

Key Indicator – 1.3 Curriculum Enrichment
(50)

1.3.2 Number of certificate / value-added courses / Diploma Programme/ online courses of MOOCS / SWAYAM / e-Pathshala / NPTEL etc. where the students of the institution have enrolled and successfully completed

(30)

Criterion 1 – Curricular Aspects
(150)



Metric 1.3.2

**Annual Report consolidated including objective &
Outcome of all VAPs with graphs, charts
/photographs**

(2019-20 to 2023-24)

Appendix V

SSAA

ANNUAL REPORT 2019-20
VALUE ADDED COURSE

Date: 13th July, 2020

Course Name: Computational Design and Form Finding

Course Code: 19SAA-VA01

Faculty: Arjun Kamal, Himanshu Sanghani

Course Objective:

The subject deals with computational design and its relevance today in the field of architecture. Students will be introduced to the field of computational design, form finding and generative design using tools like Rhino, Grasshopper with allied plugins like RhinoVAULT, Pufferfish, Wasp and Lunchbox. Form finding and design will be covered using various typologies and techniques like

- Shells - Traditional and polygonal panelization
- Spaceframes
- Tensile structure - Traditional and polygonal panelization
- Slicing and waffling
- Geometric tessellation
- Polyhedral forms and modules
- Rule based discrete clustering

Student Learning Outcomes:

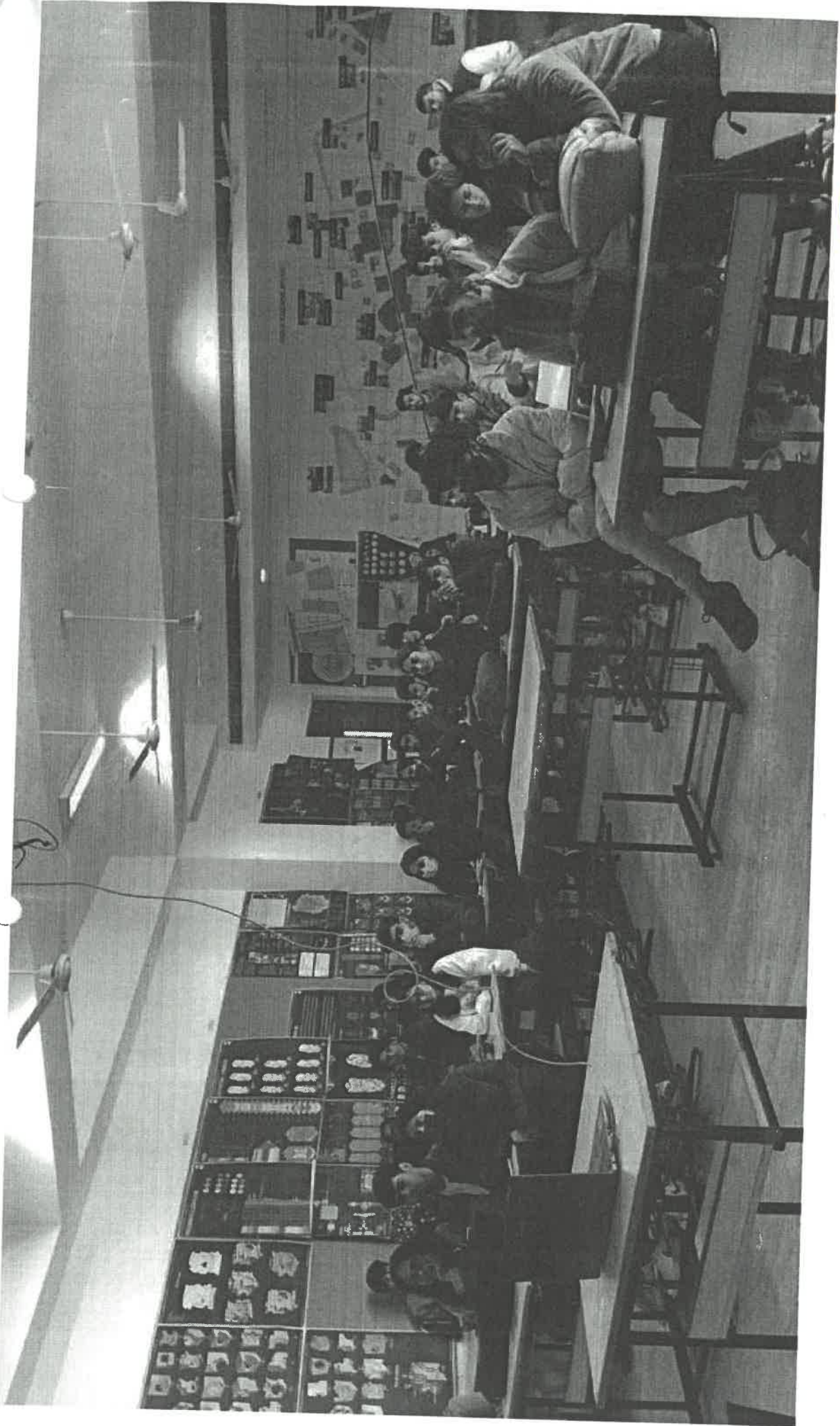
Students learned to use computational design techniques and the use of software to produce forms and developing parametric forms used in architectural practice.

Problems encountered:

Access to registered software was a limitation for few students.

Prof Arjun Kamal
Associate Professor
Co-ordinator in charge - Value added courses





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School of Architecture
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ANNUAL REPORT 2020-21

VALUE-ADDED COURSE- ONLINE

Date: 9th July, 2021

1. Course Name: Building Information Modeling

Course Code: 20SAA-VA01

Faculty: Dr. Purva Majumdar

Mode of conducting of course: Online

Course Objective:

The aim of teaching this subject is to make the student understand the theory and application of Building Information Modeling/Management (BIM) Concept for Architecture-Engineering-Construction Industry Practices.

Student Learning Outcomes:

Students understood the basics of Building Information Modeling/ Management concepts for Architectural practice.

Problems encountered:

None

2. Course Name: Transport Planning

Course Code: 20SAA-VA02

Faculty: Prof Himanshu Sanghani

Mode of conducting of course: Online

Course Objective:

The course aims at preparing students to realise the importance and need of sustainable traffic and transportation infrastructure in urban and regional development. Students are expected to have:

Knowledge:

On interaction between land-use and planning will provide students to assess and speculate the relevant different modes of transport. Different surveys conducted will help the students to theorize and examine various concepts and populate geometric designs related to survey/transportation. To be able to conduct and summarise independent research and will be able to translate theoretical concepts in to spatial configurations.



Value:

For the subject, which will strongly prepare the students to list the terms and objectives while documenting exercises related to transportation. In order to define the vocabulary for traffic rules and regulations.

Skills:

To be able to demonstrate principles of road design and aptly apply in various other projects such as neighborhood planning, local area planning, housing designs and sector designing. In statistical and analytical skills related to transportation, which will enhance and then will be able to convince peers.

Design:

At the end of semester students will gather the ability to design roads based on theory, strategize and plan economics involved in road infrastructure.

Student Learning Outcomes:

Students understood the basics of Transport Planning.

Problems encountered:

None



Prof. Purva Majumdar
Coordinator in-charge VAC (Odd Sem)



Prof. Himanshu Sanghani
Coordinator in-charge VAC (Even Sem)



**VALUE ADDED COURSES
2020-21 EVEN SEMESTER
ANNUAL REPORT**

1. **Course: Transport Planning/20SAA-VA02**
Faculty: Himanshu Sanghani

Course Objective:

The course aims at preparing students to realise the importance and need of sustainable traffic and transportation infrastructure in urban and regional development. Students are expected to have:

Knowledge:

On interaction between land-use and planning will provide students to assess and speculate the relevant different modes of transport. Different surveys conducted will help the students to theorize and examine various concepts and populate geometric designs related to survey/transportation. To be able to conduct and summarise independent research and will be able to translate theoretical concepts in to spatial configurations.

Value:

For the subject, which will strongly prepare the students to list the terms and objectives while documenting exercises related to transportation. In order to define the vocabulary for traffic rules and regulations.

Skills:

To be able to demonstrate principles of road design and aptly apply in various other projects such as neighbourhood planning, local area planning, housing designs and sector designing. In statistical and analytical skills related to transportation, which will enhance and then will be able to convince peers.

Design:

At the end of semester students will gather the ability to design roads based on theory, strategize and plan economics involved in road infrastructure.

Student Learning Outcomes:

Students understood the basics of Transport Planning

Problems encountered:

None



**VALUE ADDED COURSES
2020-21 ODD SEMESTER
ANNUAL REPORT**

1. Course: Building Information Modeling/20SAA-VA01

Faculty: Dr Purva Mujumdar

Course Objective: The aim of teaching this subject is to make the student understand the theory and application of Building Information Modeling/Management (BIM) Concept for Architecture-Engineering-Construction Industry Practices.

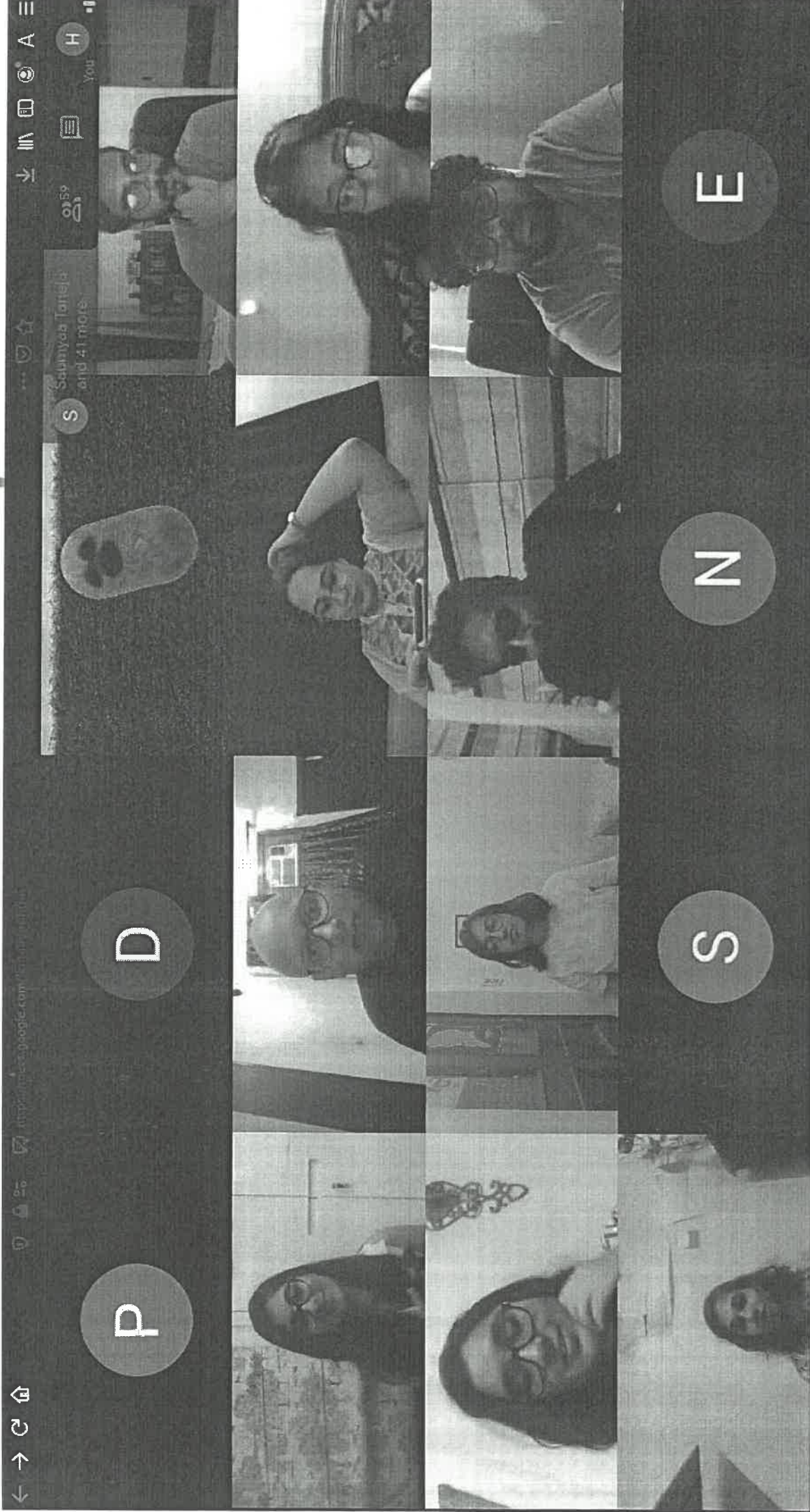
Student Learning Outcomes:

Students understood the basics of Building Information Modeling/ Management concepts for Architectural practice

Problems encountered:

None





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**VALUE ADDED COURSES
2021-22 EVEN SEMESTER
ANNUAL REPORT**

1. **Course: Solar Passive Architecture/21SAA-VA04**
Faculty: Surabhi Mathur, Payal Taneja

Course Objective:

The course aims to facilitate knowledge and be able to apply passive solar architecture, passive systems including modern and postmodern passive architecture.

Student Learning Outcomes:

Students understood the Solar passive architecture techniques and their application in Architecture

Problems encountered:

None



**VALUE ADDED COURSES
2021-22 ODD SEMESTER
ANNUAL REPORT**

1. **Course: Climate Change and Disaster Management/21SAA-VA01**
Faculty: Ankita Yadav , Payal Taneja

Course Objective:

The objective of this course is to initiate students with the issues of various types of natural and man-made Disasters and impart techniques of mitigation and management. This course will help to understand the phenomenon of climate change, its impact on areas and environmental discourses/ debates.

Student Learning Outcomes:

Students understand the issues of natural and man-made Disasters and impart techniques of mitigation and management.

Problems encountered:

None



ANNUAL REPORT 2021-22
VALUE ADDED COURSE

Date: 29th June, 2022

1. Course Name Climate Change and Disaster Management

Course Code: 21SAA-VA01

Faculty: Prof Ankita Yadav and Prof Payal Taneja

Course Objective:

The objective of this course is to initiate students with the issues of various types of natural and man-made Disasters and impart techniques of mitigation and management. This course will help to understand the phenomenon of climate change, its impact on areas and international discourses/debates.

Student Learning Outcomes:

Students understood the various types of natural and man-made Disasters and impart techniques of mitigation and management.

Problems encountered:

None

2. Course Name: Solar Passive Architecture

Course Code: 21SAA-VA02

Faculty: Prof Surabhi Mathur and Prof Payal Taneja

Course Objective:

The course aims to facilitate knowledge and be able to apply passive solar architecture, passive systems including modern and postmodern passive architecture.

Student Learning Outcomes:

Students understood the Solar passive architecture techniques and their application in Architecture.

Problems encountered:

None



Prof. Ankita Yadav
Coordinator in-charge VAC (Odd Sem)

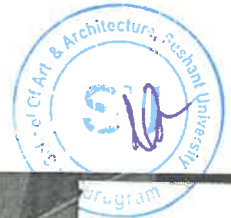
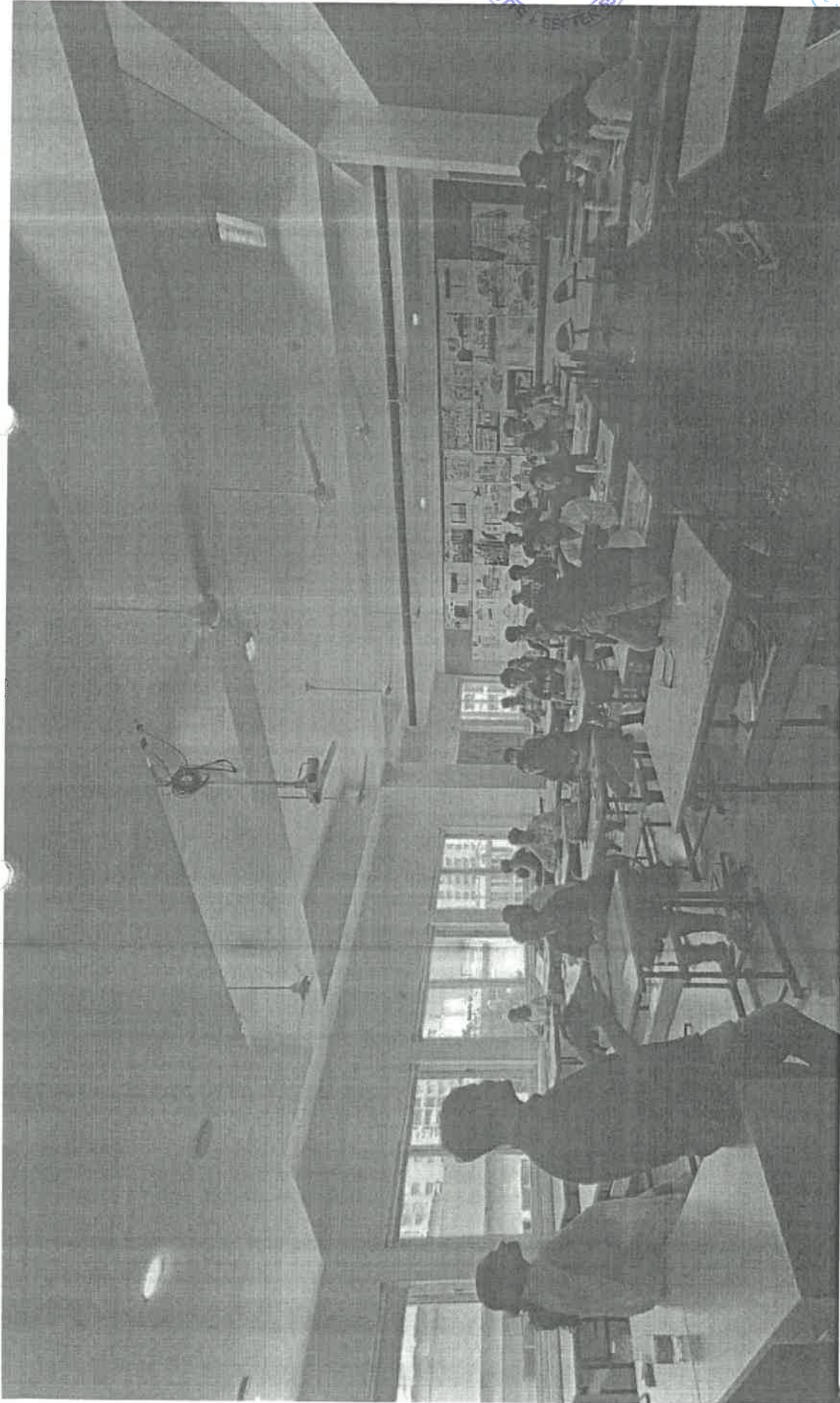


Prof. Surabhi Mathur
Coordinator in-charge VAC (Even Sem)





VALUE ADDED COURSE PICTURES
ODD & EVEN SEMESTER



Gurugram, India

310, Sanjay Maurya Sool100 Marg, Huda, Sushant Lok 2, Sector 55, Gurugram, Haryana 122003, India

March 25, 2022

Latitude

28.430258691490643

GMT

04:24 am

Longitude

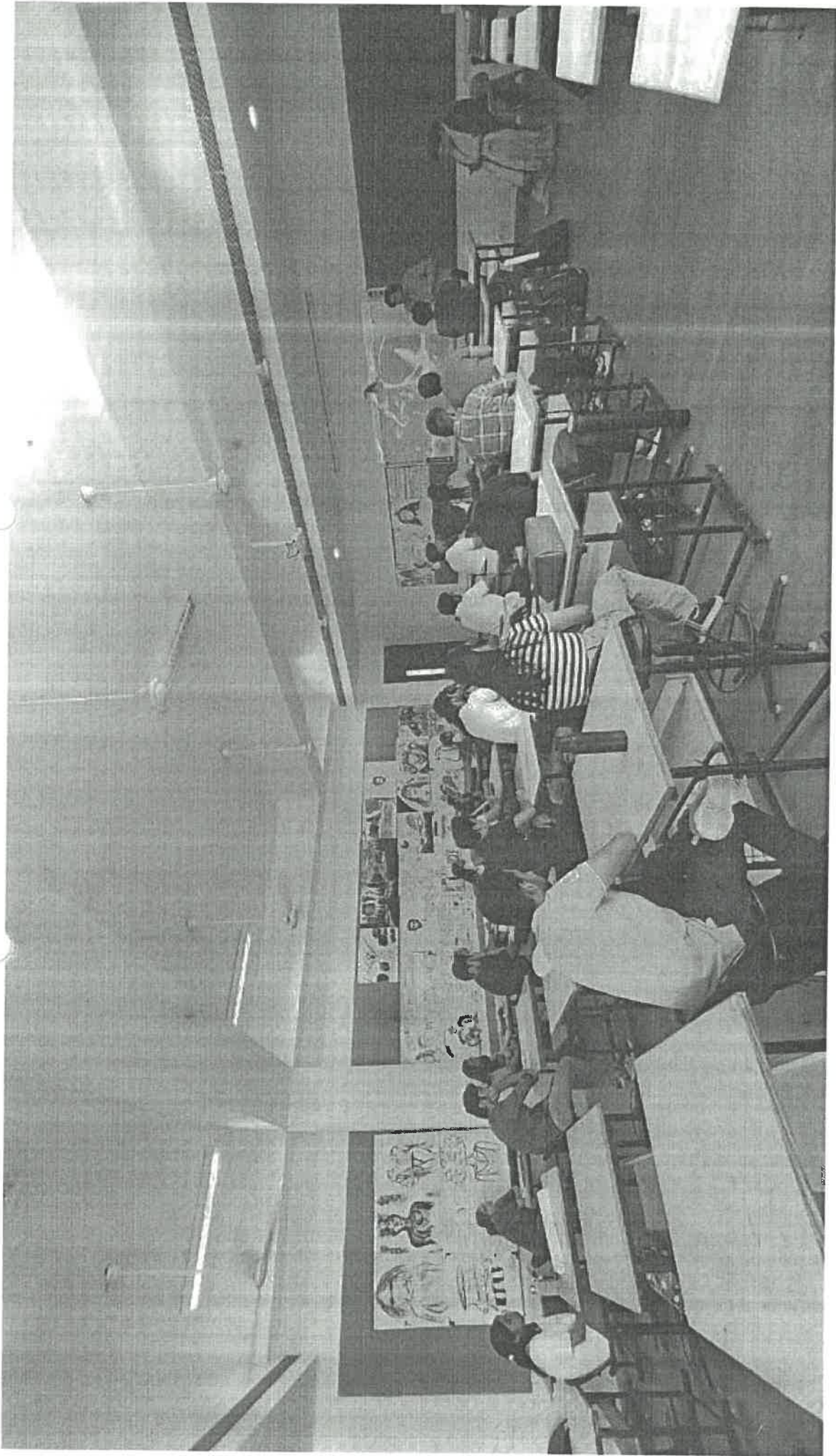
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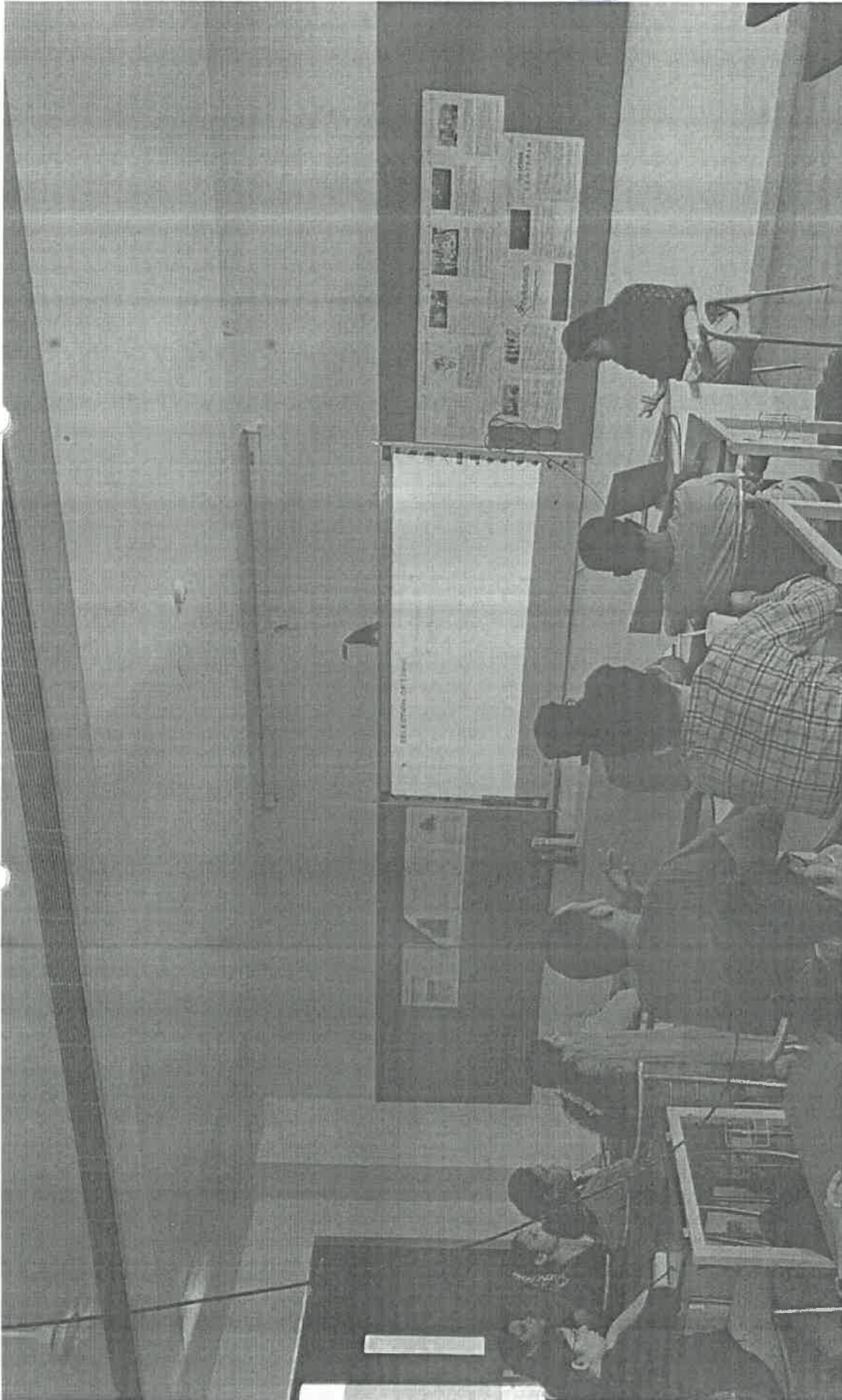
Local Time

09:54 am

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Gurugram, India

310, Sanjay Maurya Scol100 Marg, Huda, Sushant Lox 2, Sector 55, Gurugram, Haryana 122003, India

Nov 5, 2021

Latitude

28.430258691490649

GMT

04:24 am

Longitude

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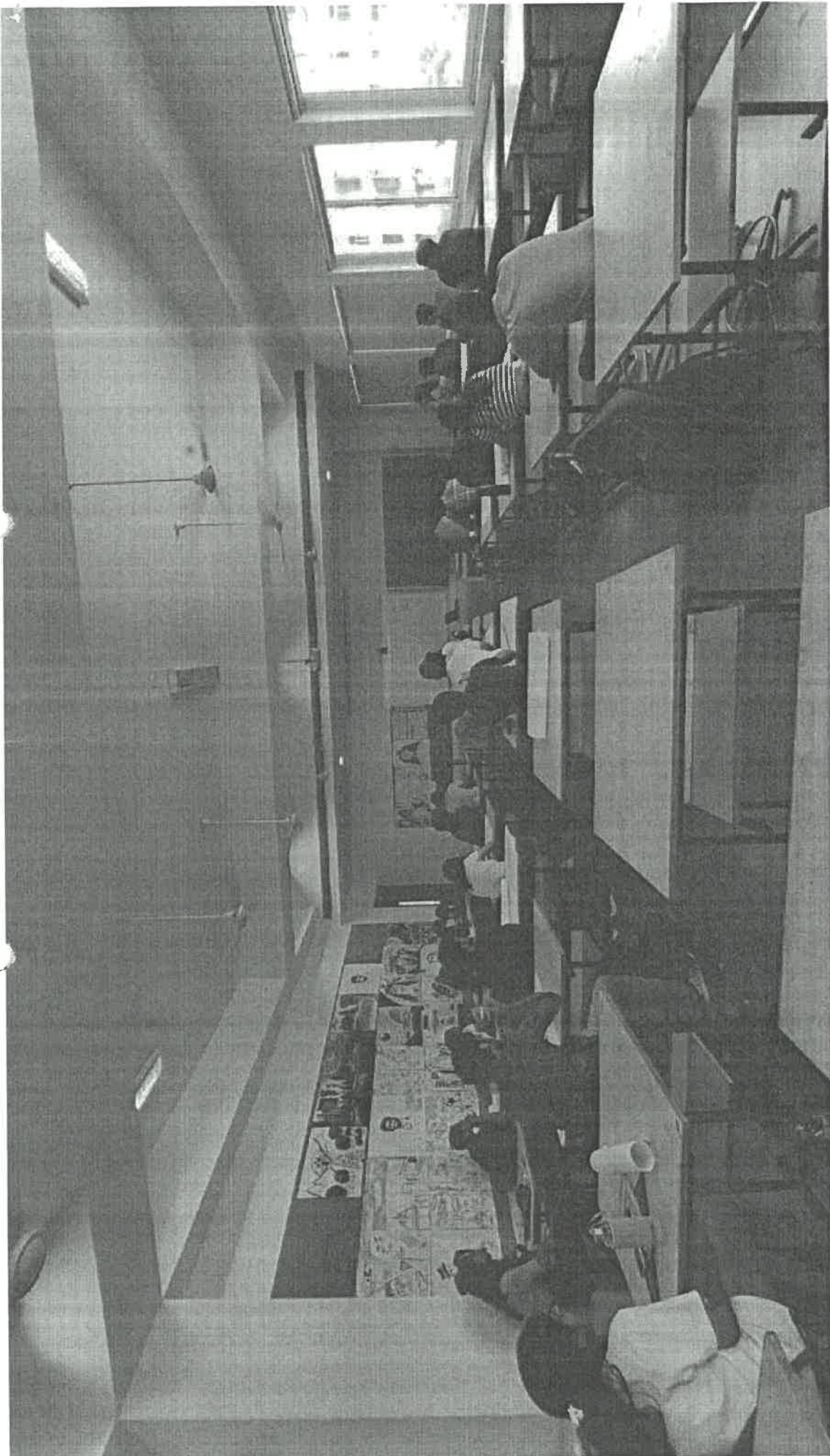
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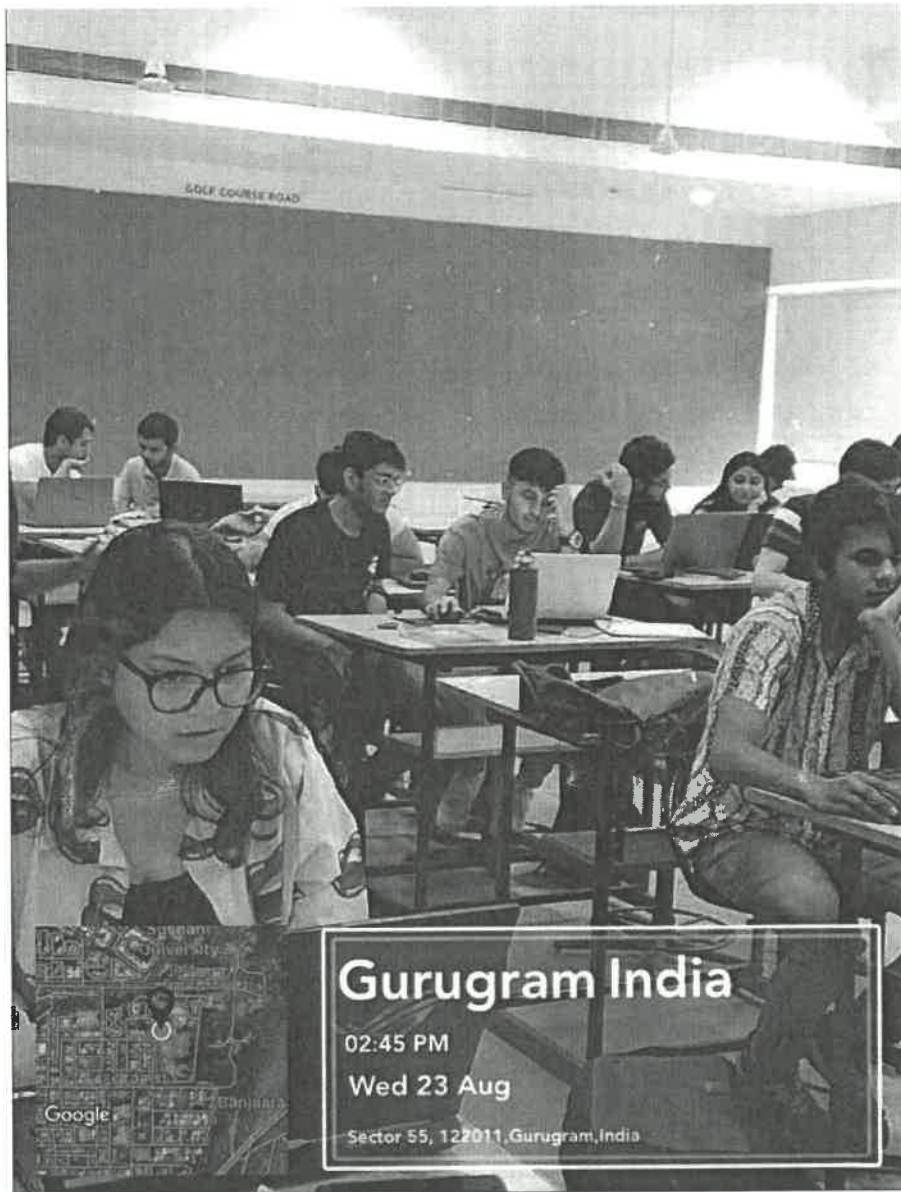
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Prerana Hazarika
Assistant Professor
Coordinator - Value added courses

VALUE ADDED COURSE
ANNUAL REPORT- 2022-2023
Odd semester

1. Course – Fundamentals of Remote sensing : Introduction to ArcGIS tools and interface/22SAA-VA01

Faculty - Prerana Hazarika, Aditi Padhi

Course Objective

The course aims to familiarize architecture students/academicians with the basics of remote sensing and GIS so they may apply the knowledge in their research as well as in practice. The course provide a comprehensive approach to professional planning, utilizing information technology to facilitate planning, engineering, and environmental aspects through Geographic Information Systems.

The course seeks to provide students with a basic level of familiarity with several aspects of Geographic Information Systems and Geographic Information Science, such that the range of possibilities for GIS-based work is understood and an adequate foundation for engaging those possibilities is design and planning.

Student Learning Outcomes

Students learned to compile, analyze, and present geospatial data while emphasizing the value of visual communication. Students learned the basic geospatial concepts using industry standard GIS technology.

Problems encountered: Lack of registered software and lab

2. Course – Urban Ecology and Climate Change/22SAA-VA02
Faculty – Pallavi Sharma, Pratibha Malik



Course Objective

This course will introduce the theme of climate change in Urban areas where the major focuses will be on cities as they are most affected by climate change and contribute to this change as well. This course will also look at how climate change adaptation and mitigation can be considered in Urban planning.

The aim of the course is to enhance the student's knowledge and competency in the areas of environment, climate change, urban policies and urban ecology. This course provides an ecological perspective to the environmental challenges and opportunities related to urban development adopting an inter-disciplinary approach.

Student Learning Outcomes

On completion of the course the students were well versed in the following subject areas:

1. Gained a wider understanding of urban ecological and environmental issues ranging from bio-diversity to climate resilience and appreciate potential approaches for cities to deal with ecological and environmental challenges and threats of climate change.
2. Enhanced abilities and skills relating to evaluation of environmental and social impacts of urban development.

Problems encountered : None



VALUE ADDED COURSE
ANNUAL REPORT- 2022-2023
Even Semester

1. Course - GIS Analysis in design and Planning : Thematic mapping and data linking/ 22SAA-VA01

Course Objective

The aim of this course is to acquaint architecture students with the fundamentals of mapping and data linking so they may apply the knowledge in their research as well as in practice. The software may be used in alignment with AutoCAD and Sketchup to create more accurate and realistic architecture models.

Student Learning Outcomes

- Students understood about the Spatial data visualization techniques along with introductory knowledge of effective cartography and additional software for the production of maps and other information graphics
- Skills were developed to execute a project requiring GIS as a management, analytical, and/or visualization tool
- Students were able to identify and access publicly available data sets, tools necessary to create GIS data through a variety of methods including those offered by global positioning system (GPS) technologies

Problems encountered : Lack of registered software and lab

2. Course - Entrepreneurship and Leadership / 22SAA-VA04

Course Objective

The course aims to nurture future leaders, who are familiar with leadership attributes and understand the process of setting up an entrepreneurial establishment. This will develop entrepreneurship as an alternate career option and strengthen the developing economy in line with the National Education Policy 2020.

The course will help the learners establish plans and programs to formulate an enterprise by creative ideas, along with translating opportunities and motivating others in the organization. The course will include introduction to key concepts and skills of leadership in terms of styles and adaptations, and philosophy and concepts of entrepreneurship.

Student Learning Outcomes

The students were able to:

- Recognise leadership attributes.
- Identify business opportunities
- Formulate a Business Plans

Problems encountered : None



3. Course : Regional planning/ 22SAA-VA03

Course Objective

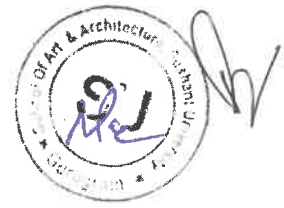
This course tends to provide a comprehensive overview of how towns, cities, and regions have evolved and provides the option to focus on environmental or urban regeneration challenges. Understanding the factors and dynamics affecting the built environment as well as how planning may be used to reconcile divergent and conflicting interests would be aided by doing this.

The infrastructure gap in a region can be studied by students with the help of this course. Students who are interested in the social infrastructure, environmental studies, and regional planning of a region should take this course.

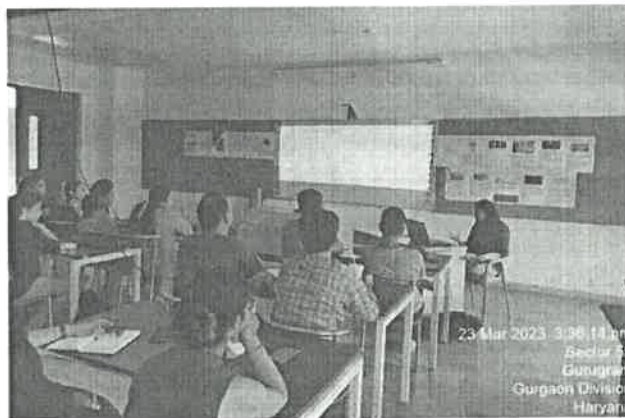
Student Learning Outcomes

- Identified and discussed planning vocabulary linked with urban, region and environmental aspects related to spaces.
- Analysed the procedure of planning, it's methodology through case studies and articulate the analysis.
- Evaluated the learning and do the research.

Problems encountered : None



GEOTAGGED IMAGES-



ANNUAL REPORT
EVEN SEMESTER 2023-24
VALUE ADDED COURSE

Date: 26th April, 2024

Course Name: Exploring Vivekananda's Wisdom: A Path for Students

Course Code: 23SAAVA03

Faculty: Ar. Avitesh Vaishnavi Nayak

Course Objective:

The course, "Effective Strategies for Personal Growth and Development," has been offered as a Value Added Course at the B.Arch level due to its dynamic and transformative nature. The program is specifically designed to cater to the holistic development of individuals, aligning with the broader educational objectives of nurturing well-rounded professionals in the field of architecture. The course aims to cultivate self-aware, resilient, and adaptable architects who are not only proficient in their technical skills but also possess the personal attributes necessary for success in their careers and lives.

Student Learning Outcomes:

Course Outcomes: Upon successful completion of the course -

CO1 : Students will demonstrate a comprehensive understanding of the historical and philosophical context of the Bhagavad Gita.

CO2 : Students will cultivate spiritual awareness and growth through the study of the Bhagavad Gita, gaining insights into concepts such as self-realization, inner peace, and the path to spiritual evolution.

CO3 : Students will develop a strong sense of ethical and moral values inspired by the teachings of the Bhagavad Gita.

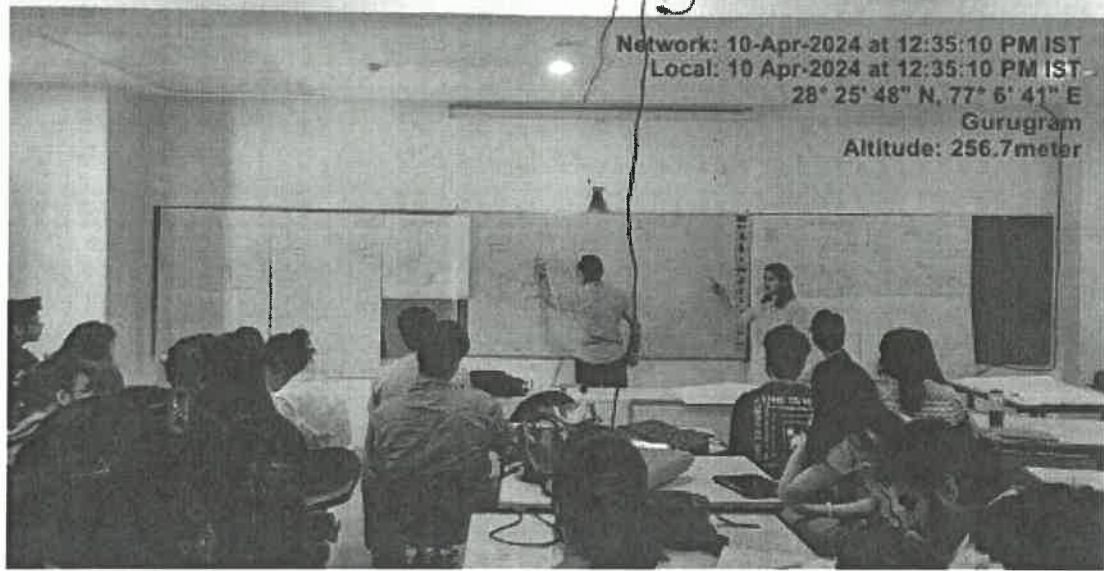
CO4 : Students will apply the wisdom gleaned from the Bhagavad Gita in their daily lives, integrating its teachings into their personal and professional conduct.

Problems encountered: None

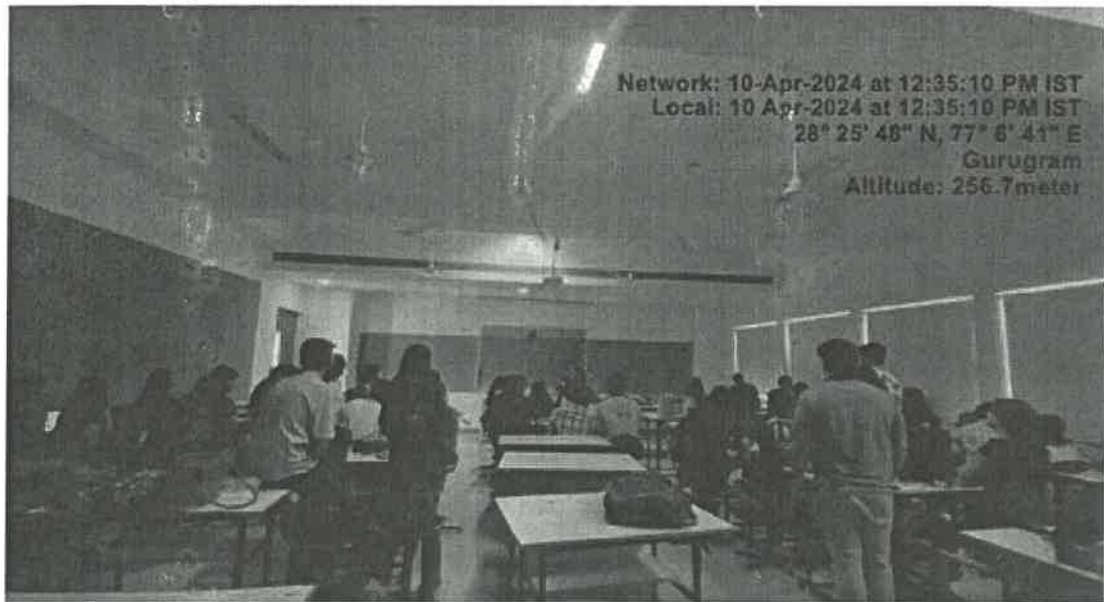




**VALUE ADDED COURSE PICTURES
ODD & EVEN SEMESTER**



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Local: 10 Apr-2024 at 12:35:10 PM IST
28° 25' 48" N, 77° 6' 41" E
Gurugram
Altitude: 256.7meter



Network: 10-Apr-2024 at 12:35:10 PM IST
Local: 10 Apr-2024 at 12:35:10 PM IST
28° 25' 48" N, 77° 6' 41" E
Gurugram
Altitude: 256.7meter



Prerana Hazarika
Assistant Professor
Coordinator - Value added courses, SAA

ANNUAL REPORT
EVEN SEMESTER 2023-24
VALUE ADDED COURSE

Date: 26th April, 2024

Course Name: Python for Beginners

Course Code: 23SAAVA04

Faculty: Ar. Himanshu Sanghani

Course Objective: The course is intended to shed some light on the subject and serve as a springboard for future learning. Python for Beginners is curated with a focus on implementing projects using BIM strategies and to implement Python and its workflows in general examples and smart city projects. Moreover, this course serves as a springboard for future learning, providing students with the necessary skills and confidence to delve deeper into Python programming and its applications in architecture. By equipping students with the basics of Python, they are empowered to pursue more advanced coursework or self-directed learning in areas such as computational design, parametric modeling, and algorithmic thinking.

Student Learning Outcomes:

Course Outcomes: Upon successful completion of the course, the student should be able to –

CO1 Illustrate the understanding of Python Language terminologies

CO2 Implement the learnings to create smaller day to day life programs.

CO3 Illustrate learning of Python Language in other areas.

CO4 Create and monitor the parameters of the shape shifting built environment when the land parcels change.

Problems encountered: None



ANNUAL REPORT
EVEN SEMESTER 2023-24
VALUE ADDED COURSE

Date: 26th April, 2024

Course Name: Effective strategies for personal growth and development

Course Code: 23SAAVA05

Faculty: Ar. Anuj Seth

Course Objective: "Effective Strategies for Personal Growth and Development" is a dynamic and transformative program designed to guide individuals on a journey of self-discovery and empowerment. This course offers a comprehensive exploration of various strategies, techniques, and principles essential for personal growth and development in both personal and professional spheres.

Throughout the course, participants will delve into key topics such as self-awareness, goal setting, mindset shifts, emotional intelligence, resilience, and effective communication. They will engage in reflective exercises, interactive discussions, and practical applications aimed at deepening their understanding of themselves and their potential.

Student Learning Outcomes:

Course Outcomes: Upon successful completion of the course, the student should be able to -

CO1: Equip participants with the essential tools, knowledge, and skills necessary to embark on a transformative journey towards self-improvement.

CO2: Through a comprehensive exploration of proven strategies, psychological insights, and practical exercises, this course aims to empower individuals to identify their personal strengths, weaknesses, and aspirations and to develop actionable plans for achieving their full potential.

CO3: By fostering self-awareness, resilience, and goal-setting capabilities, participants will learn how to navigate challenges, cultivate positive habits, and foster a growth mindset conducive to continuous personal growth and development.

CO4: This program seeks to inspire participants to lead more fulfilling lives, both personally and professionally, by unlocking their inherent capacity for growth and self-realization.

Problems encountered: None



ANNUAL REPORT
ODD SEMESTER 2023-24
VALUE ADDED COURSE

Date: 1st December, 2023

Course Name: Project formulation and management

Course Code: 23SAA-VA01

Faculty: Mohd Anees

Course Objective: This VAC course empowers participants to navigate complex tasks, streamline processes, and inspire teams towards achieving project goals. From initiating and planning to execution and closure, participants will gain a deep understanding of project lifecycle stages, risk management, resource allocation, and stakeholder communication. Through real-world case studies and interactive workshops, this course equips individuals with the knowledge and confidence to drive projects to completion efficiently and with impact.

Student Learning Outcomes:

The course explores various advantages that aid in the streamlining of project activities, the reduction of potential hazards, and the improvement of project performance. It also enables students to allocate resources, tasks, and accountability effectively ensuring that issues such as scope, budget, and time are not compromised. When done right, a well-balanced workflow can help your business achieve goals, increase ROI, as well as scale.

CO 1- Knowledge (Remember + Understand): Define a project, its characteristics and the role of the project manager.

CO 2- Knowledge (Remember + Understand): Understand the ways projects are conceived, planned, implemented, and evaluated.

CO 3- Skills (Apply +Analyse): Identify the scope, benefits, stakeholders, and project team members associated with a live urban project.

CO 4- Values, Orientations and Awareness (Evaluate): Have a clear overview of critical issues involved in managing (and mismanaging) urban projects.

Problems encountered: None



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ANNUAL REPORT
ODD SEMESTER 2023-24
VALUE ADDED COURSE

Date: 1st December, 2023

Course Name: Learnings of Bhagwat Geeta

Course Code: Project formulation and management

Faculty: Avitesh Vaishnavi Nayak

Course Objective:

The value added course "Learnings of Bhagwat Geeta" provides students with a comprehensive understanding of moral values and righteousness, their applications, and their role in life. The course will delve into the fundamental philosophical concepts presented in the Bhagwat Geeta. Students will gain insights into key principles such as dharma (duty/righteousness), karma (action), yoga (discipline), and the nature of the self (atman). solar energy conversion and explores various aspects related to harnessing and utilizing solar power.

Student Learning Outcomes:

The aim of the course is to bridge the wisdom of the Bhagvat Geeta with contemporary life. Students will explore how the ancient teachings can be applied practically to address the challenges and complexities of the modern world.

Objectives -

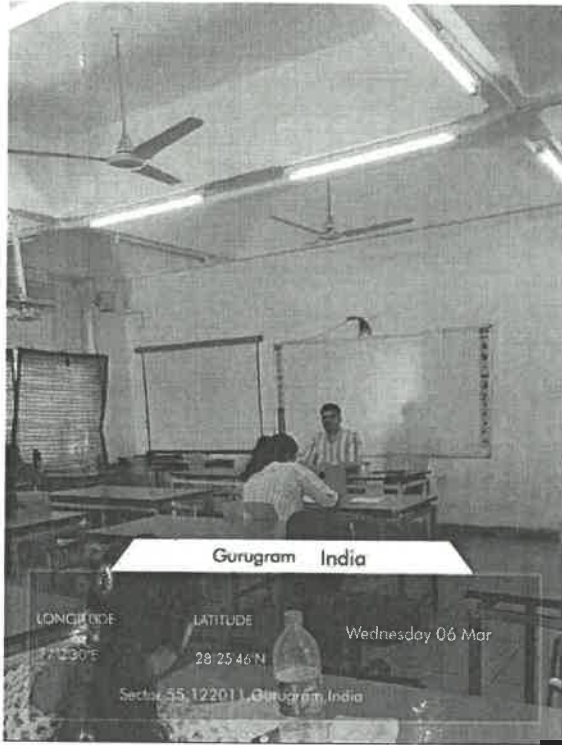
1. Understanding the Historical and Philosophical Context: The course aims to provide students with a thorough understanding of the historical context of the Bhagavad Gita as part of the Indian epic Mahabharata. Students will explore the significance of the Kurukshetra War, the main characters involved, and the setting in which Lord Krishna imparts his teachings to Arjuna.
2. Cultivating Spiritual Awareness: The course aims to nurture spiritual awareness and growth among participants. Through the study of the Bhagvat Geeta, students will gain insights into self-realization, inner peace, and the path to spiritual evolution.
3. Promoting Ethical and Moral Values: The Bhagvat Geeta emphasizes the importance of ethical and moral values in life. The course aims to instill these values in participants, fostering a sense of responsibility, integrity, and compassion towards oneself and others.

Problems encountered: None





VALUE ADDED COURSE PICTURES
ODD & EVEN SEMESTER



Gurugram India

LONGITUDE

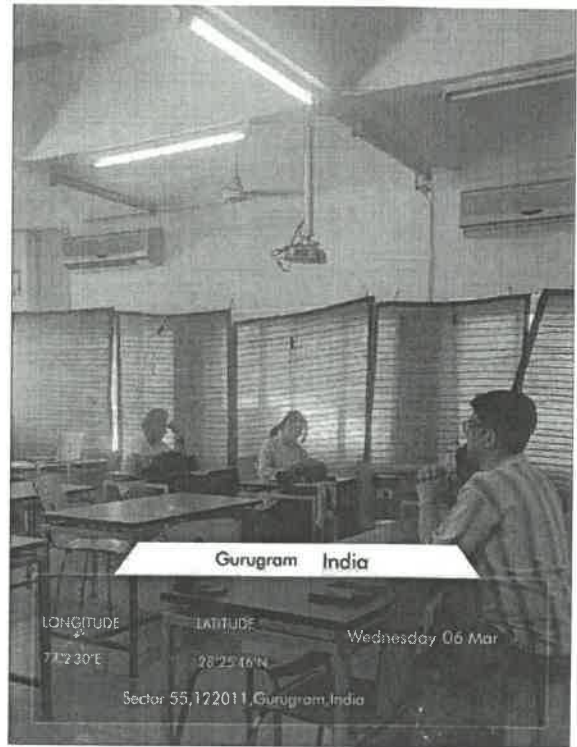
LATITUDE

Wednesday 06 Mar

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28°25'46"N

Sector 55,122011,Gurugram,India



Gurugram India

LONGITUDE

LATITUDE

Wednesday 06 Mar

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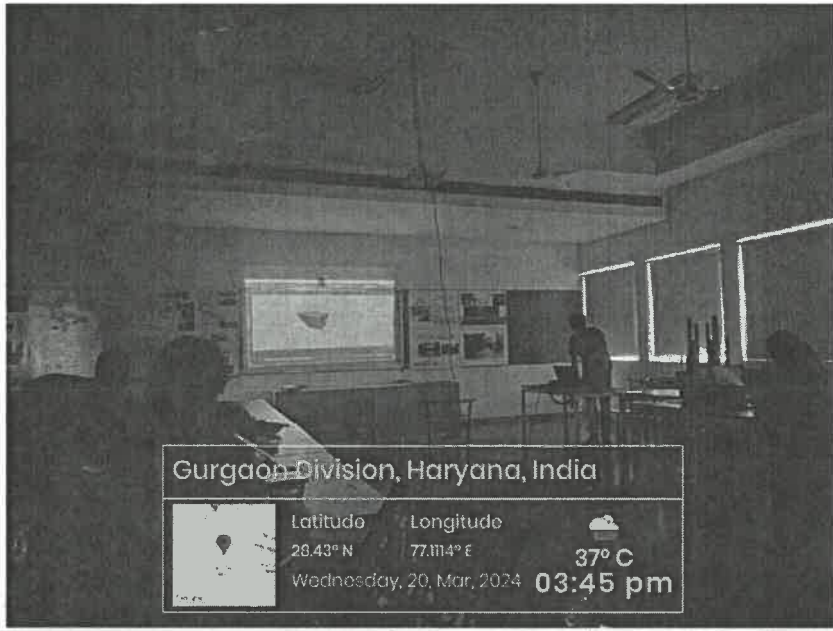
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Sector 55,122011,Gurugram,India





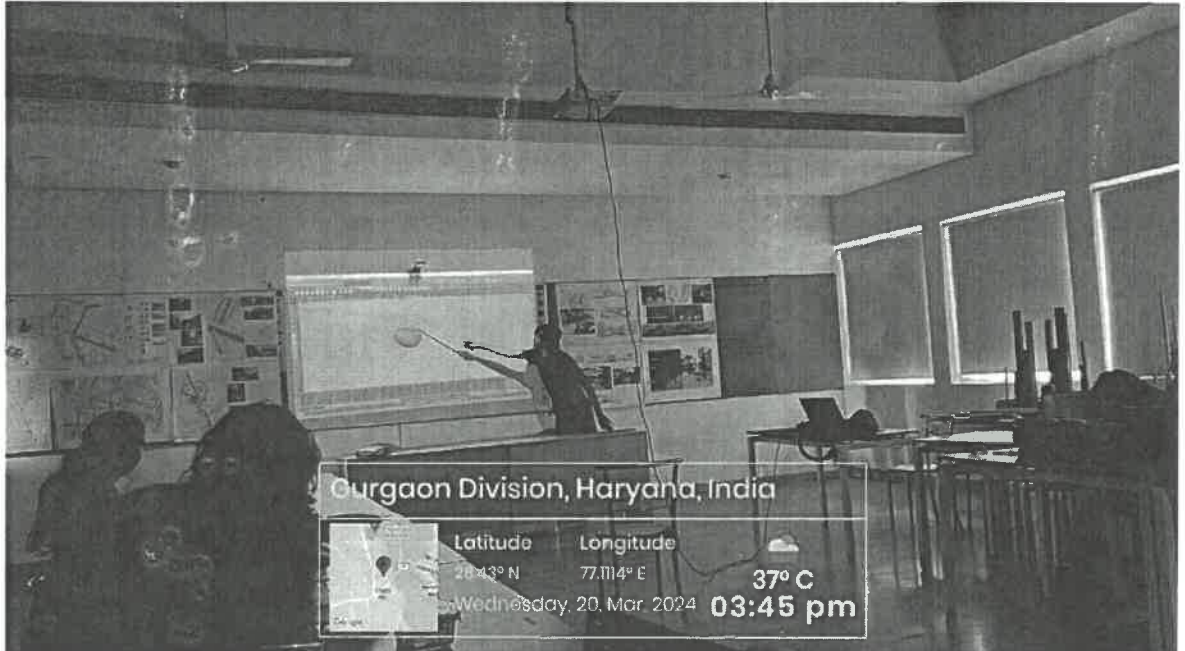
Prerana Hazarika
Assistant Professor
Coordinator - Value added courses, SAA





Gurgaon Division, Haryana, India

	Latitude 28.43° N	Longitude 77.114° E	 37° C
	Wednesday, 20, Mar, 2024		03:45 pm

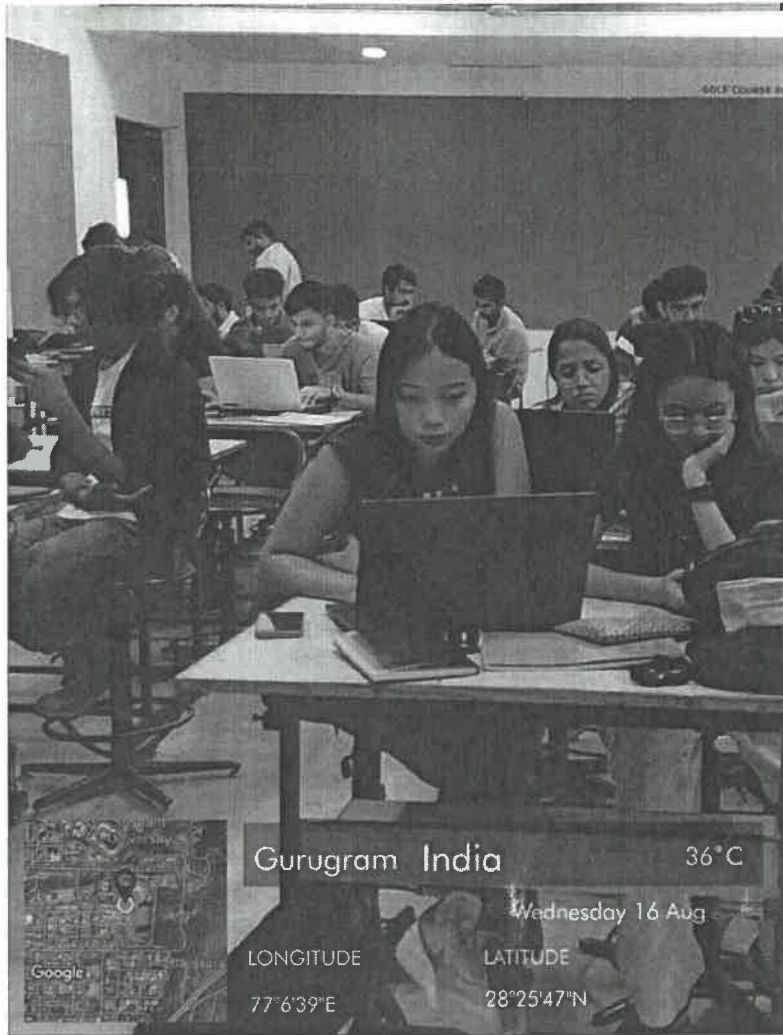


Gurgaon Division, Haryana, India

	Latitude 28.43° N	Longitude 77.114° E	 37° C
	Wednesday, 20, Mar, 2024		03:45 pm



Prerana Hazarika
Assistant Professor
Coordinator - Value added courses, SAA



Prerana Hazarika
Assistant Professor
Coordinator - Value added courses

Gap Analysis: Computational Design and Form Finding

The course deals with computational design and its relevance today in the field of architecture. Students will be introduced to the field of computational design, form finding, and generative design using tools like Rhino, Grasshopper with allied plugins like RhinoVAULT, Pufferfish, Wasp, and Lunchbox

Form finding and design will be covered using various typologies and techniques like Shells - Traditional and polygonal panelization, space-frames, Tensile structure - Traditional and polygonal panelization, Slicing and waffling, Geometric tessellation, Polyhedral forms and modules, Rule-based discrete clustering.

Why this course is being offered?

- Computational design, or more specifically parametric, generative and algorithmic designs, offers better solutions to design problems through a more consolidated relationship between the architect and the computer. Not only can computational design tools automate workflows and promote efficiency through visual programming, but they also offer a data-driven approach to design.
- Architects can use computational design workflows for form-finding by using the visualised results of mathematical and logical processes.
- Form-finding is not just about beauty. It is also about structural constructibility, stability while also taking into consideration the programmes and functions. The rising demand for energy efficiency, high performance, and sustainability in architecture means that every single design element must work together in tandem to fulfill these demands, including the form. The building form is also more than just structure; it closely correlates with building envelope and fenestrations. These elements further relate to building performance through lighting, ventilation, heating and cooling load, etc.
- Computational Design enables architects to study the different forms and processes found in nature to solve human problems in a sustainable manner. Rather than a simple modelling technique or architectural style, it is a scientific approach towards sustainable design by studying design principles found in nature.

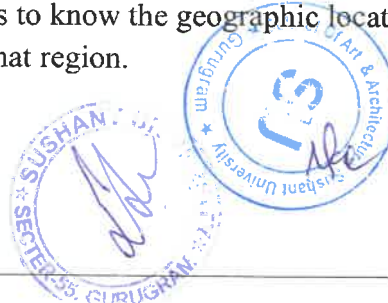


Gap Analysis: Solar Passive Architecture

The course aims to facilitate knowledge and be able to apply passive solar architecture and passive systems including modern and postmodern passive architecture. The Concept of passive solar buildings, performance, and benefits are discussed in the classes.

Why this course is being offered?

- The increasing population growth rate with innovations in the field of industries and technologies have all together resulted in the increasing energy consumption enormously. This high consumption is a concern for sustainability. This has a negative impact on the environment and energy conservation. So, an innovation in building construction, that would perform with the existing energy, without exploiting any additional mechanical or electrical sources is a must to understand as an architect and thus was introduced by this course Solar Passive Architecture
- The emphasis was given to the implementation of solar passive design strategies on the basis of learning from assignments and case studies. The course was conducted so that students understand the various concepts and can then stimulate critical thinking, thus enabling them to apply these concepts in their projects.
- Be able to execute passive design strategies, implement modern and post-modern passive architecture, solve and minimize cooling requirements, use passive strategies, find case studies relevant to solar passive designs, conduct independent research on the topic, translate theoretical concepts into spatial configurations, show competence in resolution of all scales of architectural design and detailing, and so on.
- Be able to appraise and appreciate Built form for different climates, building clusters and solar exposure, and thermal environments, select the most efficient solution for heating and cooling loads. to demonstrate acute awareness of principles of sustainability, solar design, and passive strategies, to understand the social and economic contexts and needs of users and clients.
- It is an approach where various strategies are used at the design level and component level to make the building naturally cooler in summer and warmer in winter. Passive design strategies need to be applied at three major levels i.e. planning, design, and component. To begin, the designer has to know the geographic location of the site to understand the climatic condition of that region.



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Gap Analysis: Disaster Management & Climate Change

The objective of this course is to initiate students with the issues of various types of natural and man-made Disasters and impart techniques of mitigation and management. This course will help to understand the phenomenon of climate change, its impact on areas and international discourses/ debates.

Why this course is being offered?

- The course was being offered to the students so that they could understand the disaster types, causes, impact, and degree of damage. Also, understand disaster resilient design concepts – Shape, Orientation, and Materials that impact the building and its surroundings. Understand the disaster management cycle- rescue, relief, rehabilitation, mitigations, and preparedness. Understand disaster and development, climate change, causes, and implications, and Apply disaster resilient techniques.
- Architects play an important role in disaster mitigation and recovery after hazard events. Architectural design might prevent or decrease the destructive consequences of disasters on structures. However, architects must have enough background for disaster mitigation. This can only be succeeded if the course is taught during the education of architects.
- Architects have a significant impact on the environment, and it is essential that they consider the ecological footprint of their designs. The materials used in construction, transportation, and waste disposal all have an impact on the environment. By using sustainable materials, architects can reduce the carbon emissions associated with construction, as well as minimize waste and promote the circular economy.
- Architects have a significant responsibility to our natural environment. As stewards of the built environment, architects have the power to create sustainable, healthy, and livable spaces that promote the well-being of people and the planet.
- In addition to their responsibility to the environment, architects also have a responsibility to society, ensuring that their designs are equitable, accessible, and inclusive.
- It is suitable to produce the built environment in preparation for the possibility of disaster. Before building, the site needs to be examined according to environmental conditions. Site selection can avoid disasters from environmental hazards such as floods, tsunamis, landslides, and earthquakes.



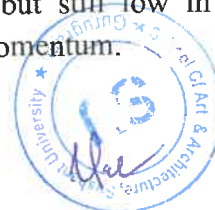
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Gap Analysis: Building Information Management (BIM)

The aim of teaching this subject is to make the student understand the theory and application of the Building Information Modeling/Management (BIM) Concept for Architecture-Engineering-Construction Industry Practices.

Why this course is being offered?

- The course is a helpful resource for a student's entire architectural education. Since BIM software is such an engaging, multi-dimensional tool, it can give them a better understanding of design concepts and challenges. The course was being offered to the students so that they understand the model-based workflow in the architecture-engineering-construction industry using Building Information Modeling (BIM). Also, understand how construction practices can be improved by BIM.
- To learn to use BIM for modelling, design/construction coordination, estimating, scheduling, safety planning, as-built modelling etc.
- To understand the functionalities and use of BIM-related software programs and real-world project information.
- To conduct studies on varied case examples and projects.
- To identify technical limitations and drawbacks in current practices and devise conceptual or well-developed solutions to overcome the problems.
- It saves a lot of time, energy, and cost. BIM breaks down the building into its constituent elements to understand and store information about it. It then clubs this information with aspects of construction beyond the 3 dimensions - time, cost, sustainability, operation, and safety.
- BIM Ensures Greater Efficiency and Shorter Project Duration. Using the various features provided by the Building Information Modelling technology help in reducing the time it takes to design the project (the pre-construction phase). BIM technology goes beyond the typical 3D modelling to include a fourth dimension- time. The benefit of 4D BIM is the reduction of the overall project construction time, a streamlined workflow and an efficient process, overall.
- Its scope in the AEC industry is huge and it has proven its worth in several fields. Though the demand for BIM professionals is high but still low in supply, the popularity of BIM careers in India is slowly gaining momentum.



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Gap Analysis: Traffic & Transportation Planning

The course aims to prepare students to realize the importance and need of sustainable traffic and transportation infrastructure in urban and regional development. Architects have an essential role in molding cities and communities. Their responsibilities encompass designing structures and public areas while considering the societal and environmental consequences of their creations.

Transportation planning's related disciplines of land use planning, architecture, landscape design, urban economics and social policy have undergone major internal reform efforts over the past few decades but unfortunately, transport planning seems to be stuck in the 1950s mentality and believes that all the urban problems such as congestion, mobility and economic development has an engineering solution.

Sustainable Urbanism has been identified as the most important environmental concern of the coming century by different experts from different fields whereas transportation planning remains isolated forming a large gap in the strategies of urban sustainability.

Why this course is being offered?

- Transport planning is highly essential in shaping cities, enabling economic activities, promoting community interaction, and enhancing quality of life. It is also essential for sustainable development and ensuring safe accessibility at various levels for all individuals.
- The transportation planning process takes the help of the input offered by government agencies and private and public businesses to analyze the various alternatives and also their impact on the transportation system so that the outcome can prove beneficial for all the stakeholders including the common masses.
- Transportation planning involves a series of activities undertaken to better understand our transportation system and decide what actions are needed to take to improve it.
- Transportation is not an end in itself. Rather, it is an investment tool that cities use to help achieve their larger goals. Transportation planners and engineers always focus on the efficient movement of people and goods across the country. However, transportation touches all aspects of city life such as economic development, quality of life, social equity, public health and ecological sustainability.
- Improving access by building roads and improving transportation not only reduces congestion but it serves as a driver to drive the real estate prices. Good accessibility attracts jobs and residences which in turn bring in economic development. In a poor economy, the leading citizen complaint is typically jobs whereas in a strong economy, congestion problem rises to the top of the list.



Gap Analysis: Urban Ecology and Climate Change

This course will introduce the theme of climate change in Urban areas where the major focuses will be on cities as they are most affected by climate change and contribute to this change as well. This course will also look at how climate change adaptation and mitigation can be considered in Urban planning.

Why this course is being offered?

Holistic Design Perspective: Urban ecology and climate change are critical factors in modern architectural design. Teaching this subject as a value-added course can help students adopt a more holistic approach to architecture, considering not only aesthetics but also environmental and ecological aspects in their designs.

Sustainability Integration: Architects play a vital role in addressing climate change by designing sustainable buildings and urban environments. This course can equip students with the knowledge and skills needed to integrate sustainability principles into their architectural projects effectively.

Site-Specific Design: Understanding urban ecology is crucial for designing buildings and infrastructure that are responsive to local ecosystems. Students can learn how to analyze the ecological context of a site and incorporate this understanding into their designs, leading to more environmentally friendly projects.

Mitigation and Adaptation Strategies: Students can explore climate change mitigation and adaptation strategies in architecture, such as passive design techniques, renewable energy integration, and climate-resilient building materials and methods.

Environmental Awareness: The course can raise students' awareness of environmental issues and the role architecture plays in contributing to or mitigating climate change. It can encourage a sense of responsibility among future architects to design with environmental sustainability in mind.

Regulatory Compliance: As environmental regulations become more stringent, architects need to be well-versed in compliance requirements related to urban ecology and climate change. This course can provide students with the knowledge they need to navigate these regulations.

Interdisciplinary Collaboration: Architects often collaborate with urban planners, environmental scientists, and policymakers. This course can foster interdisciplinary collaboration by exposing students to different perspectives and stakeholders involved in



urban development and sustainability.

Green Building Certification: Many green building certification programs, such as LEED (Leadership in Energy and Environmental Design), require architects to have expertise in sustainable design principles. This course can help students meet these certification requirements.

Research Opportunities: Students taking this course may have the opportunity to engage in research projects related to urban ecology and climate change, enhancing their problem-solving and research skills.



VAC Gap Analysis
2022 Odd semester

Gap Analysis: Fundamentals of Remote sensing - Introduction to ArcGIS tools and interface

The course aims to familiarize architecture students/academicians with the basics of remote sensing and GIS so they may apply the knowledge in their research as well as in practice. The course will provide a comprehensive approach to professional planning, utilizing information technology to facilitate planning, engineering, and environmental aspects through Geographic Information Systems.

Why this course is being offered?

Interdisciplinary Knowledge: Remote sensing and GIS (Geographic Information Systems) are interdisciplinary fields that can greatly benefit architects. They allow students to incorporate geospatial data and imagery into their architectural projects, enhancing the design and planning processes.

Real-World Applications: Architects often work on projects that involve site analysis, urban planning, and environmental considerations. Knowledge of remote sensing and GIS can help students gather real-world data and analyze it for their projects, making them more competitive in the job market.

Environmental Sustainability: With an increasing focus on sustainability and green design, architects need to understand how to assess environmental factors. Remote sensing can provide data on vegetation, land use, and other environmental factors that architects can use to make informed design decisions.

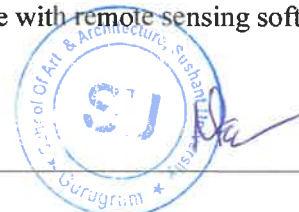
Site Selection and Analysis: Architects are often involved in site selection for building projects. Remote sensing and GIS can assist in site suitability analysis, helping students evaluate factors like terrain, accessibility, and environmental impact.

Data Visualization: GIS tools like ArcGIS enable students to create visually appealing maps and spatial data visualizations. This skill can be valuable for presentations and project proposals.

Career Opportunities: Knowledge of remote sensing and GIS is in demand in various industries beyond architecture, including urban planning, environmental consulting, and geospatial analysis. Offering this course can expand students' career options.

Research Opportunities: Students who take this course may find opportunities for research projects that involve remote sensing and GIS applications in architecture and related fields.

Hands-On Skills: The course can provide hands-on experience with remote sensing software



and GIS tools, which can be valuable for practical skills development.

Networking: Students may have the chance to network with professionals in the GIS and remote sensing fields, potentially leading to internships or job opportunities.

Competitive Edge: Graduates with expertise in remote sensing and GIS will have a competitive edge in the job market, as they can offer a unique skill set that many other architects may not possess.



**VAC Gap Analysis
2023 Even semester**

**Gap Analysis: : GIS Analysis in design and Planning - Thematic mapping
and data linking**

The aim of this course is to acquaint architecture students with the fundamentals of mapping and data linking so they may apply the knowledge in their research as well as in practice. The software may be used in alignment with AutoCAD and Sketchup to create more accurate and realistic architecture models.

Why this course is being offered?

Enhanced Design Skills: GIS (Geographic Information Systems) analysis can enhance architectural design by allowing students to incorporate geospatial data into their projects. Thematic mapping and data linking can add depth and context to their design proposals, making them more compelling and informed.

Site Analysis: Architects often begin their projects with site analysis. GIS tools enable students to conduct comprehensive site assessments, considering factors such as topography, climate, infrastructure, and land use. Thematic mapping can help visualize and communicate these site characteristics effectively.

Data-Driven Design: Architects can use GIS data to inform their design decisions. For example, data on population density, traffic patterns, or environmental conditions can influence building placement, orientation, and functionality.

Urban Planning Integration: Many architectural projects are part of larger urban developments. Understanding GIS and thematic mapping can facilitate collaboration with urban planners and help students design in harmony with broader city plans and objectives.

Environmental Considerations: Thematic mapping can provide data on environmental factors like air quality, noise levels, and green spaces. Architects can use this information to create healthier and more sustainable designs.

Infrastructure Planning: GIS analysis can assist in infrastructure planning, such as water and energy supply. Students can use GIS to optimize resource utilization and assess the impact of their designs on local infrastructure.

Community Engagement: Thematic maps can be powerful tools for community engagement. Students can use GIS to create visualizations that help stakeholders understand and participate in the design process.



Regulatory Compliance: Many jurisdictions require architects to consider specific environmental and zoning regulations. GIS analysis can help students ensure their designs comply with these requirements.

Data Visualization: Thematic mapping skills can help students present their designs in a visually compelling way, making it easier to communicate complex ideas to clients, peers, and stakeholders.

Interdisciplinary Collaboration: Architects often collaborate with professionals in various fields. Knowledge of GIS analysis and thematic mapping can facilitate collaboration with urban planners, landscape architects, and environmental engineers.

Professional Development: These skills are increasingly valued in the architecture profession, making graduates more competitive in the job market.

Research Opportunities: Students taking this course may find opportunities for research projects that involve GIS analysis in architectural design and planning, contributing to their research skills and portfolio.

Technological Proficiency: Familiarity with GIS software is a valuable technical skill that can open doors to various career opportunities beyond traditional architecture roles.



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Gap Analysis: Leadership and Entrepreneurship

The course aims to nurture future leaders, who are familiar with leadership attributes and understand the process of setting up an entrepreneurial establishment. This will develop entrepreneurship as an alternate career option and strengthen the developing economy in line with the National Education Policy 2020. The course will help the learners establish plans and programs to formulate an enterprise by creative ideas, along with translating opportunities and motivating others in the organization. The course will include introduction to key concepts and skills of leadership in terms of styles and adaptations, and philosophy and concepts of entrepreneurship.

Why this course is being offered?

Leadership Development: Leadership skills are essential for architects who often lead design teams and collaborate with various stakeholders. This course can help students develop leadership qualities, including communication, decision-making, and conflict resolution.

Entrepreneurial Mindset: Many architects aspire to start their own firms or take on leadership roles within existing firms. This course can foster an entrepreneurial mindset by teaching students how to identify opportunities, assess risks, and innovate in the architectural field.

Project Management: Leadership and entrepreneurship often involve project management. Students can learn how to effectively plan, execute, and control architectural projects, which is crucial for success in the industry.

Communication Skills: Architects must communicate their ideas clearly and persuasively to clients, team members, and stakeholders. Leadership and entrepreneurship training can improve students' communication skills, helping them articulate their vision and gain support for their projects.

Networking Opportunities: The course can provide students with networking opportunities, allowing them to connect with successful architects, entrepreneurs, and industry professionals who can offer guidance and mentorship.

Innovation in Design: Entrepreneurial thinking can encourage students to approach architectural design with fresh perspectives, fostering innovative and creative solutions to design challenges.

Business Skills: Architects often handle financial aspects of projects and firms. This course can teach students about budgeting, financial management, and business development, preparing them for roles in architecture firms or entrepreneurial ventures.

Market Research: Entrepreneurial architects need to understand market trends and client needs. Students can learn how to conduct market research and use data-driven insights to inform their design and business decisions.



Risk Management: Architects encounter various risks, from project delays to budget overruns. Leadership and entrepreneurship training can help students identify, assess, and mitigate these risks effectively.

Ethical Leadership: The course can emphasize the importance of ethical leadership in architecture, preparing students to make responsible and morally sound decisions in their professional lives.

Career Diversification: Not all architecture graduates pursue traditional careers in design firms. Some may choose to work in related fields such as real estate development, construction management, or sustainable design consulting. Leadership and entrepreneurship skills can open doors to various career paths.



Gap Analysis: Regional Planning

This course tends to provide a comprehensive overview of how towns, cities, and regions have evolved and provides the option to focus on environmental or urban regeneration challenges. Understanding the factors and dynamics affecting the built environment as well as how planning may be used to reconcile divergent and conflicting interests would be aided by doing this. The infrastructure gap in a region can be studied by students with the help of this course. Students who are interested in the social infrastructure, environmental studies, and regional planning of a region should take this course.

Regional planning is the process of formulating and translating economic, spatial and environmental objectives in the ordering of activities in space in an integrated manner levels such as village, Peri-urban, sub-urban and urban in terms of space etc.

Why this course is being offered?

Comprehensive Understanding: Regional planning provides students with a broader perspective beyond individual buildings. It equips them with the knowledge to consider the larger context of urban and rural regions, which is essential for well-rounded architects.

Sustainable Design: Regional planning emphasizes sustainability principles, such as efficient land use, transportation, and resource management. Integrating these principles into architectural design can lead to environmentally friendly and energy-efficient buildings.

Infrastructure Integration: Regional planning encompasses infrastructure planning, including transportation networks and utilities. This knowledge is valuable for architects to ensure their designs align with existing and future infrastructure.

Multi-disciplinary Collaboration: Regional planning requires collaboration with various professionals, including urban planners, landscape architects, engineers, and policymakers. This course can prepare students for interdisciplinary teamwork in their future careers.

Community Engagement: Regional planning often involves community engagement and public participation. Teaching students how to engage with local communities and stakeholders can enhance their ability to gather input and build consensus for design projects.

Regulatory Compliance: Architects must navigate zoning regulations and building codes. Understanding regional planning can help students navigate the legal and regulatory landscape more effectively.

Land Use and Zoning: Architects must understand land use patterns and zoning regulations when designing in urban and regional contexts. This course can provide students with the necessary knowledge.

Infrastructure and Transit-Oriented Design: As sustainable transportation options and transit-



oriented development become more critical, this course can prepare students to design buildings and developments that align with these trends.

Career Opportunities: Graduates with knowledge of regional planning may find career opportunities in urban design, city planning, and real estate development, in addition to traditional architectural roles.



**Value Added Course- 2023 Odd semester
Gap Analysis report**

Course title: Project formulation and management

This course empowers participants to navigate complex tasks, streamline processes, and inspire teams towards achieving project goals. From initiating and planning to execution and closure, participants will gain a deep understanding of project lifecycle stages, risk management, resource allocation, and stakeholder communication. Through real-world case studies and interactive workshops, this course equips individuals with the knowledge and confidence to drive projects to completion efficiently and with impact.

Why this course is being offered?

This Value-Added Course (VAC) is meticulously designed to empower participants with the essential skills required to navigate the intricacies of complex tasks, optimize processes, and galvanize teams toward the successful achievement of project goals. Spanning the entire project lifecycle, from initiation and planning to execution and closure, participants will gain a profound understanding of key project management principles.

The curriculum delves into critical aspects, including risk management, resource allocation, and effective stakeholder communication. Through a combination of real-world case studies and engaging interactive workshops, this course goes beyond theoretical knowledge, offering practical insights and strategies to equip individuals with the competence and confidence needed to drive projects to completion efficiently and with a lasting impact.

By the end of this course, participants will not only have honed their project management acumen but will also be well-prepared to apply their newfound skills in diverse professional scenarios. This VAC serves as a catalyst for professional growth, enabling individuals to contribute meaningfully to their organizations by leading projects with precision and effectiveness.



**Value Added Course- 2023 Odd semester
Gap Analysis Report**

Course title: Learnings of Bhagwat Geeta

The value added course "Learnings of Bhagwat Geeta" provides students with a comprehensive understanding of moral values and righteousness, their applications, and their role in life. The course will delve into the fundamental philosophical concepts presented in the Bhagwat Geeta. Students will gain insights into key principles such as dharma (duty/righteousness), karma (action), yoga (discipline), and the nature of the self (atman) solar energy conversion and explores various aspects related to harnessing and utilizing solar power.

Why this course is being offered?

This course is crafted to provide students with a comprehensive understanding of moral values, righteousness, and their practical applications in life.

Delving into the timeless wisdom of the Bhagavad Gita, students will explore fundamental philosophical concepts that form the bedrock of a purposeful and balanced life. Key principles such as dharma (duty/righteousness), karma (action), yoga (discipline), and the nature of the self (atman) will be explored in depth, offering students profound insights into their personal and ethical development.

The course goes beyond academic exploration, encouraging students to reflect on and apply these teachings in their daily lives. By the end of this journey, participants will not only have a theoretical understanding of the Bhagavad Gita but will also possess practical tools for navigating life's challenges with wisdom, integrity, and resilience.



Value Added Course – 2023-24 Even semester
Gap Analysis report

Course title: Python for Beginners

In this course, students would be introduced to the python language environment and how you could use simple codes to build simple programs. This course is intended to shed some light on the subject and serve as a springboard for future learning. Python for Beginners is curated with a focus on implementing projects using BIM strategies and to implement Python and its workflows in general examples and smart city projects.

Why this course is being offered?

This particular course, "Python for Beginners," has been offered as a Value Added Course at the B.Arch level due to its relevance and potential impact on students' academic and professional development. Python programming language has become increasingly prevalent in the field of architecture and design, particularly with the rise of Building Information Modeling (BIM) strategies and smart city projects.

By introducing students to the Python language environment and demonstrating how simple codes can be used to build programs, this course lays a solid foundation for students to explore the intersection of programming and architecture. Understanding Python opens doors to a wide range of possibilities, including automation of repetitive tasks, data analysis, and visualization, which are all highly relevant skills for architects and designers.

Moreover, this course serves as a springboard for future learning, providing students with the necessary skills and confidence to delve deeper into Python programming and its applications in architecture. By equipping students with the basics of Python, they are empowered to pursue more advanced coursework or self-directed learning in areas such as computational design, parametric modeling, and algorithmic thinking.

Furthermore, the course is curated with a specific focus on implementing projects using BIM strategies and applying Python workflows in general examples and smart city projects. This ensures that students not only gain theoretical knowledge but also practical experience in using Python within the context of real-world architectural projects.

Offering Python for Beginners as a Value Added Course at the B.Arch level demonstrates the institution's commitment to providing students with relevant and cutting-edge skills that enhance their competitiveness in the job market. By bridging the gap between traditional architectural education and emerging technologies, this course equips students with the tools they need to thrive in a rapidly evolving industry landscape.



Value Added Course – 2023-24 Even semester
Gap Analysis report

Course title: Exploring Vivekananda's Wisdom: A Path for Students

The value added course "Exploring Vivekananda's Wisdom: A Path for Students" provides students with a comprehensive understanding of moral values and righteousness, their applications, and their role in life. The course will delve into the fundamental philosophical concepts presented in the Bhagvat Geeta. Students will gain insights into key principles such as dharma (duty/righteousness), karma (action), yoga (discipline), and the nature of the self (atman). solar energy conversion and explores various aspects related to harnessing and utilizing solar power.

Why this course is being offered?

The course "Exploring Vivekananda's Wisdom: A Path for Students" is offered to provide students with a multifaceted understanding of moral values, righteousness, and their significance in navigating life's complexities. By delving into the profound philosophical concepts outlined in the Bhagavad Gita, students not only gain insight into timeless principles such as dharma, karma, yoga, and the nature of the self but also cultivate a deeper awareness of their own ethical responsibilities and spiritual journey. Moreover, the course extends beyond spiritual exploration to encompass practical knowledge and skills related to solar energy conversion, aligning with contemporary global challenges and sustainable development goals. Through this interdisciplinary approach, students are equipped not only with philosophical wisdom but also with practical tools to address pressing environmental concerns and contribute to positive societal change. By offering a holistic curriculum that integrates spiritual exploration with real-world applications, the course aims to empower students to lead purposeful and ethical lives, grounded in both personal integrity and a commitment to environmental stewardship.



**Value Added Course – 2023-24 Even semester
Gap Analysis report**

Course title: Effective strategies for personal growth and development

"Effective Strategies for Personal Growth and Development" is a dynamic and transformative program designed to guide individuals on a journey of self-discovery and empowerment. This course offers a comprehensive exploration of various strategies, techniques, and principles essential for personal growth and development in both personal and professional spheres.

Throughout the course, participants will delve into key topics such as self-awareness, goal setting, mindset shifts, emotional intelligence, resilience, and effective communication. They will engage in reflective exercises, interactive discussions, and practical applications aimed at deepening their understanding of themselves and their potential.

Why this course is being offered?

The course, "Effective Strategies for Personal Growth and Development," has been offered as a Value Added Course at the B.Arch level due to its dynamic and transformative nature. The program is specifically designed to cater to the holistic development of individuals, aligning with the broader educational objectives of nurturing well-rounded professionals in the field of architecture.

The course offers a comprehensive exploration of various strategies, techniques, and principles essential for personal growth and development, which are invaluable assets for students pursuing a career in architecture. By delving into key topics such as self-awareness, goal setting, mindset shifts, emotional intelligence, resilience, and effective communication, students are equipped with the necessary tools to navigate both personal and professional challenges effectively.

By offering this course as a Value Added Course at the B.Arch level, the institution aims to provide students with a unique opportunity to enhance their skill set beyond the traditional academic curriculum. Ultimately, the course aims to cultivate self-aware, resilient, and adaptable architects who are not only proficient in their technical skills but also possess the personal attributes necessary for success in their careers and lives.



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