

**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

<b>Group-1</b>		
<b>Sl. No.</b>	<b>CODE</b>	<b>NAME OF THE SUBJECT</b>
1	16UDC11	Theory of Urban Form
2	16UDS22	Infrastructure, Traffic and Transportation Planning
3	16HDC23	Landscape Design & Site Planning
4	16HDC11	Human Habitat: Studies and Design Thought
5	16LA203	Planting Design
6	16LA 102	Landscape Construction Techniques

<b>Group-2</b>		
<b>Sl. No.</b>	<b>CODE</b>	<b>NAME OF THE SUBJECT</b>
1	16UDS13	City Planning Process in India
2	16UDE26	Urban Housing
3	16HDE43	Future of Habitat: Critical Issues
4	16HDC12	Planning Theory and Techniques
5	16LA204	Landscape Resources & Management
6	16LA304	Environmental Impact Assessment

<b>Group-3</b>		
<b>Sl. No.</b>	<b>CODE</b>	<b>NAME OF THE SUBJECT</b>
1	16UDS14	Social Theory and Urban Design
2	16UDC32	Contemporary Theories of Urbanism and Architecture
3	16UDE27	Public Participation in Governance
4	16HDS24	:Infrastructure Planning & Management
5	16HDC13	Advanced Theory of Design: Architecture and Human Settlements, Theory of Urbanism
6	16LA103	Theory of Landscape Design
7	16LA104	Elements of Landscape Design

**Visvesvaraya Technological University, Belagavi.**

**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

<b>Group-4</b>		
<b>Sl. No.</b>	<b>CODE</b>	<b>NAME OF THE SUBJECT</b>
1	16UDE16	Indian Urbanism
2	16UDS34	Urban Governance and Project Finance
3	16HDC31	Urban Development and Environmental Laws
4	16HDC22	Ecology and Sustainable Habitat Systems
5	16LA106	Hydrology
6	16LA403	Legal Aspects & Environmental Legislation

<b>Group-5</b>		
<b>Sl. No.</b>	<b>CODE</b>	<b>NAME OF THE SUBJECT</b>
1	16UDE17	Geographic Information Systems
2	16UDE42	Urban Economics
3	16UDS33	Ecology and Site Planning
4	16HDS33	Project Planning, Analysis & Appraisal/Evaluation
5	16HDE44	Real Estate development and Finance
6	16LA105	Geology & Geomorphology
7	16LA402	Landscape Conservation

<b>Group-6</b>		
<b>Sl. No.</b>	<b>CODE</b>	<b>NAME OF THE SUBJECT</b>
1	16UDC21	Urban Conservation
2	16UDE43	Politics of Development
3	16UDS23	Urban Design Policy & Implementation
4	16HDC21	Land Use Structure and Urban Morphology
5	16HDC32	Housing and Community: Policy, Finance and Public Private Participation
6	16LA107	Soil Science
7	16LA303	Remote Sensing

**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

<b>01</b>	<b>16UDC11</b>	<b>GROUP-1</b>	<b>Theory of Urban Form</b>
Exam Hours:03		Exam Marks:100	
<b>Module -1</b>			
<b>Introduction to urban design</b> (ideology/theory) and the various concerns (scope and objectives) of the discipline; components of urban design and their inter-dependencies.			
<b>Module -2</b>			
<b>Introduction to city/urban form-</b> morphology (significance of understanding Urban form and Urban Process). Various theoretical views associated with nature of city form (normative, positive, substantive and procedural theories); Cosmic, Machine and Organic Models; Descriptive and functional theories; Alternative theoretical postulations.			
<b>Module -3</b>			
<b>Study of urban form</b> (Comparison between the various perspectives of studying and analyzing urban form-space; conservation and the life of urban form )			
a. Urban space and form through history (overview)			
<ul style="list-style-type: none"> <li>• Western context: The Early Cities (Neolithic, classical antiquity), Medieval Towns, Renaissance and Baroque Planning, Form of modern city and early cities of capitalism (industrialization and influences City beautiful movement, City and Garden, Camilo Sitte); Modern Movement (Tony Garnier, Corbusier, F L Wright, Arturo Soria Y Mata, Antonio Sant'Elia), post-World War II (Doxiades and Ekistics), Megastructure; Cites of sweat equity and highway; subsequent directions.</li> <li>• Indian Context: The Early Cities, Mughal and Medieval Towns, Temple Cities, Colonial influences, post-independence and modern cities (Chandigarh, Bhubaneshwar, Gandhinagar) and further developments.</li> </ul>			
b. Approaches to reading urban form and space (western, Islamic cities and influences)			
<ul style="list-style-type: none"> <li>• City as patterns; diagrams; spaces and ideas (organic; grid; political-functional-secularist-socialist diagrams; grand manner; skyline; city edge; urban division; public spaces- various typologies including street and parks); subsequent direction and further developments.</li> </ul>			
<b>Module -4</b>			
<b>Understanding Urban Process</b>			
<ul style="list-style-type: none"> <li>• Rise and fall of cities; disaster; destruction and reconstruction; Haussmanization; incremental changes; urban renewal; contemporary issues and phenomenon shaping urban form and space (sprawl, sustainable growth, transportation).</li> </ul>			
<b>Module -5</b>			
<b>Theorizing urban form</b> (introduction to modern, post-modern perspectives and influences)			
<ul style="list-style-type: none"> <li>• Utopias; ideas of Gordon Cullen, Jane Jacobs, William Whyte, Mumford, Kevin Lynch (Good City Form; Imageability and Memory), New Urbanism of Krier; Public and Private domains; Suburbs and periphery; Privacy, Territoriality and Proxemic theory; Defensible spaces; ideas of community through design; treatment of urban space; future of the city (contemporary practices and directions).</li> </ul>			
<b>Reference Books:</b>			
<ol style="list-style-type: none"> <li>1. Spiro Kostof, the City Assembled, Thames and Hudson.</li> <li>2. SpiroKostof, The City Shaped, Thames and Hudson.</li> <li>3. Jon Lang , Urban Design Typology and procedures, Architectural Press</li> <li>4. A.E.J. Morris, History of Urban Form, Longman Scientific and Technical.</li> <li>5. KevinLynch, Good City Form, MIT Press.</li> <li>6. Edmund Bacon, Design of Cities.</li> <li>7. Geoffrey Broadbent, Emerging Concepts of urban Design</li> </ol>			

**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**2. 16UDS22: Infrastructure, Traffic and Transportation Planning**

**Objective:**

The course is intended as an introduction to the infrastructure needs of an urban environment and fundamental concepts which cater to such needs. It is also intended as an introduction to the issues related to Traffic and Transportation in cities. In addition, it is intended to provide an overview of the Transportation Planning process.

1. Urban Form - Elements of urban form-Growth of Urbanization- Impacts –Urban Design-Transportation and Urban form-Functional Classification of Urban Roads.
2. Urban Infrastructures and city – Concepts, Physical and Social Infrastructure, History of infrastructure, Layout of urban area, siting of services and land use and efficiency. Basics of service network. - Water supply, sewerage/drainage and waste management.
3. Urban Social infrastructure; Qualitative and Quantitative techniques of assessing requirements, planning amenities.
4. Smart Cities – Concepts- Goals- Proposals for Indian Cities.-Safe access and Street Design in Indian Cities.
5. Urban Transportation Characteristics- Factors for need of Transportation – Demand- Modes- Urban Transport Scenario in India- Components of urban Transport System-Introduction to general Traffic Engineering.
6. Introduction: Scope of urban transport planning, interdependency of land use and traffic system, system approach to urban transportation Planning- Stages in Transport Planning, Climate change, Transit oriented development.
7. Transport Demand Modeling – Introduction- Transportation surveys- Definition of study area, zoning, types of surveys.
8. Four Step Modeling (FSM)- Trip generation- Trip production- Trip distribution- modal split and Trip assignment.
9. Public Transportation modes: Systems in India, problems and prospects, present practices in urban transportation. Metro, mono, and high capacity buses. System selection.

**References:**

1. Hamada M .,Critical Urban Infrastructure Handbook ©2015 by Taylor & Francis Group,CRC Press New York
2. Papacostas and Prevedours, Transportation Engineering and Planning, PHI Publication ,2013
3. Kadiyali L.R. Traffic Engineering and Transportation Planning, Khanna Publications.
4. S. Ponnuswamy , Johnson Victor ., Urban Transportation: Planning, Operation and Management , Tata McGraw Hill- New Delhi 2014.
5. Safe access manual:safe access to mass transit stations in Indian cities , Bangalore: EMBARQ India.-shah, sonal,sahana goswami,lubaina rangawala, Robin King, Himadri Das, Akhila Suri (2014)
6. ITDP and EPC(2011): Better Streets Better Cities : A Guide to Street Design in Urban India. Institute for Transport and Development Policy.
7. Peter Calthorpe.(2011). *Urbanism in the Age of Climate Change*. Island Press. Washington DC.
8. Hank Dittmar, Gloria Ohland.(2004). *The New Transit town: Best practices in Transit Oriented Development*. Island Press. Washington DC.
9. Stephen Graham, S M (2001). *Splintering Urbanism, Networked Infrastructure, Technological Mobilities and the urban condition*. London. Routledge.
10. Related reading materials.

**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**3. 16HDC23: Landscape Design & Site Planning**

**OBJECTIVE:**

Role of landscape in settlement planning and design.

**OUTLINE:** Studio: Aims at an ecological approach to site analysis based on studies of geomorphology, hydrology etc. Planning demonstration by landform design, storm water management and other urban services.

Landscape & Site planning

- Introduction to ecological approach to site analysis and planning with emphasis on study of natural and manmade features of site.
- Historical perspective on natural and manmade landscapes including gardens and other open public spaces.

Urban services network

Introduction to planning standards, quantitative assessment methods and concepts of sustainable infrastructure development.

- Movement network; planning and design standards for parking, road geometry, etc.
- Solid waste management, surface water harvesting and ground water recharge, water based waste disposal and recycling concepts.
- Energy (Electrical, solar etc.) and related site infrastructure planning standards and disposition criteria.

Project Demonstration

Site surveys for natural and manmade features of site and its relationship with larger natural and urban ecological system.

Criteria for activity and built form disposition. Design of open space system.

Identification and programming of site services and related infrastructure development.

**SUGGESTED SEMINAR TOPICS/ TERM PAPERS** Landscape engineering techniques for site and related infrastructure development. Case study of public spaces, roadside landscapes and their corresponding plant materials and design concepts etc.

**Reference books:**

1. Givoni B -Climate and Urban Design
2. TSS - Landscape Design
3. UDPFI, CPHEEO Manuals
4. Ian McHarg -Design with Nature
5. Kevin Lynch- Site Planning
6. Brian Hackett - Planting design
7. Geoffrey Broadbent - Emerging concepts in Urban Space Design.

**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**4. 16HDC11: Human Habitat: Studies and Design Thought**

**OBJECTIVE:**

To introduce the students to the concept of holistic Habitat Design with Socio economic and Historic determinants and dimensions of urban design and planning.

**OUTLINE:** Components of human habitat, Evolution of cities and towns in India, Socio economic and Historic determinants of urban growth and urban form.

Reading the city. Social structure, cognition, experience and urban form.  
Dimensions of urban design.

Grain texture scale, socio spatial schema. Urban design vocabulary.

Habitat Design, Urban Design and their relation with planning and architecture.

Views of Design of habitat as extension architecture (mega architecture) and as architectural expression of planning.

Evolution of concepts of urban form and design in different cultures and in India.  
Utopian concepts.  
Concepts in urban Design and planning.

Rise of Advocacy Planning, changing role of NGOs and Urban Social Movement in India.

Urban design survey - inventories; techniques/approaches to urban design.

Imageability, townscape and elements of urban design (Gordon Cullen, Kevin Lynch)

Historical examples of urban design projects.

**Suggested seminar topics/term papers**

Emerging issues – social and communal conflicts in urban area

Urban design at micro level: campus planning, city centers, transportation corridors, and residential neighbourhood; water fronts.

**Reference books:**

1. Kevin Lynch- Imageability of City
2. Camillo Sitte -City Planning according to Artistic principles
3. Kevin Lynch -Good City Form
4. Rob Krier -Urban street and Squares
5. Gordon Cullen -Townscapes
6. Time-Savers Standards for Urban Design

**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**5. 16LA203: Planting Design**

Role of plant materials in Landscape Design. Introduction to planting design and Ecology. Classification of plant material for various uses in landscape design.

