ANNA UNIVERSITY: : CHENNAI - 25

FACULTY OF ARCHITECTURE AND PLANNING

Approved Special Electives for M.S. / Ph.D. Degree Programs
(upto 21st AC 07.01.2016)
SPECIAL ELECTIVES FOR FACULTY OF ARCHITECTURE AND PLANNING

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FA 1911 TRADITIONAL-VERNACULAR RESIDENTIAL ARCHITECTURE AND ITS CULTURAL ASPECTS

Course Objective

Study on traditional-vernacular residential architecture, its definition, characteristic and its possibility to be used as mode of understanding cultural interactions and interlinkage among different and various regions and countries.

1 Cultural Studies for Architecture
   1. Defining Culture and Architecture
   2. Understanding discourses and problems in definition of Architecture
      - Encyclopedic/technical definition
      - Anthropological
      - Historical
   3. Socio-Cultural attribute of Architecture based on various scholar work
      - Vernacular approach
      - Architectural Anthropology approach
      - Symbolism approach
      - Holistic approach

2 Traditional and Vernacular Architecture
   1. Defining and understanding “Traditional” and “Vernacular”
   2. Architectural understanding of traditional and vernacular architecture (William Noble Knapp, Amos Rappoport, Paul Oliver)
   3. The cultural role of traditional and vernacular architecture study
   4. Concept or object of traditional and vernacular architecture
   5. Attribute and characteristic of traditional and vernacular architecture

3 Cultural and Historical interlinkage between culture in different regions in South-Asia and South-India
   1. History of Southeast Asia, South-Asia and South-India
   2. Modes of cultural exchange and dynamic
      - Assimilation
      - Transformation
      - Acculturation
      - Diffusion
      - Cross Culture
   3. Defining Asia, Southeast Asia, South-Asia and South-India
   4. Discourses of Cultural interlinkage in Asia
      - Indianized Southeast Asia
      - Austronesian and Austro-Asiatic Maritime Exploration
      - Aryan Infiltration into India
      - Spread of Buddhism
      - European Colonization

4 Southeast Asian Architecture and Dwelling Culture
   1. Origin and Dynamic
   2. Attribute and Characteristic
   3. Geo-political boundary (mainland, archipelago, islands)
   4. Discussion Cases (Architecture in Malay peninsula, Thailand, Sumatera Vietnam, Cambodia, Java and Lesser Sunda, Polynesia and Melanesia)
South Indian Architecture and Dwelling Culture

1. Origin and Dynamic
2. Attribute and Characteristic
3. Geo-political boundary (Kerala, Tamil Nadu, Karnataka and Andhra Pradesh)
4. Discussion Cases (Architecture in Kerala, Tamil Nadu, Karnataka, Andhra Pradesh)

REFERENCES:
4. Coedes, Goerge, (1968), Indianized States of Southeast Asia; Honoluu: East West Centre;
8. Acharya, Prasanna Kumar, (1998), Architect of Manasara, New Delhi : DK Publisher Distributor P.Ltd
10. Thampuran, Ashalatha, (2001), Traditional Architectural Forms of Malabar Coast; Calicut : Vastuvidyaparthistanam
OBJECTIVE
The old pictorial approach to Church Architecture still persists almost unchallenged. The objective of this course is to understand the characteristic features of churches in various parts of the world right from its origin.

UNIT I  INTRODUCTION
History and origin of Christianity. Guiding principles for the design of churches according to the spirit of Roman Liturgy. The theological basis of Church Architecture. Church Architecture and liturgy.

UNIT II  CHURCH BUILDING PLANS - THROUGH AGES

Churche before Constantine- the Basilica- Origin of Basilica- Different types of Basilica. The Western churches and Eastern orthodoxy. Different church plans, the round plan, the octagonal plan, the pendentive and domed Basilica, the cruciform plan, the free standing cross, obscured cross or cross in square.

UNIT III  CHRISTIANITY IN INDIA
Religious life in Indian churches, the church and cultural life, the Church and social life- Early Indian churches- their origin and establishment.

UNIT IV  CHURCH ARCHITECTURE IN KERALA

UNIT V  EUROPEAN INFLUENCE IN CHURCH ARCHITECTURE OF KERALA

TOTAL: 45 PERIODS

REFERENCES
2. Churches in India- Thomas P -Publication Division Ministry of Information and Broadcasting, Govt. of India.
3. Historic Architecture source Book- Cyril M. Harris, Professor of Architecture, Columbia University.
6. India and Portugal cultural interactions, Pereira Jose Pal- Mang Publications, Mumbai
FA 1914 DIGITAL TOOLS FOR ENVIRONMENTAL ARCHITECTURE

OBJECTIVE: To provide exposure to environmental performances & analysis tool based on climatic data models and data structure.

1. ENVIRONMENTAL FACTORS
Thermal performances of buildings; Comfort factors and measurements; Climatic design; Solar Control and shading devices, Louvre design; ventilation; introduction to lighting; units of light, colour, lamps, luminaries, Daylight design of general lighting schemes; Energy management and lighting

2. SOLAR PASSIVE ARCHITECTURE

3. PERFORMANCE ANALYSIS TOOL
Introduction to ECOTECT, an environmental prediction software package in architecture. to study the simple and intuitive 3D modeling interface and to explore the range of analysis functions

4. SOLAR THERMAL ANALYSIS OF MODELS
Use of analytic tools and environmental design software (ECOTECT) for studying solar, thermal and lighting processes in and around real or virtual buildings.

5. SIMULATION STUDIES
Generate and analyse climate data for any geographic location, predict microclimatic conditions on urban sites, perform shading, daylighting, airflow, heating and cooling simulation studies, predict indoor temperatures and other environmental conditions, calculate energy requirements and assess environmental impact and life costs of buildings.

REFERENCES:
UNIT I  BASICS OF LIGHT AND LIGHTING  
History of lighting- Architects and lighting designers – Richard Kelly, Louis Kahn, Mies van der Rohe, Philip Johnson, Eero Saarinen, Jonathan Speirs and Mark Major, Claude R. Engle

UNIT II  LIGHTING EQUIPMENT AND SYSTEMS  

UNIT III  LIGHTING AND ENVIRONMENT  

UNIT IV  LIGHTING DESIGN & CALCULATION  

UNIT V  CHOICE OF LIGHTING SYSTEM  
REFERENCES
1. Lighting design basics, Mark Karlen, James Benya, John Wiley and Sons
2. Architectural lighting design By Gary R. Steffy, John Wiley and Sons, 2002

Suggested Reading
UNIT IV  NORTH INDIAN SCENARIO
Detailed study of water management systems of North India, that is those located in mountains, plateaus, desert and plains. Opportunities, challenges and issues.

UNIT V  SOUTH INDIAN SCENARIO
Detailed study of water management systems of South India, that is those located in plains and coastal plains. Opportunities, challenges and issues.

Total number of periods 45

REQUIRED READING :
3. Village Tanks of South Asia, Papers and proceedings of the Regional workshop, Madurai, India, 2002.

REFERENCES:
1. Community and watershed

Faculty of Architecture & Planning  Approved in 17TH AC (Ad hoc) 27.04.2012  ITEM NO. FA 17.01(3)

FA 1917  USER- ENVIRONMENT –BEHAVIOR STUDIES  L T P C
AND AGENT BASED SYSTEMS  3 0 0 3

UNIT I  ENVIRONMENTAL PSYCHOLOGY  8
Definition- - system oriented-space over time orientation- -Place identity-place attachment-Environmental consciousness- Behavior settings-Cognitive mapping- Environmental stress- Personal space-Territoriality-Spatial Behavior.

UNIT II  INFORMATION ENVIRONMENTS  7
Definition-information environments- information and environments in past,present and future contexts –information ecology-information society-. Information in communities and environments and technologies used for mediation. Information environments and its relationship with human behavior.- new strategies for viewing and managing information in a spatial perspective.
UNIT III  USER TRACKING SYSTEMS AND BEHAVIORAL PATTERNS  10

UNIT IV  USER BEHAVIORAL MODELING  10
Need for agent based modeling-ABMS-Agent based modeling in User environment context-applications of agent based modeling in supply chain management, sociology, pedestrian, crowd behavior, shopping and other environments.

UNIT V  AGENT - APPLICATIONS  10
Agent –definition- ABM- (Agent based Modeling) ABS,(Agent based systems)IBM –(individual-based modeling)and ABMS ((Agent based Modeling and simulation) and its applications- Case studies of Agent applications as modeling ,generating and operational tool in various fields.

TOTAL: 45 PERIODS

REFERENCES

Faculty of Architecture & Planning  Approved in 18TH AC 09.08.2014) ITEM NO. FA 18.05

FA1918  ALTERNATIVE BUILDING MATERIALS AND TECHNOLOGIES  L T P C 3 0 0 3

UNIT I  INTRODUCTION:  9
Energy in building materials, Environmental issues concerned to building materials, Global warming and construction industry, Environmental friendly and cost effective building technologies, Requirements for building of different climatic regions, Traditional building methods and vernacular architecture.

UNIT II  ALTERNATIVE BUILDING MATERIALS:  9
Characteristics of building blocks for walls, Stones and Laterite blocks, Bricks and hollow clay blocks, Concrete blocks, Stabilized blocks: Mud Blocks, Steam Cured Blocks, Fal-G Blocks and Stone Masonry Block

UNIT III  LIME-POZZOLANA CEMENTS  9
UNIT IV  ALTERNATIVE BUILDING TECHNOLOGIES

UNIT V  COST EFFECTIVE BUILDING DESIGN
Cost concepts in buildings, Cost saving techniques in planning, design and construction, Cost Analysis : Case studies using alternative.

TOTAL: 45 PERIODS

REFERENCES
2. K S Jagadish - Building with Stabilized Mud; I.K. International PVT. LTD; 2010
3. Daniel Vallero and Chris Brasier; Sustainable Design- The science of sustainability and Green Engineering; Wiley; 2008
4. Building Materials & Technology Promotion Council; Production of cost effective, environment friendly and energy efficient building components-user’s manual; 2009
5. Building Materials & Technology Promotion Council; Standards and specifications for cost effective innovative building materials and Techniques including rate analysis (second edition); 2009
UNIT V  SYMBOLIZING OF NEW ERA


TOTAL: 45 PERIODS

REQUIRED READING:

REFERENCES:

Faculty of Architecture & Planning
Approved in 19TH AC 03.12.2014) ITEM NO. FA19.05 (2)

FA1920 SUSTAINABLE LANDSCAPE URBANISM L T P C
3 0 0 3

OBJECTIVE:
To analyze the role of Landscape Urbanism – theory (texts) & practice (projects) in forming the contemporary city. To understand the evolution of a new urban morphology for contemporary cities adopting new models & strategies based on the Landscape of the city.

UNIT I  LANDSCAPE URBANISM – AN INTRODUCTION
Background (what & why), the emergence of Landscape urbanism, characteristics, revaluing landscape, history and driving forces, Landscape in practice: Defining competitions of landscape urbanism

UNIT II  LANDSCAPE (SUB) URBANISM IN THEORY AND PRACTICE
LU – a school of thought, Smart growth and LU, New Urbanism, Green Urbanism, From Critical Regionalism to Critical Pragmatism
Practical limitations to innovation – Case study – The Wuqong Urban Water (WUW) Landscape Structure Plan, The WUW project in relation to theory

UNIT III  LANDSCAPE URBANISM – PLANNING
Performatlve Processes – process cycles, processes engaged in design, a democratic urban environment, processes of planning – Surface Strategies – Contemporary Positions – Network city, New pragmatism, philosophy of world complexity, ecological design media – Evolution of Planning Ideals – from the modern to the contemporary, the rise of landscape urbanism
UNIT IV  SUSTAINABLE(SU) & ECOLOGICAL URBANISM (EU)  12


EU- Historic roots and current trends, propositions and principles for the design of resilient cities, Cities – as habitats, part of the natural world, Urban ecosystems, The future of Urban Design.

UNIT V  ASIAN LANDSCAPE URBANISM  12

Emerging challenges, Relationship between Asian Urbanism and Landscape Urbanism – social & cultural aspects of Asian Urbanism – Landscape Urbanism in India – case studies Hampi, Goa

TOTAL:45 PERIODS

REFERENCES:
3. Tigran Haas (Editor), Sustainable Urbanism and Beyond – Rethinking cities for the future, Rizzoli, NY, USA.
4. Mohsen Mostafavi, Ecological Urbanism, Harvard University, Graduate school of design, Lars Muller Publisher.
5. Charles Waldheim, The Landscape Urbanism Reader (paperback)

REQUIRED READING:
1. Landscape urbanism – large-scale architecture, ecological urban planning or a designerly research policy, GUNILLA LINDHOLM Senior lecturer, landscape architect, Department of Landscape Architecture, SLU, Alnarp, Sweden – Research paper
2. Steven Velegrinis, Flux-scape: Emerging Challenges of Asian (Landscape) Urbanism, Landscape practice Global Leader, Woods Bagot PO Box 58041, Dubai, UAE.
5. http://issuu.com/inde/docs/presentation_hampi_isola/1?e=0
7. http://issuu.com/inde/docs/la31_surat/7?e=0

Faculty of Architecture & Planning  Approved in 20TH AC 07.07.2015) ITEM NO. FA 20.03

FA1921  HERITAGE CONSERVATION OF URBAN AREAS  L T P/S C
3 0 0 3

AIM
• Identify and define themes affecting conservation practice today
• Relate the conservation practices relevant to the planning of historic cities.

OBJECTIVES:
• Apply a critical conservation framework of analysis to urban sites.
• Analyze conservation at various scales, from the broad impact of regional governance to the efforts of individuals and groups at discrete urban sites.
• Broaden views of conservation beyond the built environment to include cultural landscapes and intangible heritage, and urban management.

UNIT I INTRODUCTION TO HERITAGE AND CONSERVATION
Overview and introduction to the basic concept of conservation - Integrated urban conservation: principles, international charters, guidelines and standards for conservation of historic monuments, sites and heritage zones; aesthetic and social dimensions, economic, legal and tourism aspects.

Conservation philosophy - International agencies - ICCROM -, UNESCO and their role in conservation - Comparative overview of conservation movement in Europe, U.K. and Italy during 19th and 20th century - Eastern and Western approaches to conservation - International charter and changing trends - What and why to conserve - Issues and Challenges in conservation in Developing Countries.

Concept of Management - Overview and introduction to basic concepts of Heritage Management.

UNIT II ANALYSIS OF HISTORICAL STRUCTURES IN AN URBAN SETTING
Evaluation techniques of built heritage - Mapping and Inventory - Documentation, analysis and investigation of existing condition [surveys, inventory and analysis] in terms of historical, architectural and conservation. - Technical analysis - Analysis of urban functions and evaluation of structural conditions - Critical analysis of the urban structures and its adaption for appropriate usages - Summary of methodological procedure - inspection and surveys, investigation techniques, methods for inventories and documentation, identification and reporting on heritage zones - Conservation plans and its implementation for revitalization.

UNIT III HISTORY OF URBAN CONSERVATION IN INDIA
Architectural vs Urban conservation in India - Understanding the character, history of cities and historical sites - role of ASI - Review of existing laws of ASI - Role of INTACH - heritage precincts - financial incentives historic cores - Projects - selected case studies.

UNIT IV CONSERVATION LEGISLATION, PLANNING TOOLS AND FINANCIAL INCENTIVES
Central and State Govt. - Policies - legislations - TDR- urban conservation and heritage tourism and national and international policies pertaining to Heritage Conservation. - National policy for conservation - Review of existing bylaws and conservation laws in the city and country - Incentives in conservation planning.

UNIT V CASE STUDIES AND ON GOING RESEARCH
Case studies on inventory, database and mapping systems in successful urban conservation examples
Review of national and international Case studies on Assessing values and needs, Stakeholder's analysis and community participation, Participatory mapping and information technology (GIS) , Integrating heritage conservation in municipal planning frameworks.

TOTAL : 45 PERIODS

REFERENCES:
1. The Fort Precinct in Bombay - A proposal for Area conservation by Rahul Mehrotra and Sandhya Sawant

TEXT BOOKS: