School of Planning and Architecture: Vijayawada

(An institution of National Importance under the Ministry of Human Resource
Survey No.4/4, ITI Road, Vijayawada-520008, Andhra Pradesh, India

Department of Architecture

Course: MBEM212 - BIM Based Construction Management

Instructors: Asst.Prof. Vijesh Kumar V

Contact Periods/ week: 03 periods.(50 min each)
Time Table: Tuesday (Period 1 - 3)

Attendance: Min 75%

Class: 2nd Yr MBEM & MSA III Sem A.Y. 2023-24
Internal Assessment: 50
External Theory Exam: 50
Total Marks: 100
Credits: 3

Min. Passing Marks: 40% each in Internal & External Assessment, 40% in Aggregate

Objective: To equip students with BIM based construcion management background.

Out Line of the Course: BIM fundamentals and concepts; Review of BIM softwares and technology; Studio excercises by using BIM tools.

LECTURE PLAN

WEEK	DATE	TOPIC OF CLASS LECTURE & DISCUSSION	TOPIC OF STUDIO WORK & ASSIGNMENTS / REMARKS
1	18-Jul-22	Fundamentals and practical use of information technologies in the construction industry;	Introduction of Technical paper writing on theme **IT in Construction**
2	25-Jul-22	basic concepts of building information modelling (BIM);	Review of Paper on Indutry 5.0
3	01-Aug-22	Application of BIM	Installation and Getting along with Revit Interface
4	08-Aug-22	Review of software and technology available for BIM	Introduction to Autodesk Revit followed by execercises in Computer Lab
5	15-Aug-22	**Holiday - Independence Day**	
6	22-Aug-22	Review of software and technology available for BIM, practical use of BIM including design and clash detection	Autodesk Revit Excercises in Computer Lab
7	29-Aug-22	Impact of BIM on construction management functions;	Autodesk Revit Excercises in Computer Lab
8	05-Sep-22	Construction scheduling and sequencing using BIM;	Introduction to Nawisworks followed by execercises in Computer Lab
9	12-Sep-22	**Mid Semester Examination**	
10	19-Sep-22	**Holiday - Ganesh Chathurthi**	

11	26-Sep-22	cost estimating using BIM;	Cost estimation using Revit followed by execercises in Computer Lab
12	03-Oct-22	cost estimating using BIM;	Cost estimation using Nawisworks followed by execercises in Computer Lab
13	10-Oct-22	Facility management with BIM;	FM using Revit followed by execercises in Computer Lab
14	17-Oct-22	integrated approach to navigate BIM as a multi-disciplinary design, analysis, construction, and facility management technology;	Assignment on preparation of a BIM working methodology
15	24-Oct-22	**Holiday - Dussehra**	
16	31-Oct-22	Studio Excercises Discussion	**Project:** Create a BIM model and to use it in scheduling, sequencing, cost estimating, management, clash detection and simulation of a construction project. (First year studio project can be explored.) using Computer Lab
17	07-Nov-22	Studio Excercises Discussion	
18	14-Nov-22	Studio Excercises Discussion	
19	21-Nov-22	Studio Excercises Discussion	Submission and review of Final Project

S. No.	Stages of Evaluation	Weightage
1	First stage: Assessment –1	15
2	Second stage: Mid-semester Examination	20
3	Third stage: Assessment –3	15
	Total	50

Reference Books:

1. Eastman, C.; Teicholz, P.; Sacks, R.; Liston, K. (2011) BIM Handbook: A Guide to Building Information Modeling for Owners, Managers, Designers, Engineers and Contractors. New York: Wiley. 626 pp.
2. Hardin, B., & McCool, D. (2015). BIM and construction management: proven tools, methods, and workflows. John Wiley & Sons.
3. Krygiel, E., & Nies, B. (2008). Green BIM: successful sustainable design with building information modeling. John Wiley & Sons.
4. Issa, R. R., & Olbina, S. (Eds.). (2015, May). Building Information Modeling: Applications and Practices. American Society of Civil Engineers.
5. Teicholz, P. (Ed.). (2013). BIM for facility managers. John Wiley & Sons.
6. Kymmell, W. (2007). Building Information Modeling: Planning and Managing Construction Projects with 4D CAD and Simulations (McGraw-Hill Construction Series). McGraw Hill Professional.

Course Instructors: **Head of Department/Coordinator:**

Asst. Prof. Vijesh Kumar V

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Department of Architecture

Course: MLAR213;Energy Efficient Landscape	**Class:** M. Arch (LA) and M.Arch (SA) III Sem A.Y. 2023-24;
Instructors: Dr. Shanmuga Priya G	**Internal Assessment:** 50
	External Theory Exam: 50
Contact Periods/ week: 03 periods	**Total Marks:** 100
Time Table: Tuesday 9:00 am to 11:45 am	**Credits:** 3
Attendance: Min 75%	**Min. Passing Marks:** 40% each in Internal & External Assessment, 40% in Aggregate

Objective:
To give an opportunity to students to study energy efficient landscapes in detail to enhance its application in landscape planning or landscape design process.

LECTURE PLAN

WEEK	DATE	TOPIC OF CLASS LECTURE & DISCUSSION	TOPIC OF ASSIGNMENTSand CLASS EXERCISES / REMARKS
1	18-07-2023	Introduction - Need for Energy Efficient Design; Sunpath Diagram and visualization tools	Class Exercise I - on Sunpath Diagram and Visulaization of Global windpatterns and ocean currents
2	25-07-2023	Climate and Weather; Factors influencing climate, Climate Classififcation- Koppen Classification, elements of climate and thermal Comfort.	Class Exercise II -Identification of cities in different climatic zones and analysis of climatic elements using Climate consultant software, Andrew Marsh tools
3	01-08-2023	Transfer of energy in the atmosphere; green house gases; Urban heat island effect. Thermal Comfort and indices	Class Exercise II - Continued Visit to Climatology Lab t- Demo of the instrumetns available for collecting micro-meteorologicall data
4	08-08-2023	India - Climatic Zones and seasons, Growing seasons and conditions of plant growth; agricultural zones and Forest types	Class Exercise - III on forest type and key species in a selected regions in india
	15-08-2023	Closed Holiday	
5	22-08-2023	Landscape Elements ; Hard and Soft Landscape elements;	Introduction to Assignment II
6	29-08-2023	Micro climate and Landscape; Modifications of Solar radiation and Wind	Discussion on Assignment 1 Progress
7	05-09-2023	Passive strategies in different climatic zones and case studies	Discussion on Assignment 1 Progress
8	12-09-2023	**Mid-semester examination**	**Mid-semester examination**
	19-09-2023	Closed Holiday	
9	26-09-2023	Green Building rating systems- Introduction and LEED, IGBC and GRIHA discussion on elements related to landscape; Living Building Challenge; Green Rated Projects - Discussion	Comparision of different GBRS on Landscape Elements
10	03-10-2023	Effctiveness of Passive strategies and landscape elements in different climatic zones and case studies/ research at city scale	Presentation of Assignment 1

11	10-10-2023	Effctiveness of Passive strategies in different climatic zones and case studies at neighborhood and site level	Presentation of Assignment 1
12	17-10-2023	Energy efficiency in Landscapes - analysis, Softwares and simulation (Envi-met Analysis)	Introduction to Assignment II
	24-10-2023	Closed Holiday	
13	31-10-2023	Embodied carbon and Landscape Design; Use of Pathfinder Tool.	Discussion on Assignment II Progress
14	07-11-2023	Case studies of Energy Efficiet Landscape Design	Discussion on Assignment II Progress
15	14-11-2023	Presentation of Assignment II	
16	21-11-2023	Review of key concepts, strategies and cases	

S. No.	Stages of Evaluation	Weightage
1	Class Exerccises	5
2	Second stage: Mid-semester Examination	20
3	Assignments I & II	15+10
	Total	50

Reference Books:

1. Brown, R. D., & Gillespie, T. J. (1995). Microclimatic landscape design: creating thermal comfort and energy efficiency (Vol. 1). New York: Wiley.
2. CPWD (2013) Integrated Green Design for Urban & Rural Buildings in Hot-Dry Climate Zone
3. GRIHA Version 2019 Manual (Volume I)
4. Haque, M. T., Tai, L., & Ham, D. (2004). Landscape design for energy efficiency.
5. Krishan, A et.al(2001), Climate Responsive Architecture: A Design Handbook For Energy Efficient Buildings, McGraw Hill
6. Oke, T. R. (2002). Boundary layer climates. Routledge. - Chapter 5 - "Climates of non-uniform terrain"
7. Schultz, J., & Schultz, J. (2005). The Ecozones of the World: The Ecological Divisions of the Geosphere. Springer Science & Business Media. Berlin, Heidelberg. https://doi-org.aurarialibrary.idm.oclc.org/10.1007/3-540-28527-X_1
8. Seçkin, N. P. (2018). Environmental control in architecture by landscape design. A/Z ITU J. Fac. Archit, 15, 197-211.
9. Vashist, A. Energy efficient landscapes: a case study in the national capital region of Delhi. NAGARLOK VOL. LII, Part 4, October-December 2020

- http://andrewmarsh.com/apps/staging/shading-box.html
- https://sustainabilityworkshop.venturewell.org/node/1515.html
- https://earth.nullschool.net/#current/wind/surface/level/orthographic=124.85,10.40,223

Cource Instructors:
Dr. Shanmuga Priya G 17/7/23

Head of Department

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Department of Architecture

Course: **MSAR221 - Design Studio III**
Instructors: Prof.Dr.Iyer Vijayalaxmi Kasinath

Class: II M. Arch III Sem A.Y. 2023-24
Internal Assessment: 50
End Semester Evaluation: 50
Total Marks: 100
Credits: 15

Contact Periods/ week: 15 periods.(55 min each)
Time Table: **Mon** 1.30 pm-3.00 pm; **Thu** 1.30 pm- 3.00 pm; **Fri** 9.55 am-2.40pm
Attendance: Min 75% **Min. Passing Marks:** 40% each in Internal & External Assessment and 50% in Aggregate

Objective: To Desing buildings and critically evaluate with regards to energy performance, water performance, resilience, embodied carbon, value additions etc., using computational and simulation tools.

Out Line of the Course: Introduction of studies related to thermal, visual, embodied energy performance of different components and parameters and use of simulation strategies for energy analysis for building. Heat transfer through walls, roof, openings, conduction through floor/ ground, windows heat gain through ventilation and infiltration etc., Use of advanced passive techniques and analysis of thermal transfer through roof and walls for direct and indirect gain such as underground floor storage, earth air tunnels, earth covered structures, rock bed storage, phase change materials for conditioned and non-air conditioned buildings. DOE and TRNSYS, Energy Plus, Design Builder, Rhino, IES and Radiance etc., simulation programmes for energy, light quantification for buildings. Validation studies for simulated models through field studies.

LECTURE PLAN

WEEK	DATE	TOPIC OF CLASS LECTURE & DISCUSSION	TOPIC OF STUDIO WORK& ASSIGNMENTS / REMARKS
1	Week. 1 - 2 17 Jul - 30 Jul 2023	Literature Review of ten contests of NZEB challenge **Assessement I**	NZEB briefing, Student's presentation and discussion
2	Week. 3 - 4 31 Jul - 11 Aug 2023	Project summary and site selection	Analysis and discussion
3	Week. 5 14 Aug - 19 Aug 2023	Identification of Project coordinator, Case study and Industrial coordinator	Student's presentation and discussion
4	Week. 6 - 7 14 Aug - 02 Sept 2023	Field study visits and Case study analysis, findings and inferences, and detailed area requirements. **Assessement II**	Student's presentation and discussion
5	Week. 8 28 Aug- 02 Sept 2023	Conceptual designs, preliminary energy and water analysis through simulations	Analysis and discussion
6	Week-9 11- 15 Sept 2023	**Mid Semsester week - Assessement III**	**Mid Semsester Examination**
7	Week. 10 - 11 19- 30 Sept 2023	Conceptual designs, preliminary energy and water analysis through simulationsresilience, heating and cooling load analysis, thermal comfort analysis	Analysis and discussion
8	Week. 12 - 14 03- 21 Oct 2023	Development of final designs and analysis energy and water consumption reports, affordability and budget report, engineering and technological innovation etc.	Student's presentation and discussion
9	Week. 15 - 16 23 Oct - 03 Nov	Final Presentations and reports- **Assessement IV**	Discussion
10	Week. 17 - 18 6 Nov- 22 Nov 2023	Improvement and reassessment if needed	Discussion
11	End Semester Jury		
S. No.	**Stages of Evaluation**		**Weightage in %**
1	Continuous assessment through internal design reviews,Mid-semester jury		50
2	End Semester Jury		50
	Total		100