Spatial characteristics of plants in design-ground covers, shrubs, trees, climbers. Visual characteristics of plants in design- form, line, texture, color. Plant material to be studied in detail with respect to the sun, soil, water quality.

Design dynamics and design disciplines. Planting and setting out plan for a landscape design. Design exercises oriented towards the use of plant material for specific design applications Plants for urban and rural roads, parks, open spaces, residential areas etc.

Introduction to soft landscape compositions with plant materials and their specifications. Usage of plant materials for indoor and outdoor spaces of a Residence/ Spa inclusive of terrace gardens.

**Reference books:**

1. 'Landscape design with plants' - Clouston, Brian
2. 'Planting design' - Hackett, Brian
3. 'Tropical garden plants in colour: a guide to tropical ornamental plants' - Bose & Chowdhary
4. 'Some beautiful Indian Climbers & Shrubs' - Bor & Raizada
5. 'Residential Landscaping 1: planning, design, construction' - Walker, Theodore D.
6. 'Home Gardening' - Pratibha Trivedi
7. 'Planting the Landscape' - Nancy A. Leszczynski
8. 'The Planting Design Handbook' - Nick Robinson

**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**6. 16LA102:Landscape Construction Techniques**

Design of Landforms - Contours- representation of landforms and landform design, interpretation of contours, slope analysis, uses and function.

Grading – symbols and abbreviations, basic grading exercises, grading and alignment of paths/ roads, angle of repose and retaining walls.

Earth work formation - Earthworks – principles of Earthwork, earthwork grading, cut and fill calculations-borrow pit method, average spot level method, precautions taken in cut and fill method in relation to soil conditions, amount of precipitation.

Drainage system - Drainage – Surface drainage, calculation of surface run-off, design of surface & storm water drainage, design of streets and gutters, site planning for efficient drainage.

Water as a Resource - Use of water in the appropriate context of time, political/religious power, way of thinking, technical advancements & influences from other regions. Qualities of water scope types of display, rain water harvesting and irrigation systems.

Water Features - Design of water features such as swimming pools, cascades, fountains etc., and their functional requirements, considerations for design and detail. Water bodies natural ponds.

Design of irrigation system: Landscape area types, objectives and design, water need and sources, application methods of installation, control systems, scheduling, and maintenance.

**Reference books:**

1. Landscape Construction and Detailing. – 1993 blanc, alan
- 2 An Introduction to Landscape Design and Construction - James Blake.
- 3 Site Design and Construction Details -Walker Theodore.
- 4.Rainwater Harvesting – G.N Virupaksha
- 5.Landscape Development Handbook' -Dewberry and Davis.



**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**  
**Group-2**

**1. 16UDS13: City Planning Process in India**

**Objectives:**

1. To expose students to the process of city planning and implementation in India.
2. To learn about the institutional context of city planning including national, state and local level policies, legislations and regulations used to monitor, aid, manage and design the growth and transformations in cities.
3. To understand the issues impacting the physical, social, economic and ecological environment of cities and learn about new planning practices and strategies to address them.
4. To undertake a critical review of the planning, development and regulatory processes and practices shaping the Indian city.

**Outline:**

- **Introduction to city planning** - A historical overview of city planning in the Indian context and the goals of planning.
- **Scope and purpose of various plan types** - Perspective plans, regional plans / structure plans, and master plans / comprehensive development plans, local area plans, special purpose plans, annual plans, projects / schemes.
- **Planning legislations in India** - A review of national, state and local level policies, programmes, acts and regulations used to monitor, aid, manage and design the growth and transformations in cities.
- **Plan making process** – Case studies and articles on a) Planning in the regional context, master planning, visioning, development of policies; b) Techniques of data collection, mapping, survey, projection of requirements; preparation of base map, developmental plan proposals and delineation of zones; and c) Urbanisation challenges and assessment of developmental issues for sectors such as land use, transportation, ecology and environment, urban poor and urban design among others.
- **Land use zonal regulations I** – Land use zones; sub classification, permissible and prohibited activities, types of zoning, drawbacks of zoning;
- **Land use zonal regulations II** – Issues and limitations; FAR, TDR and floating FSI, incentive zoning and other regulatory mechanisms
- **Emerging planning strategies and concepts** - A review of a) the land pooling, urban renewal, conservation and redevelopment processes; and b) Concepts of smart growth, transit oriented design, growth management strategies, transit metropolis, new urbanism, advocacy planning, smart city etc.
- **Violations and informal development** - Appeals, appellant authority, and issues related to unauthorized and informal developments.
- **Implementation and monitoring modalities** - Public private and people partnerships; resource mobilization; plan monitoring and review; public participation; and zonal / ward level plans.
- **Critical review**– Discussion of alternatives to the master planning process in India.

**References:**

1. URDPFI Guidelines (<http://moud.gov.in/URDPFI>).
2. UDPFI Guidelines, Institute of Town Planners, India, Ministry of Urban Affairs and Employment. Government of India, New Delhi.
3. The Karnataka Town and Country Planning Act, 1961.
4. The Constitution (74th Amendment) Act, 1992. (<http://indiacode.nic.in/coiweb/amend/amend74.htm>)
5. Master Plans of Bangalore, New Delhi, Mumbai and other metropolitan Indian cities.
6. Taylor, John L and Williams, David G. *Urban Planning Practice in Developing Countries*, Pergamon Press, 1982. ISBN: 978-0080222257.

**Visvesvaraya Technological University, Belagavi.**

**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

7. Selected readings provided in class.

**2. 16UDE26: Urban Housing**

**Objective:**

The course is an introduction to the policies, market, finance and delivery of housing to various segments of urban population. Basically, however it shall be an exercise in the design of a large scale housing project either as a Greenfield project or an intervention into an existing fabric of the city.

**Outline:**

Evolution of housing policies in India, introduction to housing need; demand and supply process; estimation of housing need and demand; review of housing policies in various planning periods in India; Basic concepts in understanding housing markets; market price and valuation; policies which affect the housing market; review of existing housing finance and institution of housing finance. Concepts of housing layouts; issues of density, open spaces, community spaces and accessible open areas. House types and their implication on layout. Technology and delivery of housing; private and public role in housing market. Low income and marginal income housing schemes and institutions involved in the production. Design guidelines for marginal housing schemes for varied socio economic groups.

**Reference:**

1. Kavita Datta and G.A.Jones Housing Finance in developing countries, Routledge, London.
2. Cedric Pugh Housing and Urbanization, Sage Publications, New Delhi.

**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**3. 16HDE43: Future of habitat: Critical Issues**

**OBJECTIVE:**

To sensitize the students on the alternative scenarios available and possible for sustainable habitats of future.

**OUTLINE:**

Evolution of urban settlements, economic systems, political power structure and city formations.  
Industrial revolution and urbanization.

Contemporary cities - New Urbanism, Infrastructuralism, Everyday urbanism, Adhoc urbanism as futures.  
Cities within Cities.

New Technologies and city form.

Wired cities, globalised cities and controlled districts, pricing, exclusion ,information highway and the breakdown of National boundaries. Neonomadism. Search for identities by globalised communities -Neo classicism, vernacular architecture and regionalism.

Urban Future as the future of people, Parallels in human development and urban development.

Loss of place, breakdown of identities and formation of new class structure.

Biotechnology and the loss of rural identities. The fusion of town and country.

**Suggested seminar topics/ term papers:**

Future trends and examples.

**Reference books:**

1. Christopher Alexander -Network Cities.
2. Geoffrey Broadbent-Emerging Concepts in Urban Design.
3. Tom Verebes-MASTER PLANNING-The Adaptive City-Computational Urbanism in the Twenty First Century.
4. Mao-Lin Chiu ed- INSIGHTS OF DIGITAL CITIES.
5. Victor Gruen- THE HEART OF OUR CITIES - The Urban Crisis: Diagnosis and Cure.

**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**4. 16HDC12: Planning Theory and Techniques**

**OBJECTIVE:**

To introduce the basic concept of urban planning in terms of tools and methods and their application in modern context.

**OUTLINE:**

Planning terms and definitions. Basic principles of planning of settlements.

Aims and Objectives of Physical Planning, Levels of Planning in India, Characteristics of Planning, Models of the Planning Process, Components of settlement structure.

Preparation of Urban Development Plans, types, scope, purpose, contents and approaches to the interim and comprehensive plans: Structure Plan, Master Plan, Zonal Development Plan, and Strategic Planning.

Theories of Urban structure, Urban Sub-systems.

Concepts of Urban Land use, Systems affecting land uses and rationale for land use planning, Locational attributes of urban land uses.

Legal frame work, Regulations, byelaws, standards and norms and their basis.

Survey Research Process – Primary & Secondary sources of data, techniques of data collection, analyzing and presenting physical and socio-economic data, questionnaire design, administration of field surveys, Sampling, sample designs, size, types, sources of various data in India.

Techniques of understanding spatial structures of cities and towns. Analysis of structure of nodes, roads and networks and spatial structure.

Use of aerial and satellite remote sensing for planning. Introduction to GIS

**Suggested seminar topics/term papers**

Theories of Urban Planning, Choice Theory, Advocacy Planning, Action Planning, Mixed planning – Relevance in Indian context.

**Reference books:**

1. Arthur Gallion - Urban Pattern
2. Siddhartha N.Mukherjee -Cities -Urbanization and Urban System
3. Peter Hall -Urban and Regional Planning
4. K.P.Yadav, Vol 1-5- Encyclopedia of Economic Planning and Development

**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**5. 16LA204: Landscape Resource & Management**

Settlement and Landscape: Siting and evolution of cities in relation to regional landscape resources. The role of landform, water systems, climate and vegetation. Illustrative studies of cities in India and elsewhere, forest, wetlands.

Landscape heritage: open space systems, cultural and sacred landscapes, their typology and role in the development of cities. Landscape resources specific to distinctive city types.

The urban forest: Introduction to ecological, social and environmental dimensions, ways of studying urban vegetation, its role in the urban landscapes.

Threats to urban landscape resources: urban environmental issues, conservation of water resources and vegetation cover.

Definition of Sustainable landscape, Values in different types of landscape, concept of landscape application of sustainable landscape in the context of urban & regional landscape.

**Reference books:**

1. Project Management for the Design Professional - Burstein
  2. Environmental Management – T.V Ramchandra
  3. Landscape Ecology & Resource Management - John A. Bissonette, Ilse Storch
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**Visvesvaraya Technological University, Belagavi.**

**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**6. 16LA304: Environmental Impact Assessment**

Environment, pollution, human settlements industries, dams, National parks etc.

Environmental Impact Assessment - Definitions, methodologies, techniques, data collection, identification of study area, scope, aim, standards & measurements. Indian scenario, legislation.

Environmental planning and management- strategies, approaches environmental protection, coordination, enforcement, cost, relationship with Landscape, Principles, suitability and range of instrumental analysis of pollutants. Stack monitoring, air sampling and analysis.

Legal Aspects - concept of law, Indian scenario, land acquisition, works contracts, employment/service contract.

Environmental legislation – constitution, town planning legislation, legal tools, Indian forest act, green belts, parks, open spaces, play grounds, trees and ancient monuments. Air and water pollution act, mining act.

**Reference books:**

1. Our National Park Policy - John Ise
2. Parks and Recreational Needs in Urban area - Elinor C. Guggenheimer
3. Landscape Planning & Environmental Impact Design – Tom Turner

**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**  
**Group-3**

**1. 16UDS14: Social Theory and Urban Design**

**Objective:**

The course introduces first semester students to conceptual and theoretical perspectives of urban social theory.

**Outline:**

**Classical Theoretical Perspectives:**

Karl Marx; (Capitalism and class); Friedrich Engels (Living conditions of the urban working class in post-industrialized towns); Ferdinand Tonnies (Community and Association), Emile Durkheim (Social solidarity); Georg Simmel (Urban experience, Social distance, Philosophy of money); Max Weber (Social structure of city and urban community).

**Contemporary Theoretical Perspectives:**

Robert Park (Human ecology, Symbiotic versus Societal organization, Dynamics and processes of human community: population, material culture (technological development), nonmaterial culture (customs and beliefs), Natural resources of the habitat, Societal pyramid, Differences between ecology and human ecology); Louis Wirth (urban theory on urbanism as a function of population density, size and heterogeneity); Ernest Burgess (Concentric Zone Theory); Homer Hoyt (Sector Theory); Harris and Ullman: Multiple Nuclei Theory).

**Political Economy:**

Political and economic forces in a society with reference to works of Henri Lefebvre; Michael Storper and David Walker; Manuel Castells; David Harvey; Logan and Molotch (City as Growth Machine); Saskia Sassen (Global City); John Friedmann (World City Hypothesis); Michael Dear (Los Angeles School/ Chicago School).

**Social Life in the Public Realm (Discourses in the West):**

Michel de Certeau (Everyday life in the city); Fredrick Law Olmsted (The civilizing effect of park space in cities); Richard Sennet (Fall of the Public Man); Wilson & Kelling (Broken Windows Theory); Carr et al. (The Nature of Public Life); Mike Davis (The Fortress LA: The Militarization of Public Space); William Whyte (Social life in small urban public spaces), Jane Jacobs (eyes on the street; sidewalk ballet).

**Reference Books:**

1. Borden, Iain, Tim Hall and Malcolm Miles (Eds.). 2003. *The City Cultures Reader* (Routledge).
2. Castells, Manuel. 1978. *City, Class and Power (Sociology, politics & cities)* (Palgrave Macmillan).
3. Davis, Mike. 1990. *City of Quartz: Excavating the Future in Los Angeles* (Verso).
4. Harvey, David. 2001. *Spaces of Capital: Towards a Critical Geography* (Blackwell/Wiley).
5. Harvey, David. 2000. *Spaces of Hope* (University of California Press).
6. Jacobs, Jane. 1961. *The Death and Life of Great American Cities* (Vintage).
7. Lin, Jan and Christopher Mele (eds.). 2012. *The Urban Sociology Reader* (Routledge).

**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**2. 16UDC32: Contemporary Theories of Urbanism and Architecture**

**Objective:**

To expose the students to the current theoretical trends in architecture and urbanism, with focus on Western architecture but with cross reference to Contemporary Indian trends using relevant examples.

**Outline:**

1. Post Modernism and post functionalism. Post script to the modern movement. Semiotics and structuralism. Post structuralism and Deconstruction. (Eg. Works of Robert Venturi, Robert Stern, Charles Moore, Peter Eisenman, Bernard Tschumi, Zaha Hadid, Daniel Libeskind and similar architects with examples) .
2. Urban theory after Modernism, Contextualism, Main street and beyond. Collage city and towards the contemporary city.
3. School of Venice, territory and architecture, an analogical architecture. Political and ethical agenda, the ethical function of architecture. (Vittorio Gregotti, Aldo Rossi).
4. Heidegger's thinking on architecture, a look at the phenomenology of architecture, Phenomenology and meaning of place. (Christian Norberg-Schulz, Juhani Pallasmaa, Spirit of Place and Indian temple towns and vernacular architecture ).
5. Critical regionalism, local culture and universal civilization. Tectonic expression. Brief review of the issues of Gender in architecture.
6. Relevance of Postmodern theory in India – Lutyens Delhi, Chandigarh, Bhubaneshwar, Shantiniketan and other relevant examples.

**Reference Books:**

1. Kate Nesbit, Theorizing a new agenda for architecture, Princeton Architectural Press, 1996.
2. Michael Hayes, Architecture Theory since 1968, MIT Press, London.
3. Kevin Lynch, Good City Form, MIT Press, London.
4. Bernd Evers, Architectural Theory From Renaissance to the Present, Taschen, Cologne, 2002.
5. Geoffrey Broadbent, Emerging Concepts in Urban Space Design, Taylor & Francis, 1995
6. Jon Lang, Concise History of Modern Architecture in India, Permanent Black, 2010
7. Dr. Solomon Benjamin, Urban Informality
8. Shilpa Ranade, Gender and Space



**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**3. 16UDE27: Public Participation in Governance**

**Objective:** The course is intended to introduce concept of people's participation in urban design project.

**Outline:**

1. Concept and importance of people's participation/planning, types and relevance, existing system and scope.
2. Identification of stake holders, issues and interactions, institutionalization of people participation.
3. Individual/NGO/CBO efforts in peoples planning with example, national and international.
4. Role of urban designer in process of people participation in urban design project, example.

**ReferenceBooks:**

1. Report-seminar on good urban governance new Delhi 2001-2002, Nagarapalika journal, reports etc.
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**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**4. 16HDS24: Infrastructure Planning & Management**

**OBJECTIVE:** To develop an insight amongst the students on urban infrastructure development & management and its impact on qualitative and quantitative aspects of urban built environment.

**OUTLINE:**

Concepts in urban infrastructure- Social and physical infrastructure.

Urban social infrastructure - qualitative and quantitative techniques of assessing requirements, Planning Amenities and institutions.

Urban physical infrastructure- qualitative and quantitative techniques of assessing requirements with emphasis on water supply, sewerage, solid waste, storm water.

Institutions and instruments of resource mobilization.

Public and private sector role in resource mobilization and infrastructure development and related issues.

Financing systems, sources of finance, leasing and contracting methods, pricing and financing, major National and International agencies involved. Quality control mechanism.

Introduction to urban management.

Evolution and structure of urban development bodies.

Concepts of decentralization of development and management.

Managing Infrastructure development, corporatization and related goals, decentralized and people led infrastructure provisions, social goals and equity, environmental and economic issues and assessments related to physical infrastructure.

Case studies from Asian cities of successful, innovative infrastructure provisions, equitable economic development, management and maintenance schemes.

**SUGGESTED SEMINAR TOPICS/ TERM PAPERS :** Case Studies and best practices in India and abroad

**Reference books:**

1. Arthur Gallion - Urban Pattern
2. Siddhartha N.Mukherjee -Cities -Urbanization and Urban System
3. Peter Hall -Urban and Regional Planning
4. K.P.Yadav, Vol 1-5- Encyclopedia of Economic Planning and Development

**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**5. 16HDC13: Advanced Theory of Design: Architecture and Human Settlements, Theory of Urbanism**

**OBJECTIVE:**

To gain exposure to advances in Design theory and its impact on cities of India and other countries.

**OUTLINE:**

Design theory and its impact on cities of India and other countries. Modern architectural and urban design movements. Post modernism and contemporary movements in art and architecture and urbanism. Critical study of Contemporary views of urbanism.

Environmental perception, cognitive and mental maps, image of towns and cities. Theory of urban form. Metaphors and iconic structures and their impacts.

Impact of structuralism and post structuralism, ideas of self-similarity and fractals, neo classism, revivalism etc on habitat design theory.

Organic habitats and designed habitats. Impact of culture on human settlements.

Historic core and contemporary urbanism. Study of Ideas of historic layering of space and networks, lattices v/s trees as urban structural metaphors, growth and value addition v/s sustainability. Gandhian thought and its relevance.

Behavioral issues in urban design; principles of urban spatial organization; urban scale, urban spaces, urban massing; quality of urban enclosure.

**Suggested seminar topics/ term papers**

Readings on urbanism from contemporary literary and social commentaries.

Semiotics theory and reading habitat as a text. Myths and mythology of built environments.

**Reference books:**

1. Jon Lang -Creating Architectural Theory
2. Jon Lang -Urban Design
3. Kate Nesbit -Theorizing A New Agenda For Architecture
4. Geoffrey Broadbent, Richard Bunt, and Charles Jencks-Signs, Symbols and Architecture

**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**6. 16LA103: Theory of Landscape Design**

Chronology of development and evolution of landscape from the earliest period to the present day.

Early traditions and beliefs about landscape and environment in the eastern and western world.

Development of landscape gardening and landscape design till the early 19th century.

Detailed study of selected examples from eastern and western traditions.

Ancient civilizations – Introduction to Gardens of Egypt, Greek, Roman, Babylon

Formal gardens - Influences, Elements, Principles of garden design in Persian Gardens and Gardens of Spain, Italy, France

Informal gardens - Influences, Elements, Principles of garden design in Chinese and Japanese Landscape.

Formal and Informal Landscape design in England.

Colonial landscape development in India.

Design philosophy and concepts of Landscape works of Humphrey Repton, Lancelot Brown, William Kent, Thomas Church, F. L. Olmstead.

**Reference books:**

1. Derek Culford, the History of Gardening Design, Faber & Faber Ltd.,1962

2.Geffrey & Susan Jellicose, The Landscape of Man, Thames & Hudson Ltd., London 1975.

3.G.A Jellicose, Studies in Landscape Design – Vol: 1,2& 3, London oxford University 1970

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**Visvesvaraya Technological University, Belagavi.**

**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**7. 16LA104: Elements of Landscape Design**

Introduction to Landscape design, definitions, Landscape design elements, Manmade and natural landscape, Urban and rural landscape, site planning principles.

Botany - Introduction to the plant kingdom. Classification of Plant Kingdom, Basic plant structure, General study of plant morphology and anatomy to Understand plant functions, Basic plant functions, growth & development, physiology; Principles of Taxonomy Classification, nomenclature and identification and naming, Familiarity with local flora; Phytogeographical regions of India.

Plant processes, plant- water- soil relationship, mineral nutrition, photosynthesis, and respiration.

Stem, root & leaf relationship, growth & flowering, growth regulators. Plant multiplication & adaptations. Economic values of plant kingdom.

Plant Ecology - Principles of plant climax, succession, serial stages of succession, relationship of plant communities & plant storeys.

Critical survey of Vegetation types of India. Phytogeographical Regions of India, Distribution of plant communities and plant associations in India and its regional distribution.

Ecological and Botanical considerations in landscape design

Application of plant physiography to sustainable landscape design such as use of CAM (Crassulacean acid metabolism) plants in Green roofs etc.

**Reference books:**

1. Botany -W.A. Jenson
2. Environment of Plant Ecology - Etherington, John R.
3. Botany - Ashok kumar
4. 'The study of plant communities' -Oosting
5. 'The science of Biology' -Paul B. Weisz

**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**  
**Group-4**

**1. 16UDE16: Indian Urbanism**

**Objective:**

The course is intended to develop an understanding of key issues of urbanism in India, its dilemmas, ideologies and the new patterns that it has taken with neo-liberalism.

**Outline:**

The course covers on issues of Indian urbanism related to polity and colonial legacy, ideology of tenure and exchange, environment and water, daily life and informal sector, gender, art and media in the city. The course would be conducted through readings, discussions and invited lectures covering case studies and published research works.

**Reference Books:**

1. K. Sivaramakrishnan and Arun Agrawal (Edit), Regional Modernities: The Cultural Politics of Development in India, Stanford University Press, 2003.
  2. Kenneth R Hall (Edit), Structure and Society in early South India, Oxford University Press, 2004.
  3. Malcolm Miles and Tim Hall (Eds), The City Cultures Reader, Routledge Taylor & Francis Group, 2004.
  4. Partha Chatterjee, The Politics of the Governed, New York: Columbia University Press, 2004.
  5. Reader compiled by course instructor.
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**Visvesvaraya Technological University, Belagavi.**

**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**2. 16UDS34: Urban Governance and Project Finance**

**Objective:**

Introduction to the mechanism of urban governance and fiscal foundations of urban development.

**Outline:**

1. Basic concepts of urban governance and definitions. Principles of governance of urban areas. Local administration, Structure of local bodies and their role in urban governance, plan making and implementation. Recent amendments to the Constitution and their implications on governance. Concepts of capacity building and related issues of development of man power. Central and State systems of local administration.

2. People's participation- theories, concepts and methods. Participatory governance definition, processes and methods. Role of people's participation in plan making. People, NGOs and civil society and urban development.

3. The economics of geographical concentration -urbanization, history of urbanization, agglomeration economics, and simple theory of interurban location, location decisions of households.

4. Finance mechanisms of local administration. Various forms of revenue generation and budgeting. Innovations in methods of revenue generation.

5. Types of urban development projects, project cycle, Project identification, selection, preparation, appraisal, monitoring and evaluation.

**Reference Books:**

1. Maria Pinto, Metropolitan City Governance in India, Sage Publications, New Delhi.
2. John Abbott, Sharing the City: Community participation in urban Management, Routledge, Abingdon, 1996.
3. Jain R.B. Public Administration in India, 21st Century challenges for Good Governance. Deep and Deep Publications Pvt. Ltd, New Delhi.
4. Michael Bambarger and Eleanor Hewitt, Monitoring and Evaluating Urban development Programmes: A hand book for program managers. The World Bank, 1988.

**Visvesvaraya Technological University, Belagavi.**

**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**3. 16HDC31: Urban Development and Environmental Laws**

**OBJECTIVE:**

To familiarize the student with legal terminology and legal frameworks that apply in Urban context.

**OUTLINE:**

Introduction to laws, concepts – sources of law, meanings terms- Law, Legislations, Ordinances, Bills, Acts, Regulations and bye-laws.

Evolution of Planning and Legislation in India. An overview of legal tools connected with Urban Planning & Development, Town and Country Planning, Improvement Trust and Development Authorities etc. - objectives, contents and procedures for preparation and implementation of Regional plans, Development plans, Town Planning Schemes, Area Plans.

Legislation related to use and control of land, land acquisition.

Significance of land development control – Objectives and legal tools, critical evaluation of zoning, sub division regulations, building regulations and bye-laws, development code.

Legislation on Conservation of natural resources including Mining and Forestry Acts, Conservation and Management of Ancient Monuments and Archaeological sites and ruins.

Coastal Zone Regulations, Transfer of Development Rights – Concepts and related issues.

Environment Management Systems (ISO – 14001 and its planning implications, Need of ISO, case studies of ISO certified industries, Environmental and Financial Benefits of ISO)

**Suggested seminar topics/ term papers**

Environment versus Development – Approaches and Analysis.

Energy conservation issues and need of Energy Audit and related topics.

**Reference books:**

1. Government of India, UDPFI Guidelines.
2. The Karnataka Government Town And Country Planning Act.
3. National Building Code.
4. Herbert Girardet-The GAIA Atlas of Citie.
5. C S Yadav- URBAN PLANNING AND POLICIES -Volume 16-A -Part A: Reorientation of Policy Norms.
6. S. Kostoff. The City Shaped. London: Thames and Hudson, 1991.
7. Kevin Lynch: City sense and city design.



**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**4. 16HDC22: Ecology and Sustainable Habitat Systems**

**OBJECTIVE:**

Sustainability of cities and the related EIA have become important issues that guide urban development. This course is designed to expose the student to the concerned issues so as to interact effectively with the environmental planner.

**OUTLINE:**

Concepts of settlement ecology- Nature as the primary layer, urban development as the secondary layer. Various aspects of ecology- ecological footprints, energy and resource depletion connected to development. Destruction of food chains.

Sustainability- Definition and Evolution.

Sustainability concepts w.r.t Nature, built heritage and community networks.

Cities as centers of consumption of land, water, energy resources and forest cover.

Circular metabolism and linear metabolism.

Issues of public health and sustainability.

Concepts of equity. Slums as an issue of sustainability.

Impact of technology on Alternative Energy and conservation of water.

Environment Impact Assessment-

Definition, need, objectives, scope, evolution and its role in the planning process Methods, advantages, limitations.

Legal framework.

Assessment of impacts on land and human resources.

Public participation.

International agencies, National agencies and Focus groups for environmental and social assessment.

**SUGGESTED SEMINAR TOPICS/ TERM PAPERS**

Water augmentation, Rain water harvesting, waste and waste water recycling, reuse and renewal of habitat resources.

**Reference books:**

1. Dominique Gauzin-muller -Sustainable Architecture and Urbanism
2. Victor Olgay -Design with Climate
3. Givony B -Urban Design in Different Climates
4. P.L.Lombardi -Evaluation of the Built Environment for Sustainability
5. Sudhakar Reddy -Urban Energy Systems
6. B.R.Barthwal -Environment Impact Assessment.

**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**5. 16LA106: Hydrology**

Introduction to Hydrological systems: Hydrological cycle, Precipitation – forms and types, Intensity of rainfall, Measurement of rainfall, computation of average rainfall over a catchment area.

Abstraction: evaporation, transpiration, evapo-transpiration, interception, infiltration.

Ground water: Occurance of ground water, types of aquifers, stream flow effects and bank storage, influent and effluent streams.

Runoff: Types, factors affecting runoff. Hydrographs – definition, components of hydrograph, time of concentration, lag time. Floods – definition, impact of floods on environment.

Soil erosion: Types of soil erosion, controlling of soil erosion.

Soil conservation: afforestation, agronomical practice, terracing, bunding, cropping patterns.

Water Conservation: contour bunding, contour terracing, gabion structures, checkdams, percolation tanks, sub-surface dams, farm ponding, rain water harvesting.

Water shed: definition and description of water shed. Water shed management of forest lands, grass lands, agricultural lands, arid and semi-arid regions and urban areas.

**Reference books:**

1. Ground Water Hydrology -Todd, David Keith
  2. Hydrology – Jayaram Reddy
  3. Applied Hydrology - Chow, Ven Te & others
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**Visvesvaraya Technological University, Belagavi.**

**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**6. 16LA403: Legal Aspects & Environmental Legislation**

Environmental legislation – constitution, town planning legislation, legal tools, Indian forest act, green belts, parks, open spaces, play grounds, trees and ancient monuments. Air and water pollution act, mining act.

Concept of law, Indian scenario, Environmental legislation –Constitution, town planning legislation, legal tools, Indian forest act, green belts, parks, open spaces, play grounds, trees and ancient monuments. Pollution Acts.

Legislation relating to preservation of parks, open spaces, play grounds, trees and ancient monuments. Water (prevention and control of pollution ) Act, 1974 – clean air act, Introduction to land acquisition act 1894.

**Reference books:**

1. John Ise, Our National park policy, The John Hopkins Press, 1961
2. Commissioner Envor C. Cymoodhames, Parks and Recreational Needs in Urban area, Twayne Publishers Inc. 1969
3. Rogers Professional Practice of Landscape Architecture
4. Burstein, Project Management for the Design Professional

**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**  
**Group-5**

**1. 16UDE17: Geographic Information Systems**

**Objective:**

The course is intended to understand GIS as a decision-support tool in urban spatial planning process. It introduces basic, practical understanding of GIS concepts, techniques and real world applications in spatial planning.

**Outline:**

1. Introduction to GIS and its application in Urban spatial planning,
2. Map and Map Analysis,
3. Raster/Vector GIS models,
4. General Coordinate Systems,
5. Map Projections and Transformation,
6. Geo referencing,
7. Spatial Database Development and analysis,
8. Introduction to GIS Software (Arc/Info, ArcView, IDRISI, GRASS, etc),
9. Application of GIS in Urban spatial planning.

The course would be conducted through classroom lecture and hands on lab exercises. Students will complete lab exercises using ArcExplorer software.

**Reference Books:**

1. Reference manuals/ guides to Geodatabase Design and GIS Analysis.
  2. Various handouts and supplements supplied by the instructors.
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**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**2. 16UDE42: Urban Economics**

**Objective:**

To introduce the theoretical framework for understanding the spatial structure of cities and the nature of urban economy.

**Outline:**

1. Introduction to the economics of geographical concentration, urbanization, history of urbanization, agglomeration economics, and simple theory of inter-urban location, location decisions of households.
2. Land Use and Location Theory
3. The Contemporary City and Suburbanization/Sprawl
4. The Economics of Zoning
5. Housing, Segregation, Crime, and Poverty
6. Local Government and governance

**Reference Books:**

1. O'Sullivan, Arthur, *Urban Economics* (Fifth Edition). Boston: Irwin/McGraw Hill, 1990, 2003.

**Visvesvaraya Technological University, Belagavi.**

**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**3. 16UDS33: Ecology and Site Planning**

**Objective:**

To introduce students to the art of site planning and the concerns of environmental variables in the process of urban design.

**Outline:**

1. Introduction to site analysis with emphasis on study of natural and manmade features of the site.
2. Site Planning: Site, User, Programme and Design. Sensed landscape and its materials, access, earth work and utilities. Field surveys, reading aerial survey, climatic variables. Site Planning strategies and case studies.
3. Landscape design concepts and design of open and public spaces, recreation areas, road side landscapes.
4. Ecology: Basic concepts of ecology, components of environmental planning, use and management of resources; environmental concerns related to development; environmental degradation; pollution control and evaluation of energy resources.
5. Introduction to environmental planning concepts, spatial environmental planning. Eco-system and components of ecosystem structure; principles of ecology; physical science; earth science; man-environment interface towards sustainable development.
6. Sustainable urbanity and urban climate change: ECO URBANITY- Towards well-directed urbanity.
7. Urban landscapes and Sustainable cities: Urban Biodiversity and ecology.
8. Ecology and settlements,, changing Role, of Terrain, water and vegetation.

**Reference books:**

1. Kevin Lynch, Good City Form, MIT Press, Cambridge
2. Kevin Lynch and Gary Hack, Site Planning, MIT Press, Cambridge.
3. Peter Jacobs and Douglas Way, Visual Analysis of Landscape Development, Harvard Press.
4. Gary.O.Robinette (Ed), Landscape Planning and Energy Conservation. Van-Nostrand Reinhold.
5. Design with Nature: Ian L. McHarg.
6. The Landscape of Man: Geoffrey Jellicoe an Susan Jellicoe.
7. Geography of Settlements. *Author:* R.Y. Singh. *ISBN,*

**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**4. 16HDS33: Project Planning, Analysis & Appraisal / Evaluation**

**OBJECTIVE:**

To introduce the students to the methods of implementation and management in Urban Planning and infrastructure areas.

**OUTLINE:**

Structure of the implementing authorities- Improvement trusts, Development authorities, Metropolitan Development Authorities and their relationship with local governments.

Public relation and citizen participation: Personnel management, Manpower Planning, performance, appraisal, motivation and morale.

Corporate Management: Systems approach to Urban Management, organizational design, management information systems.

The concept of project evaluation: Identification and estimation of project impacts, Desirable and undesirable project impacts.

Single criteria project evaluations: Details of cost -benefit analysis and its application with case studies, Cost-benefit analysis of public and private sector projects.

Concept of multi-criteria project evaluation and their applications: Concept of time scheduling, Project network and monitoring, PERT and CPM with their application in planning projects, Project monitoring under resource constraints.

Cost Benefit analysis: Identifying costs and benefits, Pricing, Opportunity costs, Shadow Prices, Cash flow, Payback periods, Internal Rate of Return.

Methods of Urban Finance: Financial perspective of Urban Development.

Local Planning and Budgeting: Municipal Corporate Planning, Program Planning and Budgeting, Local Financial Management, Financial Control & Delegation, Performance evaluation techniques, Cash flow management, Local debt management, Financial Information System, Municipal fiscal programming, Project scheduling and budgeting.

**Suggested seminar topics/ term papers:**

Current Infrastructure projects. Best practices in Implementation Management. Studies on Organizational design.

**Reference books:**

1. Daniel Halpin and Ronald Woodhead- Construction Management.
2. Krishnamurthy and S.V.Ravindra- Construction Management.
3. Prasanna Chandra-Projects Planning, Analysis, Selection, Financing, Implementation and Review.
4. L S Srinath-PERT and CPR-Principles and Application.

**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**5. 16HDE44: Real Estate Development and Finance**

**OBJECTIVE:**

To familiarize students to the Real-estate market mechanisms and their implications on the process of city development and resource mobilization.

**OUTLINE:**

Introduction and history of Real-estate Development.

Real-estate market and assessment techniques, economic cycles, demand and supply, values and rental structure and advertising.

International investments and the packaging, implications on Real estate market, public-private participation and Real-estate development agencies.

Real estate laws, rent control laws and other legal framework.

Investment and risk assessment techniques, market surveys & research, rating system in Real-estate market.

Infrastructure development and quality control, post development management and maintenance in Real-estate development.

Case studies of good practices in development of Real estate.

**Suggested seminar topics/ term papers**

Documentation of Real Estate practices in Indian and foreign markets

**Reference books:**

1. Michael Ball, Colin Lizieri, Bryan D. Macgregor-The Economics of Commercial Property Markets.
2. Adrienne Schmitz- Real Estate Market Analysis:A Case Study Approach.



**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**6. 16LA105: Geology & Geomorphology**

The Earth – origin, composition, structure distribution of land and sea. Outer zones of earth. Major geological cycles- external and internal processes, Plate Tectonics and its effects etc.,

Rocks- formation, classification, physical and chemical properties.

Petrology- Igneous, Sedimentary, Metamorphic.

Structural geology- dip, strike, folds, faults, joints, unconformities. Stratigraphy: principles, stratigraphy and geology of India.

Earthquakes: causes and effects, seismic microzonation, seismic zones of India. Volcanoes and their types.

Evolution of landscapes - Basics concept of geomorphology/ Geological factors in developments of landscapes. Based on geological resources and man's interventions their impact on environment and landscape design. Economic impact of geological formations.

Application of geological information in the interpretation of landscapes on maps and in the field.

The relationships between geology, soils and vegetation: Practical examples.

**Reference books:**

1. Introduction to the Geology of India -Krishnan M.S
  2. Elements of Geology- Zumberge, James H.
  3. Environmental Geology- K.S. Vadiya
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**Visvesvaraya Technological University, Belagavi.**

**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**7. 16LA402: Landscape Conservation**

Introduction to Cultural Landscapes, Scale and boundary of Cultural Landscapes, Tangible and intangