1. PROGRAMME EDUCATIONAL OBJECTIVES (PEOs):
   
   i. To provide students with domain knowledge and expertise in the principles and framework of Real Estate design, development, management and valuation.
   
   ii. To equip students to broaden scope of professional abilities through an integrated, research-based approach across disciplines.
   
   iii. To prepare students to face challenges, develop decision making skills, initiate entrepreneurial ventures and make a resourceful value addition.
   
   iv. To enable students to be responsive and contribute to the larger spectrum of society, environment and sustainable development.

2. PROGRAMME OUTCOMES (POs):

   PO#  Programme Outcomes
   1    An ability to showcase nuances of theoretical knowledge, skill quotient, comprehension of process and application to professional practice.
   2    An ability to critically review, assess and evaluate Real Estate based process, options, potentials and constraints in real time projects.
   3    An ability to interpret case-based studies, engage in interdisciplinary research, publications and prepare technical documents and reports.
   4    An ability to integrate technical expertise, strategic decision making and legal mechanism to provide innovative and practical solutions.
   5    An ability to be responsive and adapt to changing scenarios pertaining to land, development, market and environment.
   6    An ability to contribute to holistic development solutions that are context specific and in the larger global perspective.

4. PEO/PO Mapping:

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### ANNA UNIVERSITY, CHENNAI
NON-AUTONOMOUS AFFILIATED COLLEGES
M. ARCH. (REAL ESTATE DEVELOPMENT) FULL-TIME PROGRAMME
REGULATIONS 2021
CHOICE BASED CREDIT SYSTEM
I TO IV SEMESTERS CURRICULA AND SYLLABUS

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### PROFESSIONAL ELECTIVE COURSES (PEC)

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SUMMARY

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OBJECTIVES

- To enable understanding of land as a resource and a commodity.
- To provide adequate inputs to help understand the whole development process as a seamless activity and be aware of the tactical aspects of the entire process of real estate development and design.
- To equip students with the knowledge of various layout planning parameters and approval process involved.
- To encourage students to explore current trends in asset building and property development.
- To enable an appreciation of the role of team work to make a successful project.

UNIT I   CONCEPTS  6
Fundamental Concepts- Physical/Economic Characteristics, Types of Real Estate, Techniques & Sequential events in Real Estate Development Process- surveys and data rationalization; Development planning – preparation and interpretation.

UNIT II   PRE PROJECT-STUDIES AND EVENTS  6
Site-Inventory, Evaluation& Feasibility Studies, Understanding & Analysis of Trends and Market Trajectories (Micro and Macro market), Factors affecting real estate demand, Development Team assembly.

UNIT III   LAYOUT/DEVELOPMENT PLANNING & APPROVAL PROCESS  9

UNIT IV   CURRENT TRENDS IN REAL ESTATE  12
SEZ, SPV, Joint ventures, Franchisee systems, Types & Parameters, Smart city concepts, Green building, Certifications and Rating for Buildings/Townships (IGBC, CARE, CRISIL, ICRA)

UNIT V   HANDING OVER OF ASSETS  12
Business Communication Tools required for presenting the project, in house sales promotion, public relations, transfer of completed project, Setting of Project Management Office, Estate Management

TOTAL: 45 PERIODS

OUTCOMES

- Understanding of land as a resource and public domain and its endless opportunities for inclusive growth.
- Skill in applying the various principles and techniques taught in the subject in real estate design and development process.
- Understanding of principles in transactions relating to the allied operations of real estate.
- Knowledge about the recent trends and innovations in real estate.
- Knowledge in the transfer of completed projects and communication tools required for presenting the project.

REFERENCES

5. Tanya Davis, “Real estate developer’s handbook”, (2007), Atlantic pub company, Ocala, USA.
7. Dr. KR.Thooyavan. “Human Settlements – A planning guide for begginers",(2005),Ma Publications
OBJECTIVES

- To inform about the evolution, form and pattern of urban growth and its impact on the city.
- To enable understanding of the related planning theories concerned with urban growth and the factors affecting decision making in land use.
- To enable understanding of the implications and effects of urbanisation and ways to sustainably manage urban issues.
- To introduce various regulatory regimes, policies on land and development present in the country.
- To impart a broader knowledge of all aspects of public-private partnerships and their short/long term effects on real estate.

UNIT I  UNDERSTANDING URBAN GROWTH

UNIT II  LOCATIONAL DETERMINANTS
6
Land Economics-Land use Structure & Planning -(Permissible & Non Permissible Uses) – Community & Neighbourhood Dynamics, Neighbourhood Unit Theories - Urban Land rent & Location Theories

UNIT III  QUALITY OF DEVELOPMENT
Urban Quality – Urban Infrastructure, degeneration – Urban Renewal & regeneration – Self Sustaining and shared facilities, Sustainable development in Peri Urban areas

UNIT IV  POLICIES ON URBAN DEVELOPMENT

UNIT V  PUBLIC PRIVATE PARTICIPATION
System drawn and informal participation, various models of public participation, BOT, BOOT, BOO, ROOT, DBOT, DBFO, participatory plan formulation, resource mobilization, maintenance and management.

OUTCOMES

- Knowledge about the dynamics of urban growth and its impact.
- Knowledge of tools to analyse planning decisions and regulations and their implications for society.
- An understanding of urbanisation with an emphasis on responsible urban growth
- Knowledge about the different policies framed by the National & State Government and their impact urban development and real estate pricing.
- Understanding of the challenges of PPP and how it assists to meet the need and financing gap.
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RE4103 RE-ENTERPRISING THE CITY

OBJECTIVES
- To provide inputs to understand the dynamics of urban design as an integral part of real estate development
- To impress upon the professionals to look at Real Estate from a broader perspective of urban place/space making.
- To demonstrate the value addition to property development by adhering to urban aesthetics as a leverage for price mechanism.
- To emphasise the need for sustainability of the existing morphology through adaptive reuse to provide alternative options in urban renewal with reference to changing market dynamics
- To enable exploration of City/ Place branding as a strategy to strengthen a community's sense of place.

UNIT I  INTRODUCTION TO URBAN DESIGN THEORY
City as a three – dimensional entity, study of volumes & open spaces, a brief historic review of the development of the urban design discipline and principles. Land as a commodity and raw material

UNIT II  ELEMENTS OF URBAN DESIGN
Urban form as determined by the inter-play of masses, voids, building typology, scale, density, height, bulk, organization of spaces & their articulation, public spaces Image of the city & its components.

UNIT III  DETERMINANTS OF URBAN FORMS & FUNCTION
Activity & Morphology size & structure of cities, networks – TOD Models, open spaces, public realm and place making, case studies of urban design characteristics of cities in India & abroad, issues for public intervention and participation.

UNIT IV  RETROFITTING OF BUILDINGS / PROPERTIES AND ADAPTIVE REUSE
UNIT V  CITY AS AN ENTERPRISE
Contemporary Approaches/Theories to City Building, Smart cities, Sustainable Cities & Post Pandemic Cities, Brownfield projects, mixed use strategies, Entrepreneurship and City Branding. Form based codes, (Case examples in Indian and Western context). Legal framework, policies & charters

TOTAL: 45 PERIODS

OUTCOMES
- Ability to incorporate principles of Urban design in real estate strategies
- Understanding of the role and interface of Urban Design in Real Estate development.
- Understanding of the determinants of Urban form and function.
- Sensitivity towards the significance of adaptive reuse and retrofitting with its implications in real estate development.
- Understanding of how urban development is aligned with City branding efforts and practice.

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RE4104  REAL ESTATE FINANCE AND INVESTMENT

OBJECTIVES
- To introduce the principles of investment relating to real estate including the basic principles underlying the appraisal of investments
- To enable understanding of the influences of international modes of decision making.
- To enable understanding of risks in real estate as a tool in mortgaging and investment performance.
- To facilitate acquiring of basic skills and intuition needed to evaluate a variety of real estate project costs & investments.
- To enable understanding of the various aspects of financial planning and analysis and its impact on real estate investment.

UNIT I  FUNDAMENTAL CONCEPTS
Principles, Analytical methods and tools useful for making investment and financial decisions regarding real estate properties (Commercial, Industrial, Residential), Real estate Investment Concept of Time Value of Money, PV (Present Value), FV (Future Value), discounting FV to PV by Discounting Rate. Investment Decision making using financial tools like, Pay-Back -Period, Rate of Return (%) and IRR. and Bench Marking.
UNIT II CONVENTIONAL AND NON-CONVENTIONAL FINANCE
Real estate financial decision making (pension funds, banks, life insurance companies, investment trusts, joint venture, FDI) Crowd Funding, and Joint Development debt financing by Housing Finance Companies, Govt. Financial Policies (State & Central)-Impact on Real Estate

UNIT III RISK ANALYSIS AND SECURITIZATION
Various risk in real estate investments and its analysis, Primary and Secondary Markets, Concept of securitization and structured financing in India, including mortgage contract

UNIT IV FINANCIAL TOOLS

UNIT V CASE STUDIES OF FINANCING OF PROJECTS
Financial Viability, Cost of Capital Operational cost, Financial Planning and Analysis, Estimating Various Cost, Direct and in-direct Cost. Fixed cost, Variable cost, BEP (Break Even Point, Concept of profit and Differential pricing of units, Cross subsidies, Income tax concessions or Tax holidays, Different business Entities and understanding the fundamentals of Income/Expenditure Statement, Balance Sheets, Ratio Analysis, Capital and Reserves, The role of Rating Agencies and Long term and short term market borrowings with fixed and variable Interest rate

TOTAL: 45 PERIODS

OUTCOMES
- Ability to undertake feasibility and viability appraisals of real estate investments.
- Ability to practice the principles, analytical methods and tools are useful for making investment and finance decisions.
- Knowledge on development of real estate securitization and structured financing including mortgage contract helps to calculate the various durations to evaluate risk sharing in Real Estate Development
- Awareness of real estate financial modelling, capable of analysing real estate markets and adept at assessing risk.
- Sophisticated and agile understanding of the financial tools in real estate investing landscape

REFERENCES
7. Prasanth Das and Divyansh Sarma “Real Estate Finance in India”, (2013)

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OBJECTIVES

- To equip students with skills and information to build comprehensive Building Information Models (BIM) for stage wise project analysis.
- To help students work and iterate on parameters that impact design options.
- To sensitise students, and enhance their potential at energy modelling.
- To let student’s review and optimise the complex details in the design solution so as to avoid construction risks.
- To equip students with skills on cost optimisation with design inputs using appropriate Digital software and Media.

UNIT I  INTRODUCTION TO THE FUNDAMENTALS

Key concepts of BIM - reading and manipulating the software Interface - navigating within views - selection methods - the importance of levels and grids - creating walls, doors, windows, and components - working with essential modification commands and load family. Creating floors, ceilings, and stairs - working with type and instance parameters - importing CAD drawings - understanding the project browser and type properties palettes - adding sheets - inserting views onto sheets - adding dimensions and text to the mode and plotting.

UNIT II  ADVANCED MODELING –FAMILY TYPES AND TOPOSURFACE MODELLING

Creating curtain walls, schedules, details, a custom family, and family types - “flex” a family with family types and work with reference planes - creating rooms and an area plan - tag components - customize existing wall styles. Create and edit a topo surface, add site and parking components - draw label contours - work with phasing - understand groups and links - work with stacked walls - and learn the basics of rendering and create a project template.

UNIT III  RENDERING AND MATERIAL APPLICATION

Choosing material for buildings- Creating custom walls, floors, and roofs - keynoting - working with mass elements - enhancing rendering with lighting - producing customized materials - Using sun and shadow settings - Walkthrough technique - adding decals - working with design options and work sets - and calculating energy analysis - managing revisions.

UNIT IV  BIM FOR BUILDING ENERGY SIMULATION

Energy simulation for conceptual BIM models using massing- Detailed modeling using design elements- Rapid energy modeling and simulation - Conceptual Energy Analysis features to simulate performance to produce energy consumption, carbon neutrality and renewable potential reports.

UNIT V  BIM FOR COST ESTIMATING, PROJECT PHASING AND ADMINISTRATION

Introduction and theoretical information on the following topics- Model based Cost Estimating - Challenges in cost estimating with BIM- Cad geometrics vs BIM element description- Visual data models - Material substitutions and value engineering- detailed estimates and take off sheets- XML and automated cost estimate- project phasing and management- 4D modeling -BIM for project lifecycles.

TOTAL: 60 PERIODS

OUTCOMES

- Knowledge on the implementation of BIM concepts throughout the lifecycle of a building, from planning and design, to construction and operations.
- Knowledge of optimisation, working on options and alternatives that could result in efficiency.
- Ability to use BIM for analysing energy performance and simulating details.
- Knowledge that can synchronise the real time project through simulation.
- Understanding of the complex details of generating detailed estimates that add to value engineering.
REFERENCE

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RE4111 REAL ESTATE DEVELOPMENT STUDIO – I

OBJECTIVES
- To enable understanding of synergies between how one specializes development and how real estate dynamics shape and influence land development.
- To facilitate application of tools, instruments and strategies for design thinking and understand the mechanisms of Socio-Economic and Cultural Contexts, Consumer behavioural Patterns/Lifestyles that shape and impact real estate development process.
- To impart skills to visualize and communicate concepts about a site and enable the assessment of a project for its development potential.
- To create understanding of the myriad of factors that influence a project and be sensitized to the links between plotted development and sustainable environmental management.
- To create enhanced understanding of the intricate relationships between the development practices and the influence of financial market.

CONTENT
Trend Analysis: Analysis of societal needs /current market trends will be the starting point of this studio to sensitize students to issues of land and corporate development. The students will incorporate developmental planning parameters by which the various stakeholders—architects, planners, urban designers, developers/investors, buyers and users can conceptualize various frameworks for real estate development.
This will culminate in a project on Residential Plotted Land Development supported with Commercial, Public-Semi Public, Open space/Recreational land uses.

OUTCOMES
- Understanding of how good and inclusive design adds value to residential plotted development projects.
- Ability to investigate how responsive development is holding the key to our social, economic, and culturally equitable future.
- Knowledge of tools and skills to use real estate development to solve the challenges and positively impact communities that they design and build.
- Understanding of real estate development requires excellence in urban design, planning, sustainability and financial outline.
- An awareness of the iterative process of problem finding, solutions is fundamental to producing the most valued and valuable real estate projects.
RM4251 RESEARCH METHODOLOGIES FOR BUILT ENVIRONMENT

OBJECTIVES
- To give introduction to the importance of critical inquiry as a way of gaining knowledge and adding to it through research.
- To give exposure to the various forms of research and research methodologies/ processes.
- To understand research in the specific domain of built environment research.

UNIT I INTRODUCTION
Basic research issues and concepts. Orientation to research process. Types of research: historical, qualitative, co-relational, experimental, simulation and modelling, logical argumentation, case study and mixed methods. Illustration using research samples including research in the domain of built environment.

UNIT II RESEARCH PROCESS
Elements of Research process: finding a topic, writing an introduction, stating a purpose of study, identifying key research questions and hypotheses, reviewing literature, using theory, defining, delimiting and stating the significance of the study, advanced methods and procedures for data collection and analysis. Illustration using research samples including research in the domain of built environment.

UNIT III RESEARCHING AND DATA COLLECTION
Methods of data collection: Primary sources: observation and recording, interviews structured and unstructured, questionnaire, open ended and close ended questions and the advantages, sampling. Collecting data from secondary sources.

UNIT IV REPORT WRITING
Research writing in general and its components. Developing the outline, referencing, writing the bibliography, presentation, etc.

UNIT V CASE STUDIES
Case studies of competent research, from project inception to completion with a focus on research in the domain of built environment. Review of research publications.

TOTAL: 45 PERIODS

OUTCOME
- Skill to identify, decipher and interpret issues relating to architecture based on research enquiry methods.
- Knowledge of different methods of conducting research and research writing.
- Familiarity with specific research related to built environment.
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RE4201  LEGAL FRAMEWORK FOR REAL ESTATE  L T P/S C
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OBJECTIVES:
- To equip students with formalities and regulatory mechanism of land ownership, transfer, lease and mortgage regulations.
- To examine the effect of Development control rules on the property market.
- To expose students to the Tender process, Construction contracts & bidding evaluation
- To introduce the students to legal requirements of land and its development
- To sensitize the students on Labour law, regulations and social security

UNIT I  REGULATORY REGIME  9

UNIT II  REGISTRATION and TRANSFER OF PROPERTY  9
Law of Property, examining the rules relating to the transfer of land, the system of registration of title, co-ownership of land - Land title – Tenancy- Corporate Laws and Taxation for real estate development, Transfer of Property – Possession rights – leases – mortgage

UNIT III  CONSTRUCTION CONTRACTS  9

UNIT IV  TENDERS  9

UNIT V  LABOUR REGULATIONS  9

TOTAL: 45 PERIODS
OUTCOMES
CO1 The students will understand the dynamics of transfer of land and the system of registration of title.
CO2 The students will be educated on with the development control rules and its effects on property markets
CO3 The students are exposed to the rules and regulation in obtaining approval
CO4 The students will be sensitized to design of international contract documents & World Bank Procedural Rules
CO5 The students will be exposed to the Labour Acts, Regulations and laws

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RE4202 HOUSING AND LAND DYNAMICS

OBJECTIVES:
- This course introduces the student to the issues and concerns in today’s housing, a crucial factor in the country’s socio economy
- To expose the students to the present state of mobilisation of resources for improving the context of a good housing policy
- This course will examine the redefinition of contemporary housing within the contexts of Multicultural cities due to globalisation.
- To understand the context of housing with reference to aspects related to density and socio-economic compositions
- To sensitize the students on housing policies on affordability and inclusiveness

UNIT I HOUSING & THE CONTEXT
Evolution and Investigation of contemporary lifestyle, Socio-cultural facets, Society and its influence on housing- Globalization and influences on Urbanisation- Issues and concerns- Challenges and Initiatives in Community Development. Societal Demand/Need and Supply. Alternate housing solutions: community living, Commune, Co Living, Cooperatives,

UNIT II HOUSING POLICY – AFFORDABILITY AND INCLUSIVENESS
National Urban Housing &Habitat and Rental policy, PMAY– Housing for the poor – EWS, Slums and Squatter settlements – Rehabilitation- Public policies on land & real estate and potential markets – Redevelopment -Understanding livelihood displacement, Building technologies for sustainable development – Contribution of research organisations – SERC, NEERI, CBRI COSTFORD
UNIT III  LAND ECONOMICS AND MARKET  9
Land Financing- Land Value Capture (LVC), Land based Fund/Finance (LBF), Land Bank, Land Management and Strategies-, Land pooling, Incentives -TDR, FSI, Tools – PUD, GUD, LASER. Land Pricing and Land Markets

UNIT IV  HOUSING TECHNOLOGY AND INFRASTRUCTURE  9

UNIT V  EMERGING TRENDS IN HOUSING  10

TOTAL: 45 PERIODS

OUTCOMES
CO1 The students will be sensitized on the issues and concerns in present day housing sector
CO2 The student will be exposed to resource mobilisations and the need for improvisations in the housing policies
CO3 The students will acquire knowledge in the development of single and multifamily housing typedesigns relevant to market dynamics.
CO4 The students will acquire knowledge in new forms of living and housing in the digital era
CO5 The students will be exposed to the policies on housing affordability and inclusiveness

REFERENCES:
1. Jingmin ZHOU; Urban housing
2. Manuel Gausa and Jaime Salazer; Housing+ Single Family Housing; Birkhauser- Publishers for Architecture; 2005
3. Vincene Guillart; Sociopolis: Project for a city of the Future; ACTAR; 2004
4. Partrick Wakely, 2019, Housing in Developing Cities - Experience and Lessons, Routledge, Taylor and Francis Ltd.

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MH4221 GEOGRAPHICAL INFORMATION SYSTEMS FOR BUILT ENVIRONMENT  L T P/S C  1 0 3 4

OBJECTIVES
- To introduce role of GIS in
- To give basic familiarity with the concepts, tools and techniques of GIS
- To give training in the application of GIS for built environment.

UNIT I  INTRODUCTION TO G.I.S  9
Introduction to Geographical Information System (GIS). Defining the objectives of GIS in problems related to the macro environment. Outline of commercial and open source GIS software and introduction to basic components of GIS software. Outline of Spatial and non spatial data. Understanding of Projection and Coordinate systems. Preparation of map with appropriate format for specific purposes.
UNIT II SPATIAL AND ATTRIBUTE DATA INPUT

UNIT III SPATIAL ANALYSIS USING GIS

UNIT IV MODELLING THE MACRO ENVIRONMENT
Need for modelling the macro environment for different scales and purposes. Modelling for suitability/ projects/ situations/ problems in the realm of landscape design, urban design, urban and environmental planning.

TOTAL: 60 PERIODS

OUTCOMES
- Awareness of GIS and the context of its use for different purposes.
- Knowledge of concepts, techniques, methods of GIS.
- Ability to apply GIS for specific situations/ realms involving the built environment.

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RE4211 REAL ESTATE DEVELOPMENT STUDIO – II
OBJECTIVES:
- Understanding the concepts of township planning and development mix from the point of view of prevailing market trends.
- Analysing customer segmentation and to provide for value –creation, improved quality of life and greater affordability.
- To understand land as a resource and commodity.
- To positions real estate development as a collaborative process where sustainable design is approached through the lens of the local context of the region.
- To arrive at financial outlay, cost control that balances project scope and aesthetics
CONTENTS

The thrust of the project studio underlines socially responsible real estate development, providing for a holistic living environment, resulting in structured and optimum land usage, and a self-sufficient microcosm, to address complex, interdisciplinary issues considering societal and environmental contexts.

The Integrated Township project, through evidence-based field analysis, would address spatial dynamics in identifying and locating land parcels in developing corridors; urban periphery; agglomerations etc. The approach to the design could result in high-density mixed-use developments, affordable, resilient and sustainable solutions. The varied connotations of a mixed use development with its supporting serviced infrastructure would be realised in a responsive real estate proposition.

Components of the project – Feasibility Studies, Locational Analysis, Site Analysis, Economic and Market Need /Demand assessment, Development mix, zoning & Circulation Network, Layout plan, Infrastructure/ Landscape/Marketing plan, Housing Typologies- Project Costing, Scheduling, Cash flow, ROI, IRR & Detailed Project Report

OUTCOMES

CO1 Acquire skills on planning of mixed use developments by balancing financial analysis with project scope and aesthetics
CO2 Use scenario planning to minimize surprises to ensure optimisation of resources and services, reduce wastage, and effective costing.
CO3 Acquaint themselves with land dynamics, change and functionality, and mitigate and manage risks.
CO4 Will specifically deliberate about tools and mechanisms for mobilization of finance & strategic phasing of the project.
CO5 Unbundling of infrastructure options, affordability and inclusivity.

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TOTAL: 150 PERIODS

RE4301 VALUATION & ARBITRATION

OBJECTIVES:

- To equip the students with the techniques of valuation of properties.
- To provide the required input to create space for specialization in this area.
- To perform real estate valuation for different kinds of properties/asset classes as case study.
- To provide exposure to the importance and intricacies of Arbitration as an Alternative Disputes Resolution (ADR) Mechanism.
- To provide and sensitize students to the systems and proceeding of Arbitration.

UNIT I FUNDAMENTAL PRINCIPLES AND CONCEPT OF VALUE 7
Open market value – Property and Property Market – Property as an Investment.

UNIT II NATURE AND SCOPE OF VALUATION 9
UNIT III DETERMINATION OF VALUES
Techniques to determine the values for loan, sale and insurance – Professional standards – report writing - Leasehold Valuation – different methods.

UNIT IV EVALUATION OF INCOME AND PROPERTY

UNIT V ARBITRATION

TOTAL: 45 PERIODS

OUTCOMES
CO1 Students will get trained to value various kinds of property.
CO2 Students will get to know about gaining domain expertise as a valuer when it comes to valuation
CO3 The Case Study based approach would equip students to handle similar valuation projects in their professional practice.
CO4 The student will be familiar with the various legal systems that are in force and the methods of handling disputes.
CO5 The student will understand the role and responsibility and the ethical standards that govern an architectural & Real Estate practice.

REFERENCES
6. Prof. Madhav Deobhakta; Arbitration for Architects and Project Managers, 2011

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SUSTAINABILITY AND RESILIENCE IN REAL ESTATE

OBJECTIVES:
- To understand sustainable management of land in its varied dimensions
- To develop skills in incorporating systems and strategies of sustainability in the context of real estate
- To integrate climate change and its responsiveness in real estate practices
- To sensitize on the aspects of resilience in real estate asset creation
- To develop critical perspectives on the application of sustainability frameworks
UNIT I SUSTAINABLE LAND & PROPERTY 10

UNIT II SYSTEMS & STRATEGIES 8

UNIT III CLIMATE CHANGE & ADAPTATION 10
Climate change & adaptation — Environmental, Social and Governance (ESG) initiatives, opportunities & portfolio making- Task Force on Climate-related Financial Disclosures (TCFD)

UNIT IV RESILIENCE & PROPERTY DEVELOPMENT 8
Resilient Land Use & Planning – Asset & Value creation through resilience - Urban Resilience through effective Public Real Estate Asset Management and Land-Based Financing - Benchmarks & Assessments – GRSEB, PRI, Green Star

UNIT V CASE STUDY ANALYSIS 9
Developing Business cases, Asset creation exercises in real estate, Green real estate— case studies and best practices in India and abroad

TOTAL: 45 PERIODS

OUTCOMES:

CO1 The student will be equipped with sustainable management tools and strategies in a broader spectrum of land & built fabric
CO2 The students are able to understand the strategic aspects of energy efficiency and green concept based Real Estate investments
CO3 The students will be equipped to make environmentally conscious design & climate responsive decisions
CO4 The students are able to understand the importance of resilience framework for property development
CO5 The students will be able to apply principles learned through applications and case studies of business cases that give holistic approach to sustainability and green Real Estate

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OBJECTIVES

- To provide scope for independent study, exploring specific areas of interest pertaining to Real estate design, development, legal & finance-based mechanisms & application.
- To address research gap in the contemporary/ emerging areas of Real Estate Design & Development
- To review literature/ white papers & case studies of Global and Indian economic, regulatory & project scenarios and understand their impact on the Real Estate Sector
- To do critical analysis, understand trend & market scenario and find possible solutions for the various issues.
- To gain knowledge in technical report writing.

CONTENT

The dissertation provides the opportunity to the student to embark on research, to explore specific areas of interest pertaining to Real Estate Development. The scholar shall select a topic of his / her choice with the approval of the HOD and write a comprehensive report. A dissertation is a course for thesis preparation, and forms the base to preparatory research that could be further addressed in phase 2: Thesis. The process of research through review of literature/ white papers establishing the area of inquiry and setting objectives leading to profiling of stakeholders and market dynamics sets the preliminary approach. The analytical process culminates in outlining Real Estate models, interpreting new asset classes and strategic decision-making outcomes.

TOTAL: 60 PERIODS

OUTCOMES

**CO1** The student will be enabled to build and understand vocabulary of Real Estate Development.

**CO2** The student will be able to identify research gap in specific areas of asset creation

**CO3** Student will learn to critically analyse case studies, evaluate market scenarios and draw out inferences.

**CO4** The student will learn to analyse, interpret and explain results and structure their research/discourse for implementation in phases.

**CO5** The student will acquire acumen in technical report writing & publishing white papers.

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RE4312 REAL ESTATE DEVELOPMENT STUDIO - III

OBJECTIVES

- To provide practical opportunities for students to understand development mechanism in the context of Special Purpose Vehicle, Special Economic Zone and Smart cities.
- To explore the potential in the Brown-field development, Regeneration strategies and its process of systematic implementation
- To equip students to understand large scale industrial developments
- To sensitize the students to asset creation through resilience, climate adaptive strategies
- To understand the flow of mobilization of resources, funding options & partnerships.

CONTENTS:

The studio aims at understanding large-scale developments – Green & Brownfield through research, trend, market analysis and demand assessment. Macro level profiling of Infrastructure, Network, flow of resources & locational aspects pertaining to Real Estate intervention is demonstrated through the projects on Special Economic Zones and Smart Cities. Application of Real Estate models, stake holder
analysis, tools and techniques of financing are explored in green and brownfield development projects. Optimization of Real Estate based approach to city making, addressing green and blue networks, outlining disaster management portfolio, encompass the spectrum to be explored at the studio. Real Estate potential in heritage valued properties, adaptive re-use & commodification, asset creation through resilience & climate adaptation forms the outline for extended areas to be explored.


OUTCOME:
CO1 The student will understand the drivers of large-scale developments and its implementation through SPV
CO2 The student will understand the Real Estate potential in redevelopment and urban renewal projects
CO3 The student is equipped to relate to infrastructure provision & economic catalyst in an Industrial development
CO4 The Students will be exposed to vulnerability, risk and adaptive mechanisms
CO5 The student will be able to analyse various public and private partnership models

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TOTAL: 150 PERIODS

OBJECTIVES
- To expose students to the realities of real estate practice through internship
- An understanding of how real estate development and project coursework ties to professional careers of interest
- To facilitate an understanding of land development, market force, and financial implications
- To enable an orientation that would include the process of development of Strategic planning, Valuation and advisory, presentation skills, involvement in office discussions, client meetings, tendering procedure and coordination with the agencies involved in the construction process.
- To Develop professional connections and identify a strategy for maintaining those connections & gain insight into a possible career path of interest while learning about the industry in which the organization resides, organizational structure, and roles and responsibilities within that structure.

CONTENT:

Students are placed for an internship so as to get acquainted to real time practical experience. This provides a unique opportunity for the students to gain hands-on work experience in the real estate industry, with a company in the same area as their desired career path. The Real Estate Internship Program aims to provide real world learning experience at both the private & public real estate organizations. Industry specialization areas include development activities, professional consultancy services, fund management, valuation as well as exposure to policy making/decisions in Government agencies.
OUTCOMES
CO1 The students will gain additional skills to ensure career readiness in real estate practice.
CO2 The students will be able to articulate and coordinate application to reach professional goals.
CO3 The students will understand real-time projects in its multiple dimensions.
CO4 Students learn to work on multiple projects in an office and learn all aspects relating to making real estate projects, from demand assessment, market situations, and possible product mix, presentations, financial feasibilities and supporting legal mechanism.
CO5 The student is equipped to identify career choices that may be of interest as a result of the real-time professional experience.

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RE4411 THESIS PROJECT L T P/S C 0 0 20 20

OBJECTIVES
- To understand the background of economic development, and rapid urbanisation and to integrate this knowledge in the real estate process and strategies.
- To demonstrate through research and analysis, the methodology involved in identifying issues and challenges in the urbanised world and address them.
- To gain an understanding of the urban form and law, regulations and policy and their effects on urban design, architecture, and real estate.
- To enable the understanding of the architectural and urban aspects of real estate development, and the context in which real estate development projects take place.
- To apply reasoning informed by contextual knowledge to assess trends, financials and market needs/demands.

CONTENT
Thesis gives an opportunity to the scholar to showcase their prowess in the genesis and conceptualization of the all-round competence in real estate design. It is a seminal work culminating into a comprehensive real estate design and development. The thesis will use literature of consultant/industry reports, existing and newly developed frameworks, and expert interviews translated into a qualitative and quantitative research.

The studio allows students to critically analyse and examine the myriad of opportunities that real estate development process offers. It enables the students to identify the most distinguishing factors that impact and help in shaping cities, communities / neighbourhoods, and individuals. Through research and critical relevance, the students discuss the major influences shaping social impact in real estate, the framework to understand the critical factors, the regulatory/statutory bodies that affect the development process, in the perspective of architecture, urban and real estate planning.

OUTCOMES:
CO1 Gains understanding of the impact of urbanisation in the context of real estate practices and demonstrate the need for a sustainable development.
CO2 Students will be adept at identifying contemporary issues/challenges to arrive at strategic recommendations using principles/methods of real estate design.
CO3 Will gain awareness on the planning authorities and statutory/Legal bodies with regard to property development.
CO4 Will be able to minimise risks, through a thorough understanding of the urban, social and ecological milieu.
CO5 Acquires skills in analysing forces that drive real estate growth in the context of globalisation.

TOTAL: 300 PERIODS
RE4001 CRITICAL THINKING SKILLS AND DEVELOPMENT

OBJECTIVES:
- To equip students with the skills to apply critical thinking and argumentation to real estate problems and issues
- To develop their ability to analyse unfamiliar problems and devise problem solving strategies,
- To facilitate students in decision making process for setting-up of a new enterprise and strategies
- To help students focus on developing Skills & Knowledge Building
- To develop motivation, to reinforce entrepreneurial traits and the spirit of enterprise in real estate business and operations

UNIT I CREATIVE CRITICAL THINKING SKILLS

UNIT II PROBLEM SOLVING AND REASONING
Systematic Approaches to problem solving, Deconstructing Problems-Analysis &Prioritisation tools, Creative Problem-solving Process, Problem solving Framework, Analysis Models, Ideas& Techniques, Types of Reasoning (Moral, Legal, Aesthetic), Forms of Reasoning

UNIT III STRATEGIES AND DECISION-MAKING ANALYSIS

UNIT IV SKILLS DEVELOPMENT

UNIT V ENTREPRENEURSHIP & MANAGEMENT OF REAL ESTATE
Entrepreneur and Intrapreneur, Classification and types of entrepreneurs, elementary theories of entrepreneurship, risks and barriers, factors affecting the entrepreneurial growth: psychological, Cultural, Social, Economic and personality, Personal attributes of strong real estate entrepreneurs, Principles of Technology, Innovation and Entrepreneurial Management, Business Opportunity Identification in real estate

TOTAL: 45 PERIODS

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OUTCOMES
CO1 Students develop a transferable set of critical thinking skills to organise and evaluate different types of information and make coherent arguments.
CO2 Students gain independent thinking skills build confidence and will be equipped for tackling complex and unfamiliar problems.
CO3 Students learn how to make informed and reasoned decisions and construct evidence-based arguments.
CO4 Students will learn to apply skills and domain knowledge to the specific problem they identified.
CO5 Students acquire the ability to function dynamically and acquire the requisite knowledge and skills to plan and successfully launch their own ventures.

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RE4002 URBAN INFRASTRUCTURE L T P/S C 3 0 0 3

OBJECTIVES
- To provide basic knowledge on the functions, dynamics, planning and management of urban infrastructure systems.
- To give understanding about the dynamics within and between urban infrastructure systems, and their relation to the built environment and economic development.
- To give knowledge about how to assess the qualities of infrastructure systems in terms of vulnerability, sustainability, equity and efficiency.
- To understand the power generation, and distribution.
- To understand the water supply, drainage and solid waste management in macro scale.

UNIT I INFRASTRUCTURE PLANNING & TRANSPORTATION 12
UNIT II  POWER DISTRIBUTION


UNIT III  WATER SUPPLY AND SANITATION

Water supply systems. Quality and quantity requirements. Layout of Service lines. Sources, Collection and conveyance of water for largescale developments. Treatment methods & plant location. Planning distribution systems and their zoning with respect to urban structure. Integrated Urban Water Management

UNIT IV  DRAINAGE AND SEWERAGE SYSTEMS


UNIT V  SOLID WASTE MANAGEMENT

City Level Solid Waste Management, Collection, Segregation and disposal systems. Classification and properties of solid wastes. Issues due to solid waste disposal, planning and design criteria with case studies. On site collection, storage, transportation. Processing and treatment of solid wastes. Social aspects of the solid waste management. Waste to Wealth, Recycle-Reuse-Zero Waste

TOTAL: 45 PERIODS

OUTCOMES

CO1 Understanding about the infrastructure system at micro level to macro level.
CO2 Understanding the power generation and distribution to the macro level
CO3 Ability to plan the water supply and drainage to the macro level
CO4 Understanding the waste generation and conversion of waste to an usable product
CO5 Ability to plan integrating all aspects of infrastructure for a sustainable development.

REFERENCES

To understand any developmental activity involves intervention in the natural processes and to minimize the impact due to this intervention.

To provide knowledge related to the broad field of environmental disturbances, and tools that can be used in various remedies.

**UNIT I  CONCEPTS OF ECOLOGICAL PLANNING**  
9
Different types of life supporting services provided by the nature. General concept of urban ecological planning. Impact of urbanization and largescale development on nature Responsible Development Interventions-Eco sensitive approach. Resiliency and Biodiversity, resources planning and climate resilient urban development.

**UNIT II  ECONOMICS IN LANDSCAPE**  
9
Valuation of landscape services– measuring benefits and cost- tangible costs of landscape development, capital and maintenance cost - modification of natural system and environmental costs.

**UNIT III  LANDSCAPE ASSESSMENT**  
9

**UNIT IV  LANDSCAPE MANAGEMENT**  
9
Landscape management at the regional scale in relation to soil conservation. Land use planning and resource management - water management, forest management, grassland and agricultural management. Management practice related to urban ecology and urban habitats such as urban forests, urban water sheds, regional parks, green belts. Ecological. Economic and administrative issues, management models.

**UNIT V  SPECIAL PROJECTS APPROACH AND APPLICATIONS**  
9

**TOTAL: 45 PERIODS**

**OUTCOMES:**

- CO1 The students will be exposed to landscape management as a part of planning and design
- CO2 Acquiring knowledge on assessment techniques and valuation of natural resources.
- CO3 The students will explore on landscape within urban areas and open spaces in Urban context.
- CO4 The students will be sensitized to minimize the impact due to development intervention.
- CO5 The students will be exposed to issues and concerns of environmental disturbances and remedial measures

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OBJECTIVES

- To give introduction to the soft skills and personality
- To give understanding of and enable better interpersonal communication.
- To apprise of aspects of organisational communication and develop skill in it.
- To enable skill in reading and writing.

UNIT I  INTRODUCTION TO SOFT SKILLS AND PERSONALITY  9

UNIT II  INTERPERSONAL COMMUNICATION  9

UNIT III  ORGANISATIONAL COMMUNICATION  12

UNIT IV  ADVANCED READING AND WRITING SKILLS  15

OUTCOME

- Awareness of importance of soft skills.
- Knowledge and skill in interpersonal communication.
- Knowledge and skill in organisational communication.
- Competency in reading and writing.

REFERENCES
1. Soft Skills, K.Alex, S.Chand, 2010

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OBJECTIVES:
- To understand the construction of society, values & emerging life style patterns.
- To understand urbanization and its impacts and socio – economic issues of employment, demand for space in human settlements.
- To acquire knowledge on the economic and market-based impacts of real estate development at national and global scenarios
- To appreciate the formal and informal mechanism in real estate resulting out of socio-economic characteristics, develop critical financial analytical skills to evaluate development opportunities.
- To gain knowledge on the principles which support sustainable and more equitable real estate development.

UNIT I  BASIC PRINCIPLES AND CONCEPTS OF SOCIOLOGY  10
Basic concepts in the study of the society – sociological theories - ethnic groups – social groups – social institutions – social stratification - order and change, Processes – social control - Sociology of India – Basic features of the Indian Society and culture – Social problems of the urban community. Current Effects of social –cultural factors, social value, behaviour and ethics – with their Effects on physical environment & behaviour -Social change in modern society -challenges of social transformation

UNIT II  URBAN AND INDUSTRIAL SOCIOLOGY  6
Urban Sociology - Urbanisation and its social aspects – rural – urban migration, Rural community and relationship with the urban community- Urban Influences on Rural life - Concept of industrial society, social aspects of industrialization. Change in lifestyle – emergence of new types of living, working & leisure

UNIT III  IMPLICATIONS OF NATIONAL AND GLOBAL ECONOMY  9

UNIT IV  ECONOMIC DEVELOPMENT & ROLE OF THE GOVERNMENT  10

UNIT V  ENTREPRENEURSHIP AND INNOVATION IN REAL ESTATE  10
Technological change and innovations; Information Technology, and Technical Progress – start-ups; incubation centres. Entrepreneurship, Organization, and Innovation: impact on society, contribution to the economic growth of the country - - Natural Resources and the Environment: Toward Sustainable Development. - case studies

TOTAL: 45 PERIODS

OUTCOMES:

CO1 The students will be sensitized to the principles and practices of real estate covering social considerations.

CO2 The students understand how urban urbanisation impact urban land and real estate development production and viability.

CO3 The students will understand the implications of Global and National economic policies & scenarios on the real estate Industry.

CO4 Students will gain exposure on aspects of fiscal policy that drive Real Estate opportunities as catalysts.

CO5 The student is equipped with knowledge on innovative tools applicable to promote balanced and profitable urban intervention.
REFERENCES
5. K.K DEWETT, Modern Economic Theory (2002), Shyamal Charitable Trust, New Delhi

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RE4005 CONTRACT LAW AND REGULATION L T P/S C 3 0 0 3

OBJECTIVE
- To gain knowledge on the elements & types of contract documents requirements involved in Real Estate Development
- To understand the process of inviting bidding & evaluation of tenders.
- To examine RERA, exploring rights and obligations of the stake holders
- To understand statutory and legal requirements with reference to land & property
- To sensitize students to labour related legislation & welfare measures.

UNIT I CONTRACTS

UNIT II TENDERS
Tenders – method of inviting tenders – tender documents – 3 bid/2 bid or single bid system – qualitative and quantitative evaluation of tenders- acceptance/rejection of tenders-various forms of BOT and global tendering-E Tendering

UNIT III RERA
Real Estate (Regulation and Development) Act- registration of real estate project -Projects exempted from the ambit of the Act-Application for Registration of real estate projects -functions and duties of promoter -rights and duties of allottees—penalty and fines - disputes – resolution of disputes – case-based examples

UNIT IV TAXATION LAWS

UNIT V LABOUR LAWS & REGULATIONS

TOTAL: 45 PERIODS
OUTCOMES
CO1 Students will understand the salient features and modalities of a contract document
CO2 Students will gain knowledge on the process involved in preparation of a tender document
CO3 Students are exposed to nuances of operating mechanism & the spectrum of RERA
CO4 Students will be equipped with an understanding of taxation, legal framework & revenue codes.
CO5 Students will be responsive to labour related issues socially and legally

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RE4006 DEVELOPMENT IMPACT ASSESSMENT

OBJECTIVES:
- To understand the relationship between social impacts and changes in community
- To enable the students to have an understanding of EIA review & management
- To expose the students to methods, tools and Systems in EIA
- To sensitize students Environmental Impact Assessment in largescale infrastructure projects
- To impart knowledge to students on the impact of technology & its effect on development.

UNIT I IMPACT ON SOCIO-ECONOMIC SYSTEMS

UNIT II ENVIRONMENTAL IMPACT ASSESSMENT & MANAGEMENT PLAN

UNIT III COMPONENTS AND METHODS

UNIT IV ASSESSMENT OF INFRASTRUCTURE PROJECTS
UNIT V TECHNOLOGICAL IMPACT ANALYSIS


TOTAL: 45 PERIODS

OUTCOMES:

CO1 The students will be sensitized to communities in transition, social impacts & institutional arrangements
CO2 The students will be exposed to EIA, its evaluation and report making and reviewing process.
CO3 The students will acquire knowledge on need, significance and methodology of EIA
CO4 The students will develop skills to assess infrastructure projects in the perspective of environmental impact assessment
CO5 The students will analyse the issues, impacts based on technological interventions

REFERENCES:

5. World Bank – Source book on EIA

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MH4072 PERFORMANCE EVALUATION OF BUILDINGS L T P/S C

OBJECTIVES

- To facilitate simulation and auditing techniques for assessing energy performance, environmental response and impact of built form.
- To give knowledge about solar shadow modeling tools, heat flow analysis, light simulation tools, modelling of ventilation, fire dynamics, sizing of passive solar features, estimation of energy conservation.

UNIT I ENERGY AND THE PERFORMANCE OF BUILDING 9

Need for performance analysis of buildings - Investigation and assessment, energy audit procedures - Design investigations - Basics of thermal comfort, solar shading/access/ control, day lighting, acoustics air movement etc:- Energy conservation measure calculations - Modelling systems: cognitive, empirical and analytical assessment of buildings - Architectural Computation and performance audit. Introduction to ECOTECT.

UNIT II MODELLING OF THE BUILDING FORM 15

Modelling the Building form - Parametric and empirical building simulation - Factors affecting accuracy of energy model - Thermal performance criteria of buildings - Envelope considerations, climatic analysis, weather data-Heating and cooling systems modelling, ventilation systems modelling - Energy use analysis through open source software such as EQUEST. Integration of ECOTECT with BIM, RAPID ENERGY MODELLING -Modelling and performance simulation of existing buildings – eQuest and Sketch Up + Open Studio + Energy Plus or any free wares which are approved by Department of Energy, USA / India as simulation software Design builder, IES VE, TRNSYS etc.

Simple exercises in the above.
UNIT III POST OCCUPANCY EVALUATION OF BUILDINGS

Purpose and components of Post occupancy evaluation (POE), Building performance bench marks, Occupant satisfaction, Indoor air quality, PPD and PMV analysis, Techniques and methods for post occupancy evaluation, assessing existing buildings based on their energy and water usage. Case Studies and exercises in the above.

UNIT IV SEMINAR AND CASE STUDY PRESENTATION

Case study presentation of students on performance evaluation of a small residential / office typology in different climate zones- on how to integrate passive design and show results of how energy efficiency has been achieved - Real time data collection using physical instruments and paper publication to journals.

TOTAL: 45 PERIODS

OUTCOME

• Knowledge about environmental assessment methods, audit and simulation techniques, energy modelling skills.
• Ability to add value to architectural design processes.

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RE4007 CONSTRUCTION PROJECT MANAGEMENT

OBJECTIVES:

• To acquire adequate knowledge to work with multi-disciplinary team
• To understand key stages in the lifecycle of a construction project from inception to disposal.
• To learn the fundamentals of CPM, PERT and BIM
• To understand the cost estimation, escalation and monitoring the project cost
• Students will learn the critical success factors, sustainability, evaluation of project options, structured methodologies, and the concept of whole-life costing of projects.

UNIT I INTRODUCTION TO PROJECT MANAGEMENT

Project management – Real Estate Project Life cycle – Selection of Professional services – Role of Project Managers.
UNIT II  FUNDAMENTALS OF CONSTRUCTION PLANNING  10
Work Breakdown structure – Precedence relationships among activities – Estimating Activity Durations, CPM, PERT, BIM, Activity Float, Crashing and Time cost trade off – Resource requirements for work

UNIT III  COST ESTIMATION, QUALITY CONTROL AND MONITORING  12
Cost Estimation, Methods of estimation, Estimates based on Engineers list of Quantities - The cost control problem – Forecasting for activity cost control – Control of project Cash Flows – Schedule control – Schedule & Budget Updates – Monitoring cost & Schedule information.

UNIT IV  COMPUTER APPLICATIONS IN PROJECT MANAGEMENT  15
Project Case study - Computer aided cost estimation – Applications using Softwares – Planning Activities, Resources, costs, quality, risks. Optimizing & distributing the project Plan. Tracking and managing the project, as a project Case study- Presentation of case study.

TOTAL: 45 PERIODS

OUTCOMES:
CO1  Students will understand the function of design management and its efficient integration into project management processes.
CO2  They will examine techniques for the design of major construction projects, taking particular account of client needs, procurement structure and adaptability.
CO3  Students will acquire knowledge and understanding of the theories, concepts, principles, techniques, and intellectual and practical skills needed for the project management of construction projects.
CO4  Students will acquire knowledge on the quality control and safety during construction.
CO5  Students will understand and implement the functions of CPM, PERT and BIM

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RE 4008  MARKETING TECHNIQUES AND STRATEGIES  L  T  P/S  C  3 0 0 3

OBJECTIVES:
• To facilitate understanding of the conceptual framework of marketing and its applications in decision making under various environmental constraints.
• To understand real estate marketing strategy with particular emphasis on the practical dimension of branding and pricing mechanisms of property.
• To identify customer needs and assess their risk appetite keep the consumer informed and engaged through advertising.
• To understand the relevance of research in marketing and develop innovations in content marketing responding to societal needs.
• Students understands advances in technology and international business trends and how they are reshaping real estate marketing
UNIT I  MARKETING CONCEPTS AND TRENDS  
Concept, nature, scope and importance of marketing; Marketing concept and its evolution; Marketing mix; Strategic marketing planning – an overview. Market Analysis and Selection: Marketing environment (macro and micro components) - impact on marketing decisions; Market segmentation and positioning; Target Market Analysis & Value Creation.

UNIT II  BRANDING AND PRICING  
Branding – strategic implications, New product development and consumer adoption process. Pricing Decisions, Factors affecting price determination, Pricing policies and strategies; Case Studies. Traditional marketing process and digital marketing process - Marketing of residential property and agencies, networking and business development best practices

UNIT III  MARKETING TECHNIQUES and COMMUNICATION  
Distribution Channels: Nature, functions, and types- Retailing and wholesaling. Real Estate Promotion Decisions: Communication Process; Promotion mix – advertising, personal selling, sales promotion, publicity and public relations; Advertising effectiveness; Sales promotion, targeted selling and marketing -tools and techniques in real estate practices. Case Studies

UNIT IV  MARKETING RESEARCH AND ORGANISATION  
Marketing Research: Meaning and scope of marketing research; Marketing research process. Consumer decision making process and behaviour, consumer versus organizational buyers, Marketing Organisation and Control: Organising and controlling marketing operations

UNIT V  ISSUES AND LATEST DEVELOPMENTS  
Social, ethical and legal aspects of marketing; Marketing of services; International marketing; Green marketing; Cyber marketing; Relationship marketing and latest developments of marketing.

TOTAL: 45 PERIODS

OUTCOMES:
CO1 The student will acquire in depth knowledge in various types of marketing concepts and relate best business practices to the new paradigm of marketing.
CO2 The students will gain knowledge in expressing the Brand through Content Marketing capitalizing on the brand’s Unique Situation
CO3 The student gain expertise in understanding organising and controlling marketing operations through promotion decisions.
CO4 Helps develop a marketing strategy that incorporates values and objectives through marketing research.
CO5 The course will provide students the basis for marketing activities and an exposure to the latest trends in digital marketing

REFERENCE:
2. The complete guide to real estate marketing - Diego de Giovanni (2019)
5. Social Media Marketing for Real Estate: Learn how to boost visibility and generate thousands of sales using social-media marketing. (2021)

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OBJECTIVES
- To introduce general concepts of learning theory.
- To help understand research related to theories of learning.
- To enable opportunity to engage in critical analysis of theories through discussions.

UNIT I INTRODUCTION

UNIT II EDUCATIONAL PSYCHOLOGY

UNIT III UNDERSTANDING LEARNER STAGES OF HUMAN DEVELOPMENT

UNIT IV LEARNING AND MOTIVATION

UNIT V APPRECIATION AND CRITICISM
Ability of Understanding– appreciation, advocacy, descriptive, evaluative, interpretative and other evaluation criteria and methodology. Development of Design Thoughts-understanding, developing and expressing a design thought in its right perspective purpose, manner and mode. Theories and models for experiencing architecture.

OUTCOME
- Knowledge about major social and psychological processes involved in learning and development in an educational setting.
- Ability to engage in knowledgeable and productive dialogue with colleagues about human learning, development, and educational practice.

TOTAL: 45 PERIODS

REFERENCES
RE4009       UNCERTAINTY AND RECOVERY MECHANISM

OBJECTIVES:
- To Understand uncertainty and impact levels
- To Understand risks assessment and controlling risks
- To Gain knowledge on Real Estate risks, Forecasting, response and challenges
- To Acquire an understanding of recovery mechanism choices, criteria and decisions making
- To Gain knowledge on Strategic Planning dealt with uncertainty

UNIT I       UNCERTAINTY
Uncertainty matters, definitions, types - uncertainty foreshadow impact levels and output – investment & employment – ‘fiscal cliff’- roots of political polarisation

UNIT II UNDERSTANDING RISKS

UNIT III RISK & UNCERTAINTY IN REAL ESTATE DEVELOPMENT

UNIT IV RECOVERY MECHANISM
Decision theory - Types of decisions- Choices under uncertainty- uncertainty models – decision making models – decision rules – resources allocations and applications - approaches – Alternatives - decision makers interactions - property developers and related response mechanisms - Economic recovery and policy rehabilitations

UNIT V BEST PRACTICES AND CASESTUDIES
Strategic Planning Under Severe Uncertainty - Examples dealt with uncertainty - role of emotions - changes derived in financial market – case studies

TOTAL: 45 PERIODS

OUTCOMES:
CO1 The students will know and understand the broader spectrum of uncertainty in its varied context
CO2 The students will gain knowledge on risk management, impact, response and challenges
CO3 The students understand how risk and uncertainty impact real estate design and development viability.
CO4 Students will gain exposure on models and theory of choices and decisions making
CO5 The student will be equipped with tools to manage and plan for uncertainty and risks in the realm of real estate.
REFERENCES
4. Regev, Sary; Shtub, Avraham; Ben-Haim, Yakov (2006). "Managing project risks as knowledge gaps".

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RE 4010 GLOBAL REAL ESTATE L T P/S C 3 0 0 3

OBJECTIVES

- To understand the rationale, opportunities of international real estate investing
- To analyse the macro factors that influence the performance of real estate markets across Countries
- To understand exit strategy from the cross border investments
- To understand the risks involved in the cross border investments
- To understand the international property markets and various countries governmental policies on real estate

UNIT I GLOBAL REAL ESTATE MARKETS 9

UNIT II INVESTMENT FORMATS 9
Developer equity/ Types of Debt Private Equity: Comingled and Direct Different Types of Direct Development Strategies; Rationales Operational and Execution Issues

UNIT III PROJECT LEVEL ANALYSIS 9
Opportunities and Constraints in Emerging Markets - Property rights and registration - Approvals/ Permits Pro-formas - Due diligence - Structures for Development Finance - Risk Return Analysis –Exit Strategies

UNIT IV BALANCING RISKS AND REWARDS 9
Comparing domestic and international returns - Cross-border: Compensation for Transaction costs, Tax Liabilities, Currency Risk, Transparency, JV costs
UNIT V  PROPERTY MARKET FUNDAMENTALS

Opening up New Markets Demand analysis for different types of RE - Property Market: Cyclical Rationales Capital Markets Supply constraints real side: land, infrastructure, finance Government Policies: Subsidies, Taxation, Regulation Risk Analysis

TOTAL: 45 PERIODS

OUTCOMES

CO1 Students will be equipped to critically analyses market specific factors that impact RE investment performance (property rights, taxes, transparency, planning procedures)

CO2 Students will gain expertise on qualitative aspects of identifying and achieving successful projects.

CO3 Expose students to the world of cross-border real estate development and investment with a focus on emerging market economies.

CO4 Students will gain expertise on buying and selling across the world.

CO5 Students will gain expertise in international property markets and policies

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RE 4011  FACILITY MANAGEMENT

OBJECTIVE

- To enable development of capability to plan for and manage various aspects of building so as to give user satisfaction and safety.
- To understand the key strategies and preparatory action plan for facilities
- To formulate the legislative and regulatory framework for facility management.
- To analyse the operational services and maintenance management
- Students will acquire the workspace management and training

UNIT I  FACILITY MANAGEMENT

Introduction - origins of FM - Definitions of facilities management - the essential competencies - The development of standards for facilities management - Facility Manager - The ‘client side’ & The ‘supply side’ - Principle duties of a facility manager - Decision-making processes from building infrastructure to fleet services.

UNIT II  STRATEGY AND PLAN DELIVERY AND REVIEW

Strategy - Preparatory action — Space and services policies and plans. Planning - Briefing - Plan testing – Communication - Accommodation and facilities plan content - Benefits of accommodation planning - Delivery of services - Sourcing services - Outsourcing procedures - Managing in-house service provision – Market imbalances and fluctuations - Measuring performance and review - Scorecard approach to performance measurement – Benchmarking - Workplace productivity - Process review
UNIT III OPERATIONAL AND MAINTENANCE MANAGEMENT

UNIT IV WORKSPACE MANAGEMENT & TRAINING
Space and service management - Design of the workspace - Workspace remodelling to optimise performance - Workplace effectiveness - Workplace security - Power security - Education and training - Core competencies in facilities management training - Reaching the right candidates - Reaching the wider business community - Leadership - Change management - Organizational culture, structure and capability.

UNIT V CONSTRUCTION PHASE & HANDING OVER
Preplan – concurrent stages of construction - Types of facility management options. Functionality of Building Automation systems. Wear and tear of technical installations. Recording operating costs, safety concepts, energy supply and waste management. Service tenders and contracts. – post project management strategy

OUTCOMES:
CO1 Familiarity about facilities programming in planning a building
CO2 Understanding of the relation between facilities planning and facilities management and their importance, especially in the context of service-oriented spaces and building types.
CO3 Ability to assess the risk and ensure safety and proper maintenance of the facilities
CO4 Understanding the workspace management, organizational culture and structure an capability
CO5 Understanding the importance of facilities management during construction

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MH4075 THEORY OF ARCHITECTURAL EDUCATION L T P/S C 3 0 0 3

OBJECTIVES
- To give familiarity about theories of architectural education.
- To introduce the idea of cognition development.
- To give familiarity about ways of thinking and learning with respect to architecture.

UNIT I INTRODUCTION
Overview of the important aspects of the discipline of architecture. Nature of Architectural Education based on the nature of the discipline of architecture.
UNIT II TOOLS/ TECHNIQUES TO TEACH ARCHITECTURE
Models and methods of Teaching. Teaching Aids In Architecture Education. Types of Teaching Aids- Visual, Audio, etc., Learning by Doing, reflection, exploring, arguing, incidentally. Case-Based Teaching. Advanced Organizer, Concept attainment model, Simulations.

UNIT III SYNECTICS AS A MODEL OF TEACHING.
The essence of creativity in syneectics. Use of syneectics in the design studio. Techniques of teaching-learning: Maxims of teaching and its application to subjects of architecture. Concept mapping, creating concept maps. Basic aspects of classroom management.

UNIT IV STUDENT DEVELOPMENT

UNIT V LEARNING IN ARCHITECTURE DESIGN STUDIO
Development of Critical, Creative and Pragmatic Thinking in Architectural Design Studio. Bloom Taxonomy in Design Studio. Qualities which can be attained at various stages in Architectural Design Studio.

TOTAL: 45 PERIODS

OUTCOME
- Awareness of the importance of contextual excellence in architectural design and methods for the same.
- Knowledge about and ability to integrate interdisciplinary and cognitive aspects of learning, teaching and development.

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AUDIT COURSES

AX4091  ENGLISH FOR RESEARCH PAPER WRITING  L T P C
        2 0 0 0

OBJECTIVES

- Teach how to improve writing skills and level of readability
- Tell about what to write in each section
- Summarize the skills needed when writing a Title
- Infer the skills needed when writing the Conclusion
- Ensure the quality of paper at very first-time submission

UNIT I  INTRODUCTION TO RESEARCH PAPER WRITING  6
Planning and Preparation, Word Order, Breaking up long sentences, Structuring Paragraphs and Sentences, Being Concise and Removing Redundancy, Avoiding Ambiguity and Vagueness

UNIT II  PRESENTATION SKILLS  6

UNIT III  TITLE WRITING SKILLS  6
Key skills are needed when writing a Title, key skills are needed when writing an Abstract, key skills are needed when writing an Introduction, skills needed when writing a Review of the Literature, Methods, Results, Discussion, Conclusions, The Final Check

UNIT IV  RESULT WRITING SKILLS  6
Skills are needed when writing the Methods, skills needed when writing the Results, skills are needed when writing the Discussion, skills are needed when writing the Conclusions

UNIT V  VERIFICATION SKILLS  6
Useful phrases, checking Plagiarism, how to ensure paper is as good as it could possibly be the first-time submission

TOTAL: 30 PERIODS

OUTCOMES

CO1 – Understand that how to improve your writing skills and level of readability
CO2 – Learn about what to write in each section
CO3 – Understand the skills needed when writing a Title
CO4 – Understand the skills needed when writing the Conclusion
CO5 – Ensure the good quality of paper at very first-time submission

REFERENCES


AX4092  DISASTER MANAGEMENT  L T P C
        2 0 0 0

OBJECTIVES

- Summarize basics of disaster
- Explain a critical understanding of key concepts in disaster risk reduction and humanitarian response.
- Illustrate disaster risk reduction and humanitarian response policy and practice from multiple perspectives.
- Describe an understanding of standards of humanitarian response and practical relevance in specific types of disasters and conflict situations.
- Develop the strengths and weaknesses of disaster management approaches
UNIT I INTRODUCTION
Disaster: Definition, Factors and Significance: Difference between Hazard And Disaster; Natural and Manmade Disasters: Difference, Nature, Types and Magnitude.

UNIT II REPERCUSSIONS OF DISASTERS AND HAZARDS

UNIT III DISASTER PRONE AREAS IN INDIA
Study of Seismic Zones; Areas Prone To Floods and Droughts, Landslides And Avalanches; Areas Prone To Cyclonic and Coastal Hazards with Special Reference To Tsunami; Post-Disaster Diseases and Epidemics

UNIT IV DISASTER PREPAREDNESS AND MANAGEMENT
Preparedness: Monitoring Of Phenomena Triggering a Disaster or Hazard; Evaluation of Risk: Application of Remote Sensing, Data from Meteorological And Other Agencies, Media Reports: Governmental and Community Preparedness.

UNIT V RISK ASSESSMENT
Disaster Risk: Concept and Elements, Disaster Risk Reduction, Global and National Disaster Risk Situation. Techniques of Risk Assessment, Global Co-Operation in Risk Assessment and Warning, People’s Participation in Risk Assessment. Strategies for Survival

TOTAL : 30 PERIODS

OUTCOMES
CO1: Ability to summarize basics of disaster
CO2: Ability to explain a critical understanding of key concepts in disaster risk reduction and humanitarian response.
CO3: Ability to illustrate disaster risk reduction and humanitarian response policy and practice from multiple perspectives.
CO4: Ability to describe an understanding of standards of humanitarian response and practical relevance in specific types of disasters and conflict situations.
CO5: Ability to develop the strengths and weaknesses of disaster management approaches

REFERENCES

AX4093 CONSTITUTION OF INDIA

OBJECTIVES
Students will be able to:
• Understand the premises informing the twin themes of liberty and freedom from a civil rights perspective.
• To address the growth of Indian opinion regarding modern Indian intellectuals’ constitutional
• Role and entitlement to civil and economic rights as well as the emergence nation hood in the early years of Indian nationalism.
• To address the role of socialism in India after the commencement of the Bolshevik Revolutionin1917and its impact on the initial drafting of the Indian Constitution.
UNIT I  HISTORY OF MAKING OF THE INDIAN CONSTITUTION
History, Drafting Committee, (Composition & Working)

UNIT II  PHILOSOPHY OF THE INDIAN CONSTITUTION
Preamble, Salient Features

UNIT III  CONTOURS OF CONSTITUTIONAL RIGHTS AND DUTIES

UNIT IV  ORGANS OF GOVERNANCE
Parliament, Composition, Qualifications and Disqualifications, Powers and Functions, Executive, President, Governor, Council of Ministers, Judiciary, Appointment and Transfer of Judges, Qualifications, Powers and Functions.

UNIT V  LOCAL ADMINISTRATION

UNIT VI  ELECTION COMMISSION
Election Commission: Role and Functioning. Chief Election Commissioner and Election Commissioners - Institute and Bodies for the welfare of SC/ST/OBC and women.

TOTAL: 30 PERIODS

OUTCOMES
Students will be able to:
- Discuss the growth of the demand for civil rights in India for the bulk of Indians before the arrival of Gandhi in Indian politics.
- Discuss the intellectual origins of the framework of argument that informed the conceptualization of social reforms leading to revolution in India.
- Discuss the circumstances surrounding the foundation of the Congress Socialist Party [CSP] under the leadership of Jawaharlal Nehru and the eventual failure of the proposal of direct elections through adult suffrage in the Indian Constitution.
- Discuss the passage of the Hindu Code Bill of 1956.

SUGGESTED READING
1. The Constitution of India, 1950 (Bare Act), Government Publication.

AX4094  தலைகள் பொறிகள்  L T P C 2000

UNIT I  கருத்திருத்தங்கர்
1. தொடர்வலிப்பளவின் கருத்திருத்தம் நூற்றங்கமப்பெயர் – தமிழ், தெய்வதை, சம்பாதிக
2. பிரித்தவார் (82)
- நூற்றங்கம் தொடர்வலிப்பளவு பொறிகள்
3. குறிஞ்சிப் பொட்டின் மலர்க்கொட்சி
4. புறநொனூறு (95,195)

UNIT II
அறநநறி தமிழ் 6
1. அறநநறியங்குக் கிளைண்டனமுநல
   - அறநநறியங்குக் கிளைண்டனமுநல
   - பிணி அருணைல் - தோன்றி மாட்டு
2. புறநொனூறு - தோன்றி பாதுகாப்பு
   - தோன்றி, திேமகத்தாழ்ப்பாளை, புகழ்மலர், அகரமகத்தாழ்ப்பாளை
     (கலாச்சாரம் சினைப்புத்தை அனைத்துப் பொருள்கள்)

UNIT III
இரட்டடக் காப்பியங்கள் 6
1. குண்டக்கனியில் பட்டி
   - திருப்பர்கள் சுற்றியுள்ள காப்பியங்கள்
     சுற்றியுள்ள காப்பியங்கள் மூடிசைந்த
   - தோன்றிக்கல் அகரமகத்தாழ்ப்பாளை

UNIT IV
அருள்நநறி தமிழ் 6
1. சிறுபஞ்சுப்பர்
   - பாலி பண்டைச்சிசைக் கோட்டைக் கோட்டை,
     சுமார் பன்னைக்கும் பால்கள் கோட்டை
     கோட்டைக் கோட்டை, அகரமககாளியில்
2. குண்டைகள்
   - அருள்நநறி முன்னை சிறுககத் தகமப
3. திருமந்திரம் (617, 618)
   - முன்னை முன்னை சிறுககத்
4. குறுநட்டானைச்சிருமையில் வலையும் வரலாற்று
5. புர்சர்கள்
   - சுமார் பண்டைச்சிசைக் கோட்டை
6. அகரமககாளியானல் (4)
   - குண்டை (11)
   - குண்டை (11)
     கோட்டைகளைக் கோட்டை (11) - பால்கள், புத்தானை
     குறுநட்டானை (50, 27) - பால்கள்
     அகரமககாளியானல் பொருள்கள் குறுநட்டானை

UNIT V
தர்மக் காப்பியங்கள் 6
1. குண்டக்கனியில் சுற்றியுள்ள காப்பியங்கள்
   - சுற்றியுள்ள காப்பியங்கள்
   - சுற்றியுள்ள காப்பியங்கள்
   - தோன்றிக்கல் காப்பியங்கள்
   - பால்கள் காப்பியங்கள்
   - குண்டை காப்பியங்கள்
2. முன்னை முன்னை சிறுககத் தகமப
3. தமிழ் இகணயகல்வியான செய்தியில் தமிழ் லேசியரம்:
4. தமிழ் இகணயகல்வியான செய்தியில் தமிழ்ப் பல்கலைக்கழகம் செய்தியில் தமிழ் லேசியரம்:
5. அறிவியல் செய்திய்:
6. இகணயத்தில் செய்திய்:
7. சுற்றுசூழல் செய்தியில் தமிழ் லேசியரம்.

TOTAL : 30 PERIODS

தமிழ் தொழில்நுட்ப நூற்றாண்டு / புத்தகங்கள்
1. தமிழ் விளயல் தொழில்நுட்ப நூற்றாண்டு (Tamil Virtual University)- www.tamilvu.org
2. தமிழ் விளயல் புத்தகங்கள் (Tamil Wikipedia)-https://ta.wikipedia.org
3. தமிழ் விளயல்வாயில் புத்தகங்கள்
4. மார்புதல் சாதனங்கள் - தமிழ் பல்கலைக்கழகம், செம்பாருநாதன்
5. தமிழ்ப் பல்கலைக்கழகம் - தமிழ் விளயல் புத்தகங்கள் (thamilvalarchithurai.com)
6. அறிவியல் சாதனங்கள் - தமிழ் பல்கலைக்கழகம், செம்பாருநாதன்