEME

COs	Description of COs
CO 1	To comprehend the various components of graphic design.
CO 2	To incorporate principles of graphic design through application in design.
CO 3	To apprehend aspects of verbal communication.
CO 4	To evaluate graphic and verbal communication skills in terms of efficacy of design and presentation.

Attendance	Assignments	Test	Total
20	60	20	100

PRESENTATION SKILLS

Team

Dr. Sampada Peshwe

Vision– Effective presentation skills are a must for the profession of architecture. Effective communication of ideas, concepts and designs, manifested through graphical and verbal presentation, is very important in the classroom as well as in the workplace.

List of material required – A4 or A5 size sketchbook, pens, sketching material, markers for rendering, A3 size white and coloured sheets

Keywords :

Graphic Design, Graphical Presentation, Verbal Presentation, Communication.

In charge
Dr. Nalini Wadjikar

Sr. No.	Tournaments	Sr. No.	Tournaments
1	Cross Country	1	Athletics
2	Swimming	2	Ball Badminton
3	Table-Tennis	3	Cricket, Hockey, Hand Ball
4	Badminton	4	Kabbadi
5	Basket Ball	5	Kho-kho
6	Volley Ball	6	Adventure
7	Chess, Yoga	7	Taikwando, Tagowar (Rassikhech) activity

ELIGIBILITY

- Players who have already participated in school levels.
- Interested students can participate in various games.

SELECTION

- Every Saturday – 12.00 to 1.00 p.m.
- Department of Physical Education & Sports conducts physical efficiency test & medical exam for all the students. It is Compulsory for all.

FACILITIES

- Playfields for practice all the games.
- Badminton Court available for practice
- Basket Ball Cement Court available in LAD, Shankar Nagar, Nagpur.
- Players those are participate in various games – conveyance allow. refreshment, sports equipment are provided by the college.
- Attendance is considered by the teacher during practice and tournaments.

RTM Nagpur University gives incentive of 10 marks to players who participate in inter-collegiate tournament.



Women's Education Society's

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