Course Instructors: 13/07/2023
(Prof.Dr.Iyer Vijayalaxmi Kasinath)

Head of Department:
(Dr. Uma Sankar Basina)

योजना तथा वास्तुकला विद्यालय, विजयवाड़ा
School of Planning and Architecture, Vijayawada
An Institute of National Importance, Ministry of Education Gov. of India

MSAR211 - Design Studio – III
(Whole Building Simulation and Evaluation)

II M.Arch (Sustainable Architecture), III Semester, AY 2023-24

Studio Coordinator: Prof. Dr. Iyer Vijayalaxmi Kasinath, Professor, Dept. of Architecture

Objective
To critically evaluate buildings with regards to energy performance, water efficiency, environmental impacts etc., using computational and simulation tools.

Syllabus
Introduction of simulation strategies related to thermal, visual, embodied energy performance of different components and parameters, energy analysis for building covering approximate methods, correlation methods, analytical methods, and numerical methods. Periodic heat transfer model of a non-air-conditioned building comprising of heat balance equations for inside
air, periodic heat flux through walls, roof, isothermal mass, conduction through floor/ ground, windows and heat loss through ventilation and infiltration etc., analysis of thermal trap roof and walls, solar thermal models for direct and indirect gain such as underground floor storage, earth air tunnels, earth covered structures, rock bed storage, phase change materials for conditioned and non-air conditioned buildings. DOE and TRNSYS, Energy Plus, Design Builder, IES and Radiance etc., simulation programmes for energy, light quantification for buildings. Calibration and validation studies for simulated contemporary and internationally recognised models / softwares.

The simulation studio shall culminate into critical evaluation of applied strategies using advanced computation and simulation tools. The scale, size and typology of design are left to the faculty.
Simulation studio requires a substantial dedication, and investment of student's time and skills, both during and after official class hours for using the tools and running the simulation. As a part of their involvement, students are required to actively participate in all lectures, discussions, readings, assignments, design tasks as a class group and/or individually. The design and lab-oriented work must be actively in progress on a daily basis for collection readings and development of design.

Total: 240 Periods

Studio Approach: A NET-ZERO BUILDING CHALLENGE

This studio focusses on design of net-zero-energy-water, affordable, and resilient buildings to combat climate change through the buildings sector. Student teams partner with real estate developers and develop affordable and industry-ready solutions for real building projects. It is a hands-on, practical, innovation-based challenge that moves the construction and real estate industry towards implementing net-zero solutions developed by students. The Solar Decathlon India guidelines for the ten aspects of net-zero buildings are taken for study.

Energy Performance- In a net-zero energy building, the total renewable energy generated annually on site should be equal to or more than the total annual energy consumption of the building. The capability of the building systems to interact with the electricity grid, with on-site or stored power is also important. A whole building approach including strategies to reduce loads, integration of daylighting and passive systems, efficient electric lights, and appliances is needed.

Water Performance- In a net-zero water building, the total water consumption is equal to or less than the sum of harvested rainwater used, recycled water used, and the treated wastewater returned to a source available to the public. Strategies for reducing water consumption and techniques for on-site water recycling and reuse need to be implemented.

Embodied Carbon- Embodied carbon emissions largely result from the burning of fossil fuels in the mining, extraction, processing, manufacture, and transportation of building materials delivered to the building site. Strategies to reduce embodied carbon in five building systems: roofs, walls, floors, structure, and fenestration must be incorporated.

Resilience- This student evaluates the building's ability to adapt to changing environmental conditions and the ability to maintain functionality in the face of stress or disturbance. Strategies that provide resilience against seismic, hydrometeorological as well as public health hazards are needed. These approaches should provide resilience during an event, after the event, and result in long-term resilience, in energy, water, comfort and food.

Affordability- Students must demonstrate rightsizing and, optimization of systems to control the initial cost of high-performance buildings. Design strategies for obtaining economies in construction such as simplifying and integrating building assemblies and using local materials should be considered. Constructability in terms of the availability of materials, technologies and labour is evaluated.

Engineering and Operations - The effective integration of high-performance engineering systems and understanding of building operation must be demonstrated. Right-sizing and design of engineering systems help minimize waste of materials, equipment, and energy. Building systems, appliances, and features should be thoughtfully selected and integrated into the overall design.

Architectural Design – The students must focus their design on creativity, integration of systems, and ability to deliver functionality and aesthetic appeal desired by the market or client. Cutting-edge energy-efficient building performance is better positioned to achieve market acceptance when integrated into architectural designs that meet the aesthetic, functional and operational expectations of the industry and consumers.

Innovation- The student must demonstrate application of innovative techniques, technologies, or business models through creative approaches to enhance performance of other energy consuming factors.

Health and Wellbeing- The student should demonstrate the building's capability to provide thermal comfort and good indoor environmental quality, essential for ensuring occupant health

School of Planning and Architecture: Vijayawada

Department of Architecture

Course: MSAR212 - People, Environment and Buildings
Class: MSA – III SEMESTER
Instructor: Mr. Anil Kumar Chilakapati
Contact Periods/week: 3 hours
Internal Assessment Marks: **50** External Assessment (Theory Examination):**50**
Total Marks: **100**
Attendance: **75%** Minimum Passing Marks: 50%

Objective: The objective of this course to sensitize the students towards people and built environment and their relationships.

OUTLINE:
Concept of the spatial nexus, understanding of the human built-environments at various scales .

STRUCTURE:
The lectures will be organized into three sections, including (1) **why** we need to consider relationships among the factors of people, environmental and morphological factors in built-environments, (2) **what** social and sustainable design factors we should consider, and (3) **how** to address these factors in the sustainable design process. Various types of theories will be discussed, ranging from space–place to linkages.

TEACHING PLAN

Sl. No.	Date	Topic of Class/Lecture & Discussion	Nature of Class
1	Week-1	Relationship between people and environment, impact of people on environment and vice versa, extent of the energy and environmental crises facing the world, need for implementing energy efficiency on an international, national and individual basis in the context of the building industry & environmental issues.	**LECTURE**
2	Week-2	Introduction to Indoor environment – spatial environment, Thermal environment, visual environment, sonic environment and olfactory environment.	**LECTURE**

Sl. No.	Date	Topic of Class/Lecture & Discussion	Nature of Class
3	Week-3	Continued with Week-2 content	**LECTURE**
4	Week-4	The issues that have influenced and are currently impacting human settlement, building, and sustainable design are explored through the use of vernacular relevance and connections to built-form responses and the interpretation of climate responsive architectural principles of design.	**LECTURE / EXERCISE**
5	Week-5		**LECTURE / EXERCISE**
6	Week-6		**LECTURE**
7	Week-7	Slip test and Book Review	**DISCUSSION**
8	Week-8	Assessment	**LECTURE / EXERCISE**
9	Week-9	**Assessment – MID SEM**	**Mid-term Exam -2**
10	Week-10	**Book Reviews and Self-research**	**LECTURE / EXERCISE**
11	Week-11		**LECTURE / EXERCISE**
12	Week-12	Field assessments shall be developed through a research-based introduction of the Human Relations, environment and buildings to address the cultural/societal and technical realms that describe traditional built form. Appropriate case studies.	**LECTURE / EXERCISE**
13	Week-13		**LECTURE / EXERCISE**
14	Week-14		**LECTURE**
15	Week-15	**Research Interpretations and Discussions**	**REVISIONS**

Break-up of Internal Assessment Marks

S. No.	Stages of Evaluation	Weightage	Note
1	Assignment - I	25Marks	Total internal marks 50 Attending all the tests / assignments / seminars is mandatory
2	Assignment - II	25 Marks	
3	Assignment - III	50Marks	

Reference Books:

Baker Nick and Steamers Koen, “Energy and Environment in Architecture”, E & FN Spon, London, 1999.

2. Goulding, John, R., Lewis, Owen, J., and Steemers, Theo, C, “Energy in Architecture”, Bastford Ltd., London, 1986.

3. Bansal Narendra, K., Hauser Gerd and Minke Gernot, “Passive Buildings Design: A Hand book of Natural Climatic Control”, Elsevier Science, Amsterdam, 1994.

4. Givoni, B., “Man, Climate and Architecture”, Elsevier, Amsterdam, 1986.

5. Smith, R. J., Phillips, G. M., and Sweeney, M., “Environmental Science”, Longman Scientific and Technical, Essex, England, 1982.

6. Watson Donald, “Climate Design: Energy Efficient Building principles and practices”, McGraw Hill Book Company, New York, 1983.

7. Norbert Schaneur, 6000 years of Housing

(Anil Kumar Chilakapati)
Course Instructor **Head of the Department**

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Department of Architecture

Course: **MSAR213** - Eco sensitive accessories and Green materials
Instructors: **Dr. Iyer Vijayalaxmi Kasinath**
Contact Periods/ week: 03 periods.(55 min each)
Time Table: Tuesday 1.30-4.15 pm
Attendance: Min 75%

Class: II M. Arch (Sustainable Architecture)
III Sem A.Y. 2022-23 (ODD SEM)
Internal Assessment: 50
External Theory Exam: 50
Total Marks: 100
Credits: 3

Total: 48 Periods

Min. Passing Marks: 40% each in Internal & External Assessment and 40% in Aggregate

Objective:
To create awareness, exposure and educate the students with green building materials andnproducts used in the industries as on date.

Outcome:
Students shall explore and learn various eco-sensitive accessories and green building materials from the market and also learn their applicability in real-time.

LECTURE PLAN

WEEK	TOPIC OF CLASS LECTURE & DISCUSSION	DURATION / ASSIGNMENTS / REMARKS
1	**Introduction to Sustainable Design** ● Discuss the concept of sustainable design and its importance in creating high-performance "green" buildings. ● Explore the challenges faced by designers in finding environmentally friendly materials and construction processes. ● Introduce the concepts of adaptability, disassembly, reuse, reduced waste, and energy self-sufficiency in building design.	**2 Lecture + 1 tutorial**
2 and 3	● DESIGNING FOR ADAPTABILITY ● DESIGN FOR DECONSTRUCTION	**2 Lecture + 1 tutorial**
4	● DESIGN FOR REUSE (UPCYCLING) ● Introduction of Assignment - 1	**2 Lecture + 1 tutorial**
5 and 6	● Introduce sustainable product certification methods and their role in evaluating materials ● Introduction of Assignment - 2	**2 Lecture + 1 tutorial**
7	● INTRODUCTION TO LIFE CYCLE ASSESSMENT ● Variants of LCA	**2 Lecture + 1 tutorial**
8	● Steps of the LCA Process ● Environmental Impact Categories	**2 Lecture + 1 tutorial**

9	● Life Cycle Impact Assessment (LCIA) Method ● Life Cycle Inventory (LCI) Database ● Life Cycle Management (LCM) ● Life Cycle Costing (LCC)	**2 Lecture + 1 tutorial**
10 and 11	● Carbon Accounting ● Life Cycle Assessment in the Building Industry	**2 Lecture + 1 tutorial**
12	● LCA and the Design Process ● Introduction of Assignment - 3	**2 Lecture + 1 tutorial**
13	● Eco-Labelling and LCA assessment tools ● ATHENA® Impact Estimator ● One Click LCA	**2 Lecture + 1 tutorial**
14	● Market Analysis of Sustainable Materials	**2 Lecture + 1 tutorial**
15 and 16	Demonstration of use of EccoSensitive Accessories in the Design Project	**2 Lecture + 1 tutorial**
S.No	**Stages of Evaluation**	**Weightage**
1	First stage: Internal Assessment –1	**10**
2	Second stage: Mid-semester Examination	**20**
3	Third stage: Internal Assessment –2	**20**
	TOTAL	**50**

References

1. Sustainable Building - Design Manual Pt 1 & 2, The Energy and Resources Institute,TERI, 2004

2. Ross Spiegel.G, Green Building Materials A Guide to Product Selection and Specification, 3rd Edition by, John Wiley & Sons, 2010

3. Jagadish. K.S. Alternative Building Materials and Technologies, New age International Pvt Ltd Publishers, 2008

4. Traci Rose Rider, Stacy Glass, Jessica McNaughton, Understanding Green Building Materials, W.W.Norton and Company, 2011

5. Johan van Lengen, The Barefoot Architect: A Handbook for Green Building, Shelter Pub, 2008

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Department of Architecture

Course: **MSAR215: Traditional Wisdom and Sustainability Concepts**
Instructor: Dr. Amitava Sarkar

Contact Periods/ week: 03 periods (55 min each)
Timings: As per Time-Table
Attendance: Min 75% **Min. Passing Marks:** As per Academic Ordinances for PG Courses

Class: II Year M. Arch (SA) III Sem A.Y. 2023-24
Internal Assessment: 50
End Semester Theory Exam: 50
Total Marks: 100
Credits: 3

Objective: To impart the importance of traditional wisdom and knowledge, and its relevance today

Out Line of the Course: As per syllabus

LECTURE PLAN

WEEK	DATE	TOPIC OF CLASS LECTURE & DISCUSSION	DURATION/ ASSIGNMENTS / REMARKS
1	20-Jul-23	Socio-cultural aspects in the spatial formation of traditional buildings under different climate zones in India; Concepts of Sacred build-up and Landscape	2 Lecture + 1 tutorial
2	27-Jul-23	An Architectural and Theological Interface, Indigenous knowledge, antiquity, Indian vernacular architecture concepts covering informal, functional architecture of structures	2 Lecture + 1 tutorial
3	03-Aug-23	Built of local materials and designs to meet the needs of the local people and the intricate variations in local social customs, craftsmanship and climate	2 Lecture + 1 tutorial
4	10-Aug-23	The interpretations and reintroduction of spatial elements such as columns, brackets, jaalis, zarokhas, chhajas, stairs and cupolas.	2 Lecture + 1 tutorial
5	17-Aug-23	Use of above elements to the remake of spatial themes such as courts, terraces, pavilions and caves related to sustainable concepts.	2 Lecture + 1 tutorial
6	24-Aug-23	Sustainable Architectural concepts in history covering Indus valley, Aryan cultures. **Assignment-1: Use of Architectural elements - Learing from sustainable practices of past**	2 Lecture + 1 tutorial
7	31-Aug-23	Buddhist, Dravidian, Indo Aryan, Hoysala Architecture, Islamic, provincial style, Mughal, colonial and postcolonial architecture	2 Lecture + 1 tutorial
8	07-Sep-23	Discussion continued on above topic	2 Lecture + 1 tutorial
9	14-Sep-23	**Mid-Semester Assessment**	**(As per Academic Calender)**
10	21-Sep-23	Components of consideration such as materials, high ventilated roofs, integrated design, lighting, ventilation, vegetation and adopting to natural environment	2 Lecture + 1 tutorial
11	28-Sep-23	**Holiday**	**(As per Academic Calender)**
12	05-Oct-23	The Architectural concepts to emphasize local conditions, geography of region and peoples mind to emphasize traditional wisdom and sustainable concepts.	2 Lecture + 1 tutorial
13	12-Oct-23	Reposing faith in traditional wisdom, continuum of Vernacular concepts in contemporary Indian architecture	2 Lecture + 1 tutorial
14	19-Oct-23	Discussion with appropriate Case Studies. **Assignment-2**	2 Lecture + 1 tutorial
15	26-Oct-23	Discussion with appropriate Case Studies.	2 Lecture + 1 tutorial
16	02-Nov-23	**Demonstration with simulation in Computer Lab - with appropriate Case Studies.**	2 Lecture + 1 tutorial

17	09-Nov-23	**Demonstration with simulation in Computer Lab - with appropriate Case Studies.**	2 Lecture + 1 tutorial
18	16-Nov-23	Assignment-2 presentation and discussion	2 Lecture + 1 tutorial
19	22-Nov-23	**End of Class Work**	**(As per Academic Calender)**

Outcome: Students shall learn the traditional concepts and techniques from various cases studies across the country for understanding the traditional concepts for coping up with sustainability issues.

S. No.	Stages of Evaluation	Weightage
1	First stage: Internal Assessment –1	15
2	Second stage: Mid-Semester Assessment	20
3	Third stage: Internal Assessment –2	15
	Total	50

References

1. Wines James & Jodido Philip, "Green Architecture – The Art of Architecture in the age of Ecology", Tachen Publishers, New York, 2000.
2. Mackenzie Dorothy, "Green design: design for the Environment", Laurence King, London, 1997.
3. Farmer John & Richardson Kenneth, "Green Shift: Changing attitudes in architecture to the Natural World", Architectural Press, Boston, 1999.
4. The European Commission, "A Green Vitruvius: Principles and Practices of Sustainable Architectural Design", James & James, London, 1999.
5. Fred A. Stitt, "The Ecological Design Handbook", McGraw Hill, New York, 1999.
6. Scott Andrew, "Dimensions of Sustainability: Architecture, Form, Technology, Environment & Culture", F&FN Spon, London, 1998.

Cource Instructors:

sd/-

(Dr. Amitava Sarkar)