



WES
SMT. MANORAMABAI MUNDLE
COLLEGE OF ARCHITECTURE

FOURTH SEMESTER

ARCHITECTURAL DESIGN III

ELEC.A -COMPUTER APPLICATIONS

ELEC.A -GRAPHICS SOFTWARE

BUILDING SERVICES I

ARCH. GRAPHICS IV

THEORY OF DESIGN I

THEORY OF LANDSCAPE ARCH.

ELEC. B- PHOTOGRAPHY

ELEC. B- DESIGNOF BUILDING ELEMENTS

STRUCTURAL DESIGN & SYSTEMS IV

CONSTRUCTION TECH. & MATERIAL IV

ACADEMIC BOOKLET

EVEN SEMESTER
2020-2021

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Submission Calendar

Year In-Charge

Prof. Sneha Bodhankar

Class coordinators

Section A: Prof. Seema Burele

Section B: Prof. Sneha Bodhankar

SMMCA: 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-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 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 absenteeism, 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 programs 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.

NASA rules and regulation: As per out policy, the students are allowed only to participate in Zonal or Annual NASA.

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.

Semester 4

| Sr. No. | Sub. Code | Sub. Name | Category | Board | Load Per Week | | | | | Credits | | | | | Paper/ Sessional | Duration in Hours | Max. Marks | Total Marks | Min. Pass Marks |
|--------------|-----------|--|----------|-------|---------------|----------|-----------|----------|-----------|-----------|----------|-----------|----------|-----------|------------------------|----------------------|---------------|----------------|--------------------|
| | | | | | L | T | D | S/P | Total | L | T | D | S/P | Total | | | | | |
| 1 | 4S-A-1 | Architectural Design III | DC | AR | 2 | 0 | 0 | 5 | 7 | 2 | 0 | 0 | 5 | 7 | Sessional Viva-voce | | 150 50 | 200 | 100 |
| 2 | 4S-A-2 | Construction Technology & Materials IV | DC | AR | 2 | 0 | 3 | 0 | 5 | 2 | 0 | 3 | 0 | 5 | Sessional Paper | 3 | 100 100 | 100 | 50 40 |
| 3 | 4S-A-3 | Structural Design & Systems-IV | ES | AR | 2 | 1 | 0 | 0 | 3 | 2 | 1 | 0 | 0 | 3 | Sessional Paper | 3 | 30 70 | 100 | 40 |
| 4 | 4S-A-4 | Building services-1 | DC | AR | 1 | 1 | 0 | 0 | 2 | 1 | 1 | 0 | 0 | 2 | Sessional Paper | 3 | 30 70 | 100 | 40 |
| 5 | 4S-A-5 | Architectural Graphics IV | DC | AR | 1 | 0 | 2 | 0 | 3 | 1 | 0 | 2 | 0 | 3 | Sessional | | 50 | 50 | 25 |
| 6 | 4S-A-6 | Theory of Architecture-I | DC | AR | 1 | 0 | 0 | 1 | 2 | 1 | 0 | 0 | 1 | 2 | Sessional Paper | 3 | 30 70 | 100 | 40 |
| 7 | 4S-A-7 | Theory of Landscape Architecture | DC | AR | 1 | 0 | 1 | 0 | 2 | 1 | 0 | 1 | 0 | 2 | Sessional | | 50 | 50 | 25 |
| 8 | 4S-AA-1 | Elective a | DE | AR | 1 | 0 | 2 | 0 | 3 | 1 | 0 | 2 | 0 | 3 | Sessional | | 100 | 100 | 50 |
| 9 | 4S-AA-2 | Elective b | DE | AR | 1 | 0 | 2 | 0 | 3 | 1 | 0 | 2 | 0 | 3 | Sessional | | 100 | 100 | 50 |
| TOTAL | | | | | 12 | 2 | 10 | 6 | 30 | 12 | 2 | 10 | 6 | 30 | | | 1000 | 1000 | 460 |

Total Paper-4, sessionals- 7, viva voce-1 (Passing heads- 12)

Elective a - Graphic Softwares/Web Design/Building Simulation & Modelling/Computer Applications-I

Elective b - Anthropometrics & Ergonomics/Product Design/Design of Building Elements/Photography

DESIGN VI

Design Mentor: Prof. Vijay Munshi

Design Coordinator: Ar. Sneha Bodhankar

Design Team :

Section A :- Dr.Tarika Dagadkar, Ar. Seema Burele, Ar. Medha Pophale

Section B :- Dr.Roopal Deshpande, Ar. Sneha Bodhankar, Ar. Esha Pawar

Introduction

The two projects of Skill development Centre and Gateway Design for the same had been addressed in the III Sem.

Then as a minor project for 4th sem **Café library** is being designed on a contoured site with respect to designing built and unbuilt spaces, retaining walls, ramps, levels, etc.

The thrust of the IV sem design problem would therefore now be to refine and polish the already established understanding of the previous semesters and deal with more complex level of design issues. Hence **Kindergarten** is the major project finalized for 4th semester, which will specifically deals with modular co-ordination, climate responsive strategies and exploration of spaces required as per the users psychology.

MINOR PROJECT- **CAFÉ LIBRARY**

3 WEEK (40 MARKS)

Introduction:

Book cafes have become popular among the country's bibliophiles in recent times. Everyone is looking for a space to read in, to be quiet and comfortable for a few hours. A hot cup of coffee and a piece of cake serve as perfect partners.

The cafe can primarily contribute to strengthening the library's function as a meeting space, but it is also an incorporated extra facility that invites the public to stay a little longer. The **library cafe** is an incorporated spatial surplus that can tempt people to stay a little longer, encourage spontaneous visits, and ideally it can be an open invitation to make use of the library's other functions. It should be able to accommodate groups of people who speak, relax or work together as well as the soloists.

Aim: To Design A Café Library on a Sloping Site

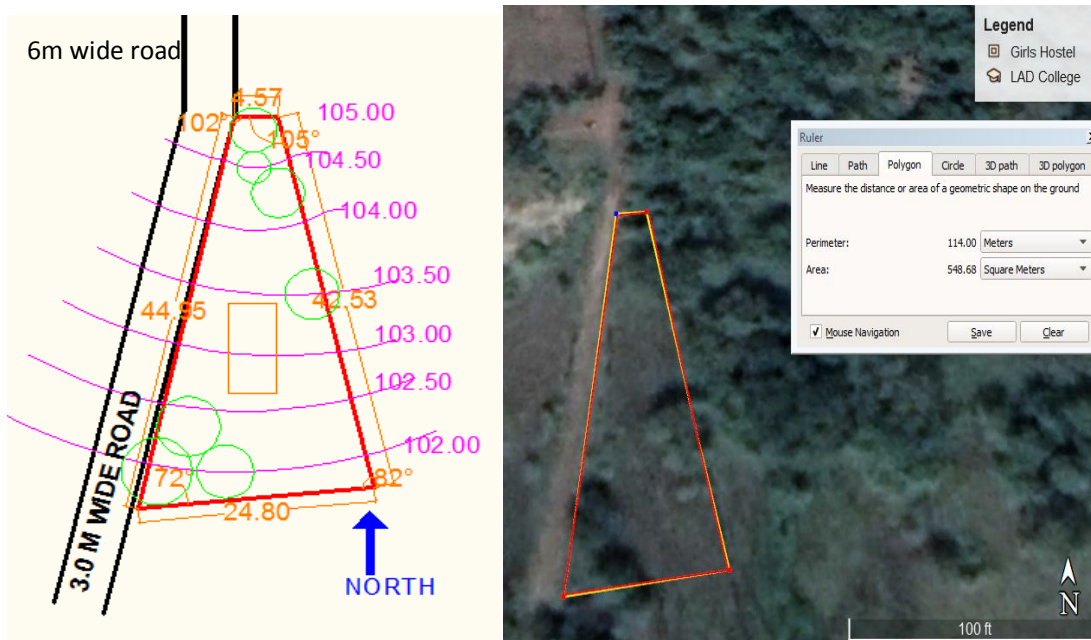
Learning Objectives:

1. To understand the sloping site and how to deal with it?
2. To explore the sloping site
3. To understand how to work with typology
4. To understand the technicalities of architectural sections

Site:

WES's campus, seminary hills, Nagpur

Rear side of temple complex with the land of 50 sq.. Area having gradual slope of 3m from top to bottom



Design Requirements:

Students are free to take Activity Spaces related with typology. Design the Café Library for 40-50 people with 150sq m built-up space

Submission Requirements:

1. Study Sheets
2. Idea Generation and concept sheet
3. Site Analysis
4. Design Programme, Zoning, Circulation Diagram
5. Model and sketchup views
6. Site Plan, Plan, Elevation and Section

Refer-<https://modelprogrammer.slks.dk/en/challenges/zones-and-spaces/the-cafe/>

| STAGES | REVIEW- REQUIREMENTS | WEIGHTAGE |
|---|--|-----------|
| STAGE 1- understanding the typology with the help of precedent study | REVIEW 1- PRECEDENT STUDY | 5 MARKS |
| STAGE 2- site analysis and slope analysis Understanding the sloping site and exploration in building section | REVIEW 2- EVOLUTION OF FORM WORKING ON SECTIONS, DESIGN PROGRAMME | 5 MARKS |
| STAGE 3- discussion on converting ideas to buildform and planning | PLANNING AND DETAILING | 10 MARKS |
| STAGE 4 – Architectural Detailing | Precedent study Design program Circulation diagramme Site analysis Concept Plan, Elevation , Sections 3d model with site | 10 MARKS |
| Final Submission – 15th March 2021(20 marks) | | |

MAJOR PROJECT- KINDERGARTEN

'In childhood one is more open to sensory impressions than ever again in ones life. Smell sensation of heat, softness, weight, beauty and much more form the basis of all of lifes later sensations.'

Eva Insulander, Swedish School Ground Designer and planner

Education provided to children in their early childhood is critical for building the foundation for lifelong character formation. In the environment carefully designed for kindergarten education, children should be encouraged to have various experiences while spending time chiefly by playing. Teaching at kindergarten should be comprehensive and yet be tailored to children's individual needs. These basic ideas needs to be thought about while designing the open, semi open and enclosed spaces in Kindergarten.

Aim: To Design A KINDERGARTEN

Learning Objectives:

To create a space that nurtures early childhood development following goals needs to be integrated.

5. To understand the modular coordination
6. To understand the relationship of built and un-built spaces.
7. To explore the SPACES with its application
8. To Make the student understand to work with typology
1. **Designing environments for diverse life experiences-** Designing all the kindergarten facilities by positively and effectively laying out green areas
2. **Facilities for helping to develop children's physical strength-** Designing kindergarten spaces by taking into account the continuity and uninterrupted movement from the inside to the outside of the kindergarten building and vice versa

3. **Considering sustainability in terms of the environment** -Designing kindergarten facilities to be built in an environmentally friendly way and with consideration for reduction in the environmental effects, so that the facilities can be used as practical teaching resources.

Site:

The identified site is located in WES's campus, Vayusena nagar road, seminary hills, Nagpur. THE TOTAL SITE AREA IS 2.0acre . The site is considered to be flat land.



Methodology:

TENTATIVESCHEDULE MAY BE CHANGE AS PER UNIVERSITY SCHEDULE

| Sr. no | Stages | Description | Inputs | Expected Output | Duration |
|--|-----------|---|---|---|----------|
| 1 | Stage I | Introduction to the topic, Site Study and secondary data collection | Lectures/audio visual presentations by faculty. | Discussions and Study sheets | 2hr |
| | Stage II | Precedent study | Discussion and power point presentation | Discussions and Study sheets | |
| Review 1- 1st march 2021(5 MARKS) | | | | | |
| 2 | Stage III | Discussion on Design concepts | Discussion and power point presentation | Model/ Sketches and sheets | |
| Review 2- 8th March 2021(5 MARKS) | | | | | |
| 3. | Stage IV | Facilitation, area calculation, Design programme, circulation and zoning. | Discussion | Power Point Presentation | |
| Review 3- 15th March 2021(15 MARKS) | | | | | |
| 4. | Stage IV | Floor Plans along with Site Plan | Discussion | Power Point Presentation In Autocad | |
| Review 4 on 31th March 2016.(10marks) | | | | | |
| 4 | Stage V | All Floor plans, site sections & elevations, 3D views, Site plan | Discussion | Final sheets, plan, elevations, sections, views, etc. with model. | |
| Pre-Final Submission- 3rd week of April (15 marks) | | | | | |
| Final Submission- 2nd week of May (30 marks) | | | | | |
| External Review | | | | | |

Design Consideration-

1. Site Area- 2acres

Site Margins- Front margin from main road 12 m, side and rear margins 6 m

2. Total Built up area = 1500-1800sq.m

3. Activities

4. Administration Block, Multipurpose hall, Teaching and nonteaching staff area, Library, Math Labs, Art room, Music lab, Rest areas, Play areas

a) Classrooms

a. Nursery (3sections)

b. KG-I (3sections)

c. KG-II (3sections)

Submission Requirements:

1. Precedent Study Sheets
2. Idea Generation and concept sheet
3. Site Analysis
4. Design Programme, Zoning, Circulation Diagram
5. Model and sketchup views
6. Site Plan, Plan, Elevation and Section(Architectural Detailing)

Evaluation:

| Attendance | Major Project | Minor project | Total Marks |
|------------|---------------|---------------|-------------|
| 20 marks | 80 marks | 50 marks | 150 marks |

Construction Technology and Materials III

Section A- Tarika Dagadkar; Seema Burele

Section B -Sneha Bodhankar, Sarika Joshi.

Note- Portfolio Submissions on Sessional Date of Construction Paper

| Sr. No. | Topic | Objective | Time period | Teaching methods | | Expected output o evaluation |
|---|--------------------------------|---|--|---|--|---|
| | | | | Active Site visit/ creative exercise | Passive Interactive teaching/ Ppt./ Audiovisuals | |
| 1 | Timber Partitions | To understand the partitions for different users, in different materials and joinery involved To make students understand the different types, materials and design consideration for designing timber partition | 15 th and 16 th Feb 2021 | To understand the location criterion for partition & Site visit | Theory/interactive class on stud and flush partition | Market survey Sketches |
| To Understanding Timber stud partition | | 17 th Jan Feb 2021 | drafting session | Studio session | Sheet | |
| To understand the drafting of flush partition | | 22 nd Feb 2021 | Composition for design of timber partition | Theory/interactive class flush partition and Drafting | Sheet and Tutorials | |
| 23 rd Feb 2021 corrections in respective class Doubt session | | | | | | |
| Submission of Timber Partition on 26 th Feb 2021 | | | | | | |
| 2 | Aluminium Partition And | Introduction to Aluminium partition to make students understand the sections and joinery details | 5 th March 2021 | site visit (photographic documentation) of | Theory class for Aluminium metal, partition, window | Ask students to conduct a market survey |

| | | | | | | |
|---|--|---|--|--|---|---|
| | Window | | | installation of aluminium partition | And UPVC Window | |
| | | Aluminium partition drafting session of case study sheets | 8 th March 2021 | drafting session | Studio session | Sheet |
| | | to make students understand the sections and joinery details involved in Aluminium sliding window | 9 th March 2021 | drafting session | Studio session | Sheet |
| Submission of Aluminium Partition and Window on 16th March 2020 | | | | | | |
| Test 2- Aluminium Partition and aluminium Window on 22nd March 2021 | | | | | | |
| Sessional week ----- | | | | | | |
| 3 | Sliding + Sliding-Folding Door | To understand different types of doors and its applicability To understand the concept of sliding, sliding/folding door and revolving door | 23 rd and 26 th March 2021 | | Theory class for Sliding-folding door+ revolving door | Ask students to conduct a market survey |
| | | Drafting session sliding, Sliding/ folding To understand the carpentry joinery involved | 30 th March 2021 | Showing Tool, Miniature door of Sliding Folding door | Studio session | Sheet |
| 4 | Collapsible Door + Rolling Shutter + Revolving Door | Drafting session for collapsible and rolling shutter to understand the mechanism | 5 th and 6 th April 2021 | Site visit SMMCA, Building | Theory class for Collapsible door+ rolling shutter | Sketches in sketchbook |
| | | | | | Studio session | sheet |
| PORTFOLIO SUBMISSION and Test 3 on 9th April 2021 | | | | | | |

| | | | | | | |
|--|------------------------------|---|--|-------------------------|---|--|
| 5 | Metal Window And Door | To understand the standardization involved in metal doors and windows | 12 th April 2021 | | Theory class for steel+ metal window +door | Sketches in sketchbook Give Case study Assignment |
| 6 | Materials | To understand the requirement of different types of material used in building Construction i.e. Cooper, Titanium, Steel, etc. | 16 th April 2021 | Metal window/door model | Theory class for metals- copper and titanium | Model Give Case study Assignment |
| 7 | Temporary Structures | To understand the requirement of different types of temporary structures during all stages of construction | 19 th and 20 th April 2021 | | Theory class for formwork, shoring, timbering to trenches and scaffolding | Giving tutorial questions Site visit report |
| Submission of Tutorials & Sketch Book on 23 rd April 2021 | | | | | | |
| Test 4 – Metal Door/ Window, Materials and Temporary Structures on 26th April 2021 | | | | | | |
| Construction Practice Class 27 th and 30 th April 2021 (Revision) | | | | | | |
| FINAL PORTFOLIO SUBMISSION- 2nd May2021 | | | | | | |

Note - Portfolio Submissions on Sessional Date of Construction Paper.

Assignments shall be evaluated as follows:

| Sketch book | Model | Site Visit | Tutorials | Market Surveys(material) |
|--------------------------|--------------------|----------------------|------------------|---------------------------|
| Quality of Sketches | Scale & Proportion | Que. Regarding visit | No. of questions | Information from surveys |
| Information from surveys | Material | | Contents of Ans. | |

Evaluation scheme

| Sr. No. | | % |
|---------|---------------------------------------|------------|
| 1 | Attendance | 20 |
| 2 | Plates, Models, Sketchbook, Tutorials | 30 |
| 3 | Site visit | 10 |
| 4 | Sessional Exam | 40 |
| | Total | 100 |

| Sr.no | Description of CO | Weightage in terms of marks (cumulative marks should not exceed 60) | Output (Test/Essay/ Sheets/ppt/model/Review/anyother) |
|-------|---|---|---|
| CO1 | Unit -1 Partition - Timber, Aluminium and steel | 8 | test and review |
| CO2 | Unit - 2 Windows and Door- Steel, Aluminium, and sliding door, sliding and folding door, revolving door, collapsible door and rolling shutter | 12 | test and review |
| CO3 | Unit - 3 Metals-Aluminium, copper, steel and other materials | 5 | test and PPT |
| CO4 | Unit - 4 Temporary structures- Timbering to trenches, formwork, (centering, shoring and underpinning | 5 | test and review |

| Sr. No. | Rol No. | NAME OF STUDENT | | | | | | | | | Teachers evaluation | | | | TOTAL |
|---------|---------|-------------------|------|------------|------|-----|------|-----|------|-----|---------------------|---------------------------|------------|------------|-------|
| | | | CO 1 | Attainment | CO 2 | | CO 3 | | CO 4 | | Sessional | Plates/Models/Sketch book | Site visit | Attendance | |
| | | | U-1 | | U-2 | | U-3 | | U-4 | | | | | | |
| | | Max. Marks | 8 | Y/N | 12 | Y/N | 5 | Y/N | 5 | Y/N | 20 | 20 | 10 | 20 | 100 |

Architectural Graphics IV

Teacher Incharge –Prof. Vishwas Dikhole, Prof. Madhura Rathod, Prof. Seema Burele, Prof. Sarika Joshi

Third semester Graphics subject helped students to know about perspective. This semester students will be introduced to shades and shadow. During the daytime hours, our constant companion, whether we are aware of it or not, is our shadow. We perceive shades and shadows on both animate and inanimate objects. Empirically, most of us can sense why on an object, shadow takes on certain geometric configuration. However, the shadow sense should be adequate for architectural students. Thus fourth semester graphics subject emphasizes on sciography.

The following unit plan is prepared to follow sequential teaching approach in all sections. Looking forward to enjoy, learn and enhance our knowledge along with students' companion.

| MONTH | TOPIC | OBJECTIVES | SUBMISSION |
|---|---|---|--|
| UNIT I | | | |
| 16 th , 23 rd Feb, 2 nd March, 9 th March, 16 th and 23 rd March | Recapitulating semester-III- Perspectives | To recall various methods of perspective | 1 no. A2 size sheet |
| | Introduction to Sciography | To understand the concepts of shades and shadows | Students will be understanding the casting of shadows and shades on atleast 10 geometrical forms (Model + Sheet) |
| | Sciography of lines, planes and 3 dimensional forms | To understand and learn the technical methods of drawing the Sciography | 5 no. A2 size sheets |
| Unit I submission on 30th March 2021 | | | |
| UNIT II | | | |

| | | | |
|---|---|--|---------------------------------|
| 30 th March, 6 th and 13 th April 2021 | Sciography of various building elements (voids and puncher, chajjas, niches, steps, etc.) | To understand the technical methods of drawing Sciography with respect to Building and landscaping elements. | 5 no. A2 size sheets |
| | Sciography for Landscaping elements | | 2 no. A2 size sheets |
| Unit II submission on 15th April 2021 | | | |
| UNIT III | | | |
| 20 th and 27 th April 2021 | Sciography on building elevations and sections | To understand the technical methods of Sciography of building with respect to Surrounding | 1 no. A2 size of design Project |
| | Sciography on site plans | | 1 no. A2 size of design Project |
| | Sciography of building view | | 1 no. A2 size of design Project |
| Submission of III on 30th April | | | |
| Final Portfolio submission on 5th May 2021 | | | |

Evaluation Scheme:-

Sessional Marks - 50

Passing Marks : 25

| Topics | Max Marks |
|------------|-----------|
| Portfolio | 30 |
| Attendance | 10 |

| Sr. no | Description of CO | Weightage in terms of marks (cumulative marks should not exceed 60) | Output (Test/Essay/ Sheets/ppt/model/Review /anyother) |
|--------|--|---|--|
| 1 | Introduction to sciography, concepts of shades and shadows, technical methods of drawing the Sciography for lines , planes and 3 dimensional forms | 12 | Sheets and sketchbook |
| 2 | Introduction and problems on sciography of different building elements and landscaping elements. | 10 | Sheets and sketchbook |
| 3 | Introduction and problems on sciography in buildings elevations and sections, site plan and drawing the sciography in perspective, | 8 | Sheets and sketchbook |

| | |
|-----------|----|
| Sessional | 10 |
| Total | 50 |

| Sr. No | Roll No. | NAME OF STUDENT | CO1 | Attainment | CO2 | | CO3 | | Sessional | Attendance | TOTAL |
|--------|----------|-------------------|-----|------------|-----|-----|-----|-----|-----------|------------|-------|
| | | | U-1 | | U-2 | | U-3 | | | | |
| | | Max. Marks | 12 | Y/N | 10 | Y/N | 8 | Y/N | 10 | 10 | 50 |

Building Services I

Teachers in-charge: Prof. Anuradha Bhute, Prof. Priyanka Sambre

Building Services plays an important role in design, as building services is an integral part of planning and design. Everything that makes a building safe and comfortable to live or work in needs to be designed installed and maintained. The course of this semester deals in detail with water supply and sanitation.

OBJECTIVE:-

- To provide a significant knowledge to the students for integrating design and the supporting services.
- To study the basic services such as water supply and sanitation.
- To learn effective availability of resources.
- To study various services on sites and apply it in their designs.

| Name of the Topic | Input | Task / Expected output |
|--|-------------------|---|
| Water supply Sources of water supply, qualitative and quantitative aspects, impurities, hard and soft water, quality standards. Water demand and consumption in different types of buildings, computing demand for domestic use | PPT | |
| Water demand and consumption in different types of buildings, computing demand for domestic use | Explanation | Assignment 1: Computing demand for their own house and other typology (eg Commercial, Schools etc.) |
| Domestic water supply system, types, capacity- design-construction and suction and storage tanks. Down take supply, water supply pipes- jointing, fixing, laying Various valves, fittings and fixtures | PPT & Site Visit | Market Survey of various pipes |
| Domestic hot water supply, water heaters | PPT | |
| Sanitation Principals of sanitation, water carriage system, collection of waste matter in buildings. Various sanitary fittings and fixtures. Various traps and their functions | PPT | Sanitary Layout of a residence or college |
| Sewage collection and disposal system for individual buildings Various types of sanitary pipes- jointing, fixing, laying; manholes, inspection chambers, intercepting chambers | PPT & Explanation | Market Survey |
| Refuse disposal- sources, types, collection, storage and transport, provisions for refuse disposal individual building level, refuse chutes | PPT & Explanation | |
| Storm water management | PPT & Explanation | |

Theory of Architecture I

Teachers-in-charge: Prof. Vaijayanti Yadav, Prof. Nehal Maheshwari

CO1 - Introduction to Architectural Design.

CO2 - To understand Architectural Design –analysis – aesthetic &function.

CO3 -Study of Architectural Space &Mass.

CO4 -To understand Aesthetic Components of Design.

CO5 -Application of Color in Architecture.

| Date | Unit to be covered | Inputs on |
|----------------|--|--|
| Feb week III | Unit I Definition of Architecture | Discussion on definition of architecture. Asked to compile at least 10 definitions and identify the most appropriate |
| | Discussion on definitions | Discussion on write ups written by students |
| Feb week IV | Introduction to elements of architecture | Presentation and discussion on Floor as an element of space making |
| March Week I | Introduction to elements of architecture | Presentation and discussion on other elements of space making, column, wall, openings, roof. |
| March week II | Unit II Isms in architecture | Post -modernism De-constructivism |
| March Week III | Unit II Isms in architecture | Regionalism |
| March Week IV | Unit III Architectural space and Mass Tutorial questions to be given | Form, space and order, chapter 1 and 2 |
| April Week I | Unit III Architectural space and Mass | Form, space and order, chapter 3 |
| April Week II | Unit IV Aesthetic components of design | Form, space and order, chapter 6 |

| | | |
|----------------|---|---|
| April Week III | Unit IV Aesthetic components of design | Form, space and order, chapter 7 |
| April Week IV | Unit V Color in architecture | Discussion on color symbolism Small Assignment to be done in the class |

Evaluation Scheme

| Attendance | Sessional I | Sessional II | Total |
|------------|-------------|--------------|-------|
| 10 | 10 | 10 | 30 |

Theory of Landscape Architecture I

Teacher In-charge: Prof. Ketki Tidke, Ar. Sneha Mandekar

Objectives:

CO1: To introduce students to the discipline of landscape architecture and its relevance to architecture.

CO2: To make students aware of architecture beyond buildings, in the outdoor environment and spaces through the historical developments.

CO3: To understand the role and importance of landscaping and site planning in enhancing and improving the quality of building environs, functionally and aesthetically.

| Syllabus Content | Topics | Schedule | Prescribed Reading | Assignment | Date Of Submission |
|---|---|-------------------------------|-------------------------------|----------------------------|---|
| Introduction to Landscape Architecture. Historical development of Landscape Architecture Origins of Gardens | French Italian English | 19 th Feb 2021 | Site planning- Kevin Lynch | Tutorial (Assignment I) | Submission of Assignment I (10 marks) |
| Historical development of Landscape Architecture | Mughal Japanese | 4 th week of Feb | | | |
| Historical development of Landscape Architecture | Egyptian Persian Spanish American | 1 st week of March | | | |
| Modern Garden Development. Effect of Industrialization on Garden Design. | Company towns Park Movement Green Belts Urban Parks Residential Gardens Small Gardens. | 2 nd week of March | | | |

| | | | | | |
|--|---|-------------------------------|---|--|---|
| Factors and Components of Landscape | Psychological considerations of spaces and enclosures. Manmade and natural components | 3 rd week of March | | | |
| 24th Feb to 29th Feb 2020 - Sessional examination (10 marks) | | | | | |
| Elements of Landscape Architecture. | LAND Soils, Geology, Topography, Earth forms, Levels, Foundations, Grading, Drainage, Paved surfaces PLANTS Trees, Shrubs, Climbers etc. Other horticultural aspects. WATER Various types of water features. Construction of water elements. | 4 th week of March | Landscape Architecture (Third Edition) –J O SYMONDS (A Manual of Site Planning and Design) | | |
| Role and importance of landscaping and Site planning in enhancing and improving the quality of building environments, functionally and aesthetically. Relationship | Introduction CLIMATE Macro and Micro climatic considerations in Landscape | 1 st week of April | | Project (Assignment II): Site development of Major project of Design, design of water feature | Portfolio Submission of Assignment II (20 marks) |

| | | | | | |
|--|---|-------------------------------|----------------------------|--|--|
| between climate and Landscape Architecture | Architecture | | | | |
| Site planning | Siting of buildings Articulation of Outdoor spaces | 2 nd week of April | Site planning- Kevin Lynch | | |

MARKS DISTRIBUTION: Sessional Marks 50

| | |
|-------------------------|----|
| Attendance | 10 |
| Assignment I (Tutorial) | 10 |
| Sessional examination | 10 |
| Assignment II (Project) | 20 |

Elective A - Graphic Softwares

Teacher in charge: Ar.Sneha Bodhankar, Ar. Seema Burele

Objective- To teach students to prepare presentable AutoCAD drawings. Lot of practice sessions will be given to make students capable of generating fast and best quality architectural drawings.

Course Outcome:

CO1 : To understand Software and their integration in Studio Subjects

CO2 : To study the and explore different tools which will help student for design form evolution

| Date | Unit to be covered | Inputs and outputs |
|--------------------|---|--|
| Feb –MARCH 2021 | GOOGLE SKETCH UP Introduction | Basic introduction to explore software |
| | Overview of sketchup 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 sketchup of Café Library |

CO1 AND CO2- Date of submission- 30th March 2021

Assignment 1 - 3d view in sketchup -Design minor project with Sloping Site, exploration of roofs and materials and effects
(20 marks)

Assignment 2- 2no.s - 3d models with Sciography of Graphics –IV Subject
(20 marks)

| | | |
|---|---|--|
| April May 2021 | 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, Osnap, Osnap setting, Polar, Otrack, 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. | Handson on software, guidelines Instructions and students will work |
| | Rotate, scale, stretch, Lengthen, Extend, Break, Break at point, Join, Chamfer, Fillet, Blend curves, Area, Distance, Radius, Angle, Properties, Quick Properties, Selection Cycle, Dyn | |
| | 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 | |
| CO1 AND CO2- - Date of submission- <u>15th May 2021</u> Assignment 3: Site plan of parking (Major project)-2d (20 marks) | | |
| April May 2021 | Autocad 3D Creating isometric views, iso circle, oblique, 3D modeling tools. Polysolid, box, cylinder, wedge, ducs. Cone, sphere, pyramid, torus, helix, planer surface | Handson on software, guidelines Instructions and students will work |
| | Subtract, material browser, colour face, adding material to single side. Extrude press pull, revolve, sweep, loft. Move gizmo, rotate gizmo, 3D align, 3D array. Extrude, move, offset, copy, delete, taper, and rotate faces. Chamfer, fillet, copy edge, colour edge, clean, union, separate, intersect, shell | |
| | Visualization & walkthrough- Render, render environment, render with sky background. Sun properties, light, camera. Motion path animation. Raster image. | |
| | Layout & plotting. Export, layout, import, creating viewports, plotting. Conversion of AutoCAD drawing into Photoshop, sheet composition & rendering | |

| | | |
|--|--|--|
| | Layout & plotting. Export, layout, import, creating viewports, plotting. Conversion of AutoCAD drawing into Photoshop, sheet composition & rendering | |
| <p>Date of submission- <u>30th May 2021</u></p> <p>Assignment 4: (Major project)-3D Auto Cad (20 marks)</p> | | |
| Attendance 20 marks | | |

Evaluation Scheme:

Total = 100marks (20marks on Attendance+ 80marks on 4 Assignment)

Elective B –Photography

Teachers In charge- Prof. Atula Patwardhan, Ar.Sarika Joshi

Vision- All architecture students can prosper by learning to see light and how light alters the visual impact of architectural forms. Just as drawing allows students to refine their vision and perspective teaches how we see; the camera allows for yet another discipline to organically create with architecture and light.

This course will teach students to create successful images of exterior architecture, interior architectural design, as well as architectural models.

Course Objectives: Upon completion of this course each student will possess the following skills:

- Comprehensive understanding of Photography.
- Heightened sensitivity to light and how it strengthens architectural design
- Ability to use High Dynamic Range (HDR): multiple exposures to create dramatic architecture/interior images without additional professional lighting.
- Intermediate ability to photograph architectural models and small products, including a studio set up with studio lighting and possibly strobe lighting.

| Date/ Duration | Topic | Assignment | Expected out come | marks | Submission date |
|---|--|--|-----------------------------|----------|--|
| 1st Feb to 5 th Feb 2021 | Introduction to photography- presentation by ALP | Photography of an object from different viewpoints & camera angles (minimum 5 images) soft/hard copies. | 5 images | 5marks | submission date 6 th Feb 2020 |
| | presentation on importance of ground line, negative spaces in photographs and use of focal point for the picture frame. | Capture the photo of the same scene with different eye levels changing the proportions of the ground and sky. | 4 Images | 10 marks | |
| | Introduction to Indoor photography Tabletop -To explore textures of different material and impact of light on it. | Make composition of various cosmetic products having different textures and material. Capture the photo of the composition with dramatic lighting effects. | 2 different compositions | 15 marks | |
| | Test | Swayam NPTEL exam | Show score | 20 | |

| | | | | | |
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| | | | card of NPTEL | | |
|--|--|--|---------------|--|--|

| Date/ Duration | Topic | Assignment | Expected outcome | marks | Submission date |
|--------------------------------------|--|---|---|-----------|---|
| 8st Feb to 12 th Feb 2021 | Architectural photography | Capturing building elements with lighting effects | 5 photos of any 5 building elements (Fenestration, jali, pergola, columns, canopy chajja balcony, staircases) | 15 marks | submission date 13 th Feb 2021 |
| | Photographic Documentation of design model | Photos of model from different (unique) angle in natural light setting with sciography. | Collage of all the photos | 15 marks | |
| Evaluation | Attendance – 20 marks | All Assignments – 60 marks | Swayam NPTEL Test- 20 marks | Total-100 | |

Elective B – Design of building elements

Teachers: - Dr. Tarika Dagadkar, Ar. Isha Pawar

Building elements are the basic identifiable parts of the manmade built environment; these elements possess attributes inherent to their morphological construct which endow them with spatial properties, providing potential for their use and design in architectural compositions.

Objectives

CO1 : To understand different building elements and their integration through the works of famous architects.

CO2 : To study the factors which influence the design of building elements.

CO3 : To Study and analysis the building elements under the heads- Anatomy, its evolution process, attributes spatial roles and application. Incorporate the building elements in the major design project.

| Sr. No. | Allotted Hours | Topic | Input | Assignment |
|---------|----------------|---|----------------------------|--|
| 1 | 2 | Introduction to the building elements, study the integration of building elements through the works of famous architects | Presentation, Interaction. | Assignment 1 on CO1 : Submission on building elements used by famous architects. |
| 2 | 2 | Identify the factors which influence the design of building elements- <ul style="list-style-type: none">• Cultural / style / period.• Regional / contextual.• Building material, construction techniques. | Lecture, Discussion. | Assignment 2 on CO2 : Submission on the given topic |
| 3 | 2 | Study and analysis of the building elements under the heads- Anatomy, its evolution process, attributes spatial roles and application. | Lecture, Discussion. | Assignment 3 on CO3 : Sheets showing the building elements in the major design project. |

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|--|--|--|--|--|
| | | Incorporate the building elements in the major design project. | | |
|--|--|--|--|--|

READING MATERIAL

- Form space and order by D.K Ching.
- Principles of Architecture. By Mohan,G.Muthu shobha
- Elements of spacemaking by Yatin Pandya.

Evaluation scheme

| 1 st Assignment | 2 nd Assignment | 3 rd Assignment | Sessional Exam | Attendance | Total Marks |
|----------------------------|----------------------------|----------------------------|----------------|------------|-------------|
| 20 | 20 | 20 | 20 | 20 | 100 |