BABU BANARASI DAS UNIVERSITY

COURSE STRUCTURE
AND
SYLLABUS
FOR
MASTER OF ARCHITECTURE

M. ARCH.
(ARCHITECTURE- PART TIME)

School of Architecture, BBD University
School of Architecture, BBD University

NAME OF COURSE: MASTER OF ARCHITECTURE  
M. ARCH (ARCHITECTURE- PART TIME)  
(Course structure)

<table>
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<th>Teaching Scheme</th>
<th>Contact Hrs. per week</th>
<th>Exam. Scheme Marks</th>
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### 1st YEAR

#### I SEMESTER

**THEORY SUBJECTS**

1. **MAR-103** Contemporary Architecture: Theories and Trends  
   2 | 1 | - | 3 | 50 | 50 | - | 100 | 3

2. **MAR-105** Urban Design  
   2 | 1 | - | 3 | 50 | 50 | - | 100 | 3

3. **MAR-107** Ecology in Architecture  
   2 | - | - | 2 | 50 | 50 | - | 100 | 3

**PRACTICAL SUBJECTS**

4. **MAR-101P** Architectural Design Studio-I  
   1 | - | 6 | 7 | - | 100 | 100 | 200 | -

Sub Total 15 500

### 1st YEAR

#### II SEMESTER

**THEORY SUBJECTS**

1. **MAR-104** Sustainable Development  
   2 | 1 | - | 3 | 50 | 50 | - | 100 | 3

2. **MAR-106** Remote Sensing & GIS in architecture  
   1 | - | - | 1 | 50 | 50 | - | 100 | 3

3. **MAR-108** Urban Infrastructure Planning  
   2 | - | - | 2 | 50 | 50 | - | 100 | 3

**PRACTICAL SUBJECTS**

4. **MAR-102P** Architectural Design Studio-II  
   1 | - | 6 | 7 | - | 100 | 100 | 200 | -

5. **MAR-106P** Remote Sensing & GIS in architecture  
   - | - | 2 | 2 | - | - | 50 | 50 | -

Sub Total 15 550
### 2nd YEAR
#### III SEMESTER

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Sub Total: 15

### 2nd YEAR
#### IV SEMESTER

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Sub Total: 14

Exam: 450
School of Architecture, BBD University

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3rd YEAR
V SEMESTER
PRACTICAL SUBJECTS

1. MAR-201P Architectural Design Studio-III  1 - 6 7 - 100 100 200 -
2. MAR-211P/MAR-213P Specialization Elective  1 1 1 3 - 50 50 100 -
3. MAR-209P Dissertation - I  - 2 2 - 100 - 200 -
4. MAR-215P Interdisciplinary Elective  1 1 1 3 - 50 50 100 -

Sub Total 15 600

3rd YEAR
VI SEMESTER
PRACTICAL SUBJECTS

1. MAR-202P Dissertation - II  - 6 6 - 450 450 900 -

Sub Total 6 900

Open Electives

1. MAR-113 High Rise Buildings  Elective-I
2. MAR-115 Futuristic Architecture
3. MAR-117 Advanced Building Technologies
4. MAR-114 Theory of Landscape Architecture  Elective-II
5. MAR-116 Climatology

Specialization Electives

1. MAR-211P Low Cost Building Design and Techniques  Elective-III
2. MAR-213P Advanced Landscape Design  Elective-III

Interdisciplinary Electives

1. MAR-215P Project Management  Elective-IV
School of Architecture, BBD University

M. ARCH. – AR-PART TIME     SEM- I     MAR-103 Contemporary Architecture:
Theories and Trends

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OBJECTIVE:

- To impart knowledge of contemporary theories and trends in architecture through the examples of emerging building typologies.

CONTENTS:

- Overview of world architecture since 1970 with the study of Late Modernism, Post Modernism and Deconstructivism.
- Theories governing contemporary architecture through case studies, evolving architectural trends and their impact on urban built environment.
- Emerging building typologies with emphasis on residential developments, offices, skyscrapers, institutional and public buildings.
- Evolving building materials and technologies, contemporary approach towards disaster mitigation in the built environment.
- Energy efficient and built environment with emphasis on the use of energy simulation modeling embodied energy estimation and application of governing codes, viz., LEED and ECBC in contemporary buildings.
- Applications of advanced software by architects, viz, virtual reality, parametric design, programme generated architecture and building information modeling (BIM) in contemporary architecture.

SUGGESTED BOOKS:

OBJECTIVE:

- To impart knowledge on various aspects, elements, concepts and principles of urban design.

CONTENTS:

- Various aspects of urban design; relationship of urban design to architecture, planning and landscape; Evolution of professional discipline.
- Review of urban forms, patterns and spaces in different periods of history viz. ancient river valley civilization, Greek, Roman, Medieval, Renaissance, Baroque, post industrial revolution period in Europe and India and their influencing factors.
- Elements of urban environment-urban form, townscape, urban spaces, streetscapes, building forms and facades, public art.
- Concepts of urban design, public perception, imageability and townscape.
- Emerging concepts in urban design, modern examples of urban settlements, town centers and urban spaces in India and foreign countries.
- Urban design principles, tools, techniques and paradigms; Role and types of urban design guidance.

SUGGESTED BOOKS:

- Jane Jacobs, “Death and life of Great American Cities”
- Colin Rowe, “Collage City”
OBJECTIVE:

- The course is a condensed package of basic and advanced level fundamentals related to Environment, Environmental issues and Environmental planning.
- In this course the issues and techniques of environmental planning are seen from different angles such as development, urbanization, human activities and landuse. Conceptually, the course is designed in a balanced approach.
- Attention has been given to clarify the theoretical base of the students, as well as to make it a research based program. The course will be delivered through lectures, group assignment (case studies) and group discussions.

CONTENTS:

- Introduction to ecology- understanding the concept of environment and ecology as environmental biology, and study of ecosystems.
- Importance of ecology to man in general and environmental designer, planner and technologist in particular in the context of growing global environmental concerns.
- Structure and functions of eco-systems in general. Ecosystem components and functional inter relationships; Food chain, food web, bio-geochemical cycles, energy flow and productivity.
- Community organization, species and population, inter-species interactions, habitat, niche, natural selection; Growth, decline and balance in populations. Concept of environmental resistance.
- Factors responsible for development of diverse ecosystems; Role of climate and geochemical factors. Ecological succession; Study of representative samples of different ecosystems.
- Summary of principles of ecology derived from ecosystem study and useful guidelines for human beings. Comparison of natural ecological system and man-made systems.
- Application of ecological and environmental principles and guidelines to architecture and planning; Designing ecologically sustainable settlements and other man-made systems; Ecological foot print analysis and other contemporary concepts.

SUGGESTED BOOKS:

OBJECTIVE:

- The objective of this exercise is to develop personal attitudes, values and independencies of mind with professional approach to design process.
- Development of design of buildings in urban context, phasing and development; Understanding relationship of buildings amongst themselves and with a given environment.

CONTENTS:

- Development Projects containing group of buildings with multiplicity of constraints such as relationship of land uses, space, architectural character, circulation, movement, landscape and buildings.
- Site planning and environmental considerations.
- Physical and economic constraints in designing.
- Study of planning regulations.

DESIGN EXERCISES:

- Suggested major design exercise are in high-tech architecture/ urban design; housing estates of vast magnitude; large industrial buildings; national and international level educational institutions like IIT’s and IIM’s, restoration of heritage sites of national and international importance, major transport complexes like airport terminals, railway stations, freight complexes etc.
- To explore various building design aspects through architectural design studio exercises.

SUGGESTED BOOKS:

- Architectural theory by Biermann Veronica
- Architecture Style Structure and Design by Foster, Michael
- The Urban Pattern-City Planning & design by Arthur B. Gallion, Simon Eisher
- Town Design by Fredrick Gibberd
- The City Shaped: Urban patterns and meanings through history
- City transformed: Urban Architecture at the beginning of the 21st. century
- Outside Architecture by Zevon, Suzan
- Landscape Design Today by Mostaedi, Arian
- Advanced Building Systems: a Technical Guide for Architects and Engineers by Daniels, Klaus
OBJECTIVE:

• To make aware of the Sustainable building design aspects and Green buildings design concepts.

CONTENTS:

• Introduction to sustainable development in relation to natural resource conservation,
• energy conservation, environmental pollution and conservation of bio-diversity;
• Global issues such as global warming, ozone layer depletion, green house gases,
• and depletion of natural resources in relation to energy generation;
• Sustainable development from the perspective of regional and urban planning;
• Issues at regional and micro level;
• Climate considerations in design of buildings in various climates;
• Eco-friendly architecture.

SUGGESTED BOOKS AND REFERENCES:

• Energy, Environment and Sustainable Development by Pradeep Chaturvedi
• Sustainable Building: Design Manual by Europe aid
• Energy Technologies for Sustainable Development by Upender Pandel, M P Poonia
• World development Report 2003 Sustainable Development in a Dynamic World… by The World Bank
• Ecology and Natural Resource Management for sustainable development by A K Jain
• A Textbook of Environmental Pollution and Control by H S Bhatia.
OBJECTIVE:

- To introduce the principles of aerial and satellite based remote sensing for studying earth resources.
- To introduce geophysical well logging techniques for interpretation of subsurface geology.

CONTENTS:

- Introduction, development of remote sensing technology, advantages; Different platforms of remote sensing; EM spectrum, solar reflection and thermal emission remote sensing.
- Photographic techniques in aerial and spaceborne remote sensing; Spectrozonal photography using various camera, film, filter combinations; Applications and limitations.
- Multi-spectral scanners and imaging devices; Salient characteristics of LANDSAT, IRS, SPOT, IKONOS, QuickBird, GeoEye sensors and their applications.
- Image characteristics and interpretation of different geological landforms, structures and major igneous, sedimentary and metamorphic rock types; Remote sensing as a fore-runner in all exploration programs.

LIST OF PRACTICALS:

1. Objectives of well logging, classification of well logging methods, formation evaluation and its importance. Basic principles, SP log, normal and lateral logs, focused logs, micro resistivity tools and their role in formation evaluation; Applications.
2. Basic principles, dual induction logs, geometric factors; Applications
3. Basic principles of different types of radiation logs including gamma ray, gamma-gamma, neutron thermal and chlorine logs; Porosity determination and cross plots; Applications
4. Basic principles, sonic logging tools, porosity determination; Applications
5. Permeability, bound and free-water estimation using NMR logging techniques; Applications
6. Caliper, dipmeter, cement bond logging, casing collar locators, temperature logging; Applications
7. Rock sampling, fluid sampling and pressure measurements

SUGGESTED BOOKS:

School of Architecture, BBD University

OBJECTIVE:

- To understand importance and management of infrastructure planning for appropriate development schemes.

CONTENTS:

- Introduction to infrastructure planning, definition and categorization of infrastructure as applicable to urban and rural planning.
- Energy - classification and characteristics or energy resources, energy use, and energy demand in different sectors of economy and settlement; Comparative energy statistics; Planning for energy needs; Concepts and guidelines.
- Water supply, sewerage and drainage - basic facts on use and characteristics; Planning for integrated and sustainable management of water system, sewerage and drainage - concepts, guidelines, technologies and strategies; Case studies
- Solid waste management; Nature and classification of urban waste; Working of the existing system and shortcomings; Management of urban solid waste - guidelines, technologies and strategies; Case studies
- Social infrastructure for different size and types of human settlements- typologies and standards; Planning for educational, health, recreational and socio-cultural facilities, amenities for different categories of urban and rural settlements.

SUGGESTED BOOKS:

- “Solid Waste Management in Class I Cities in India”.
- Report of the expert Committee constituted by Hon. Supreme Court of India.
- Zaini, U. and Mogens, H., “Municipal Wastewater Management in Developing Countries”, Elsevier.
OBJECTIVE:

- To explore challenging aspects of building design through architectural design studio exercises.

CONTENTS:

- Building functional efficiency in relation to space, form and aesthetics.
- Building standards and building bye laws for different types of buildings in various locations.
- Design of low rise and mid rise buildings with high density.
- Specialized buildings design such as hospital, airport and hotel.
- Disaster resistant building design.
- Sustainable building design aspects and Green buildings design concepts.

DESIGN EXERCISES:

- Major design exercises in large scale housing projects, especially mid rise with high density, urban design projects, hospital projects etc.
- Minor design exercises related to disaster resistant buildings for earthquake, cyclone etc.; Disaster mitigation and rehabilitation projects; Sustainable and green building design.

SUGGESTED BOOKS:

SEMESTER – III
M. ARCH. - AR-PART TIME, SEM- III, MAR-203: Research Techniques in Architecture

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OBJECTIVE:
- To train students in research design and methods.

CONTENT:
- Research in architecture and planning-its importance, purpose and scope in the professional and academic fields; common and exclusive areas of research in architecture and planning.
- Overview of architectural and design research techniques in areas such as architectural technology, environment and behavior, design methods, architectural theory, design programming; Post-occupancy evaluation; Users’ participation.
- Overview of planning research areas that contributes to the shaping of neighborhoods, communities, settlements and regions as well as infrastructure provisions and sustainable development.
- Research sequence and methods; Problem identification, formulation of hypothesis, objectives and methodology; Literature survey and preparation of bibliography and sources of data.
- Qualitative, interpretative, correlation, analytical, experimental and quasi-experimental, modeling and simulation research methods; Case- studies.
- Field surveys- physical, architectural, land use, environmental, organizational and household surveys; Preparation of schedules, questionnaires and other data sheets; Pilot surveys; Formulation of database.
- Techniques and methods of analyzing architectural data, establishing correlations and interrelationships; Environmental network analysis and conclusions; Forecasting and modeling and validation.
- Evaluation and appraisal of architectural and planning projects; Techniques of writing thesis, project and master plan reports, research papers for publication; Presentation techniques.

APPROACH:
- Guest lectures by experts.

SUGGESTED BOOKS:
M. ARCH. - AR-PART TIME    SEM- III                MAR-205: Disaster Management

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OBJECTIVE:
- Aims at providing public sector policy makers, professionals engaged in Architecture, with useful insights and better understanding of: disaster management, mitigation, preparedness, response, rehabilitation and reconstruction.

CONTENT:
- An overview of Disaster Management
- Definition of basic concepts related to disaster management
- Disaster Types
- Disaster Statistics
- Earthquake, Tsunami, Flood, Cyclone, Technological Disaster
- Disaster Policy
- Disaster Mitigation and Preparedness
- Impact assessment
- Community based disaster management
- Rehabilitation and Resettlement

APPROACH:
- Guest lectures by experts and case studies.
M. ARCH. - AR-PART TIME SEM- III, MAR-207: Resource Conserving Architecture

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OBJECTIVE:
- To acquaint students with principles, techniques and relevant guidelines for planning and design of resource-conserving architecture.

CONTENT:
- Classification and characteristics of resources, brief review of use/exploitation of resource for development in human history; concepts and need for conservation, renewable and non-renewable resources.
- Basic concepts, parameters and principles of energy conservation; patterns and efficiency of energy use in architecture; technologies, methods of energy conservation.
- Conserving building materials, water, land etc. in architecture, technologies/methods of conservation and their implications.
- Fundamentals of planning and design of resource conserving architecture; innovative and appropriate design concepts and construction technologies.
- Discussion of Indian and foreign case studies

APPROACH:
- Guest lectures by experts and case studies

SUGGESTED BOOKS:
OBJECTIVE:

- At the end of this course the student should have understood the problems associated with large heights of structures with respect to loads (wind and earthquake and deflections of the structure).

CONTENTS:

- Dispersion of Vertical Forces- Dispersion of Lateral Forces - Optimum Ground Level Space - Shear Wall Arrangement - Behaviour of Shear Walls under Lateral Loading.
- The Floor Structure or Horizontal Building Plane Floor Framing Systems-Horizontal Bracing-Composite Floor Systems
- BuildingSystems - Flat Slab Building Structures - Shear Truss - Frame Interaction System with Rigid -Belt Trusses - Tubular Systems-Composite Buildings - Comparison of High - Rise StructuralSystems Other Design Approaches Controlling Building Drift

SUGGESTED BOOKS :

- High Rise Building Structures by Schueller, W
- Structural Analysis & Design of tall Buildings by B.S. Taranath
- Handbook of Concrete Structures by M. Fintal.
- Tall Building Structures: Analysis & Design by B. Stafford Smith & A. Coule
- Advances in Tall Buildings, by CBS Publishers and Distributors Delhi, 1986
M. ARCH. - AR-PART TIME     SEM- III     MAR-115 ELECTIVE-I
Futuristic Architecture

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OBJECTIVE:

- To understand and explore new building materials, future building technologies and various futuristic architectural concepts

CONTENTS:

- Future concepts envisioned by Antonio Saint Elia, Frank Lloyd Wright, Corbusier
- Future trends being evolved by Marcos Novak, Neil Denari, Greg Lynn, Toyo Ito and others.
- Evolution of contemporary architectural concepts such as biomimcary, Adaptive reuse, low cost development and urban regeneration.
- “Zero energy” and “Energy +” buildings with emphasis on an integrated approach. Green buildings.
- High rise and long Span Architecture
- Futuristic approach towards disaster mitigation
- Socio-cultural and economic impacts of future urban habitat. Futuristic Homes.
- Futuristic building materials, building tectonics and systems of the future.
- Applications of advanced software by architects, viz, virtual reality, parametric design, programme generated architecture and building information modeling (BIM) in futuristic architecture.

SUGGESTED BOOKS:

OBJECTIVE:

- An advanced study of building technology and structures. Includes consideration of sustainable techniques, technologies, building enclosure, structural behavior and systems, the integration of heating, cooling and ventilating systems, lighting, acoustics, electrical, plumbing and water, security, vertical circulation, and site and transportation for new and existing buildings.

CONTENTS:

- Advanced building materials.
- Advanced fabrication techniques.
- High-performance facades.
- Contemporary applications of passive climatic design strategies.
- Building-integrated renewable energy systems.
- Advanced mechanical and electrical building systems.
- Building performance analysis techniques.
- Building performance simulation tools.
- Integrated design methods
- High-performance, zero-energy, and carbon neutral buildings.
- Building performance metrics and rating frameworks

SUGGESTED BOOKS:

M. ARCH. - AR-PART TIME SEM- III MAR-111P TECHNICAL COMMUNICATION IN ARCHITECTURE

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OBJECTIVE:

- To impart knowledge of Basics of Technical Communication in architecture and planning projects

CONTENTS:

UNIT- I
Basics of Technical Communication:-
- Technical Communication features; Distinction between General and Technical Communication language as a tool of communication; Levels of communication interpersonal, Organizational, Mass communication, the flow of communication Downward Upward, Lateral or Horizontal (Peer group) importance of technical communication, Barriers to communication.

UNIT- II
- Reports: - Types, Significance, Structure, Style and writing of Reports.
- Technical Proposal, Parts; Writing of Proposal, Significance.

UNIT- III

UNIT- IV

Value-Based Text Readings:-

Following essays from the suggested text book with emphasis on Mechanics of writing in Architecture.

1. The Amis of Science and the Humanities by ME. Prior.
2. Man and Nature by J. Bronowski
3. The mother of the sciences by A.J. Bahm
4. Humanistic and scientific approaches to Human activity by Moody E. Prior.
5. The effect of scientific temper on man by Bertrand Russell.
SUGGESTED BOOKS:

- Improve your writing ed. V.N. Arora and Laxmi Chandra, Oxford University Press New Delhi. 14

REFERENCE BOOKS:

- How to Build Better Vocabulary by M. Rosen Blum Bloomsbury publications London.
- Developing Communication skills by Krishna Mohan, Meera Banrji-Macmillan Indra Ltd. Delhi.
M. ARCH. - AR-PART TIME     SEM- IV     MAR-110 & MAR-110P     HOUSING

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OBJECTIVE:

- To impart comprehensive knowledge about housing design, planning and finance

CONTENTS:

- Introduction to housing, social and economic infrastructures in planning, housing shortage-reasons and remedies.
- Housing policies and programmes, mass housing programmes, slums and renewal schemes.
- Housing finance and schemes, HUDCO and other housing/building financial institutions, role of revolving funds in housing.
- Housing design standards for various income group housing, analysis and design for HIG, MIG and LIG housing schemes.
- Rural and EWS housing schemes, affordable housing, cost effective housing.
- Selected case studies of housing schemes by government and private developers in India and abroad.

SUGGESTED BOOKS:

- Balaji V. & Rajmanohar, “Housing Sector in India; Issues, Opportunities and Challenges”, ICFAI University Press.
- French H., “Key Urban Housing of the Twentieth Century”, Lawrence King.
- Reeves P., “Introduction to Social Housing”, Elsevier.
OBJECTIVE:
- To acquire professional capacity in traffic and transportation planning

CONTENTS:
- Introduction to traffic and transportation planning in urban and regional context; Traffic and transportation characteristics and problems of India.
- Types of roads and planning standards; Road design and layout;
- Road intersections; Road cross sections; Street furniture; Design for road safety.
- Traffic and transportation surveys; Traffic zones, cordon lines and control stations; O and D surveys, home interviews and travel pattern data; Inventory of existing transportation facilities including parking.
- Traffic Management- traffic control systems, traffic signs, signals, speed regulations etc; Design for traffic segregation; Planning for parking.
- Traffic planning and forecasting- trip generation and methods of predicting trip generation; Models of traffic assignments.
- Roads and transport services in urban and rural settlement; Mass transportation in urban environment; Urban form in relation to traffic and transportation patterns; Sustainable transport systems; Environmental considerations.
- Case studies on best practices of traffic management and transportation services from India and abroad; New innovations and concepts in traffic and transportation

SUGGESTED BOOKS:
- Bruton, M.J., “Introduction to Transportation Planning”, Amazon Co.
- Burton E. and Mitchell, L., “Inclusive urban design: streets for life”, Elsevier
- Kadiyal, L.R “Traffic Engineering and Transport Planning”, Khanna Publisher.
OBJECTIVE:

- Study the usage of elements of landscape in history & attempt to reinterpret & examine their relevancy in today’s context.

CONTENT:

- An overview of the development of landscape design from prehistoric to present with an aim to understand the generative ideology, formulation of framework for the development of landscape design.


- The 19th Century in Europe and USA; emergence of landscape architecture as a profession. The 20th Century: Development of urban landscape design; garden cities, suburbs, new towns, contemporary approaches in Landscape Architecture.

APPROACH:

- Assignments & Work Presentations
M. ARCH. - AR-PART TIME SEM- IV                  MAR-116: Elective-II (Climatology)

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OBJECTIVE:
- To have an understanding of the Impact of natural and manmade features on climate

CONTENT:
- Elements of weather: A brief introduction to the composition of atmosphere, elements of weather, temperature, precipitation, humidity, air pressure, wind patterns, and corridors. Changes in atmosphere with altitude. Land water dynamics, Radiation.
- Climatic zones of India: A brief outline of various characteristics critical aspect, duration of the critical conditions etc.
- Evaluation of climatic data: Sources, methods of obtaining climatic data. Instruments, charts used for this purpose. Use of charts for onsite study.
- Simplification and synthesis of climatic data and how to arrive at conclusions / Vegetation, soil, water etc. as indicators of climate; bio metrology.
- Micro climate: Climatic controls in traditional building forms. Vegetation and water bodies as modifiers of climate. Climatic impact of natural elements, landforms, vegetation, wind, temperature, solar radiation control etc. wind breaks, shelter belts and site planning processes in modifying the climatic condition at site and city level. Microclimate and problems of its management in urban and rural surroundings.
- Weather in relation to pollution control. Affects of climatic conditions on pollution.

APPROACH:
- Guest lectures by experts and site visits.
M. ARCH. - AR-PART TIME  SEM- IV  MAR-109P Computer Applications in Architecture

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OBJECTIVE:

- To impart knowledge of computer and GIS applications in architecture and planning projects.

CONTENTS:

- Application of software such as Revit Architecture Suite including building information modeling (BIM) and 3D Max.
- Application of Presentation software: Photoshop, coral draw, etc
- Application of software such as Sketchup, Podium and E-view.
- Application of software such as Catia, Primavera for construction planning management.
- Application of software such as Design Builders and other software related to energy simulation modeling.

LIST OF PRACTICALS:

- Photoshop, coral draw, etc for design studio problems.
- Building Information modeling for a given project.
- Sketchup Pouching and E-view for a given design
- Catia application for at least 2 design schemes
- Primavera: Construction planning management applied to ongoing design studio project
- Application of Design Builder and DOE2 for energy simulation modeling of one ongoing and one new project.

SUGGESTED BOOKS:

- Manuals of Sketchup, Podium, E-view, Catia and Primavera.
- Manuals of M.S. Pro and Power Sim.
# M. ARCH.-AR-PART TIME SEM- V     MAR-201P: Architectural Design Studio III

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**OBJECTIVE:**
- To develop professional approach to design more challenging specialized building design projects through architectural design studio exercises.

**DESIGN EXERCISES:**
- Major design exercises in high-tech architecture, industrial buildings, intelligent futuristic buildings etc.
- Minor design exercises in engineering structures such as power houses and futuristic building forms.

**APPROACH:**
- Application of all the theory subjects taught in previous and present semester.
OBJECTIVE:
• To impart knowledge on various building materials, construction and execution techniques for designing low cost buildings.

CONTENT:
• Introduction to low cost buildings, building components influencing cost of buildings.
• Modular coordination in building design, prefabrication- total and partial, impact of prefabrication on employment
• Use of CPM and PERT methods in building construction
• Building construction detailing for cost reduction.
• Application of low cost building materials and various construction techniques.
• Building cost control techniques, research and development by various organizations in the country and foreign countries to reduce the cost.

APPROACH:
• Guest lectures by experts and case studies

SUGGESTED BOOKS:
• Davis, S., “Architecture of Affordable Housing”, University of California Press. 1995
• Ruiz, F.P., “Building an Affordable House”, Taunton Press. 2005
• Mathur, G.C., “Low Cost Housing in Developing Countries”, South Asia Book. 1999
OBJECTIVE:
- To impart knowledge on advanced concepts of landscape design ranging from local to regional scales.

CONTENT:
- Introduction to landscape design, types of landscapes and their characteristics, linkages with nature and built environment.
- Elements and materials of landscapes, characteristics of various types of plants, topography and their suitability of landscaping.
- Landscape conservation- its purpose, preparatory procedure, maintenance of existing landscape.
- Urban and regional landscapes- ecological and environmental aspects of landscape design.
- Landscape profession and practice in relation to architecture and total built environment
- Landscape design schemes for various building types, formal and informal design schemes, landscaping paths, gardens and roads.

APPROACH:
- Guest lectures by experts and case studies

SUGGESTED BOOKS:
OBJECTIVE:
- To do the research in any subject related to architecture and submit it in the form of report

CONCEPT
- Topics related to various aspects of Architecture would be chosen in consultation with faculty members, comprehensively researched, and findings presented in a series of seminars by individual students.
- The materials would be documented and formally presented as a Dissertation at the end of the semester.
- The dissertation would be of a length of between 3000 and 4000 words with illustrations, references, footnotes and annotations.

APPROACH
- The internal evaluation shall be conducted by the concerned teacher through test, reports and assignment as given by the concerned teacher.
OBJECTIVE:

- To provide a brief introduction to general issues of project management.
- To provide insights into problem solving and persuasive presentation of solutions.
- To increase awareness of how people work as team members and as individuals.

CONTENT:

- Introduction to project management and project management software
- Needs and solutions: needs identification, proposed solutions.
- Team work: problem solving in groups, the project manager, the project team, teamwork and personality: mcclelland's theory. Discuss who are you? Exercise. Leadership and motivation
- Project communication and documentation: project communication and documentation and planning. Discuss new faculty hire exercise.
- Schedule control: scheduling, schedule control
- Resource consideration: resource consideration, cost planning and performance

APPROACH:

- Design exercise done in teams.
OBJECTIVE:
- To do the live design project in any subject related to architecture and submit it in the form of report

CONTENT:
- Architecture thesis will consists of two parts:
  (a) Research oriented towards establishing a strong theoretical background for the chosen subject.
  (b) Application to a Architecture Planning or Architecture Design proposal with appropriate details.

APPROACH:
- Professional communication skill shall be evaluated periodically through communication skill by judgment at the time of presentation by the concerned student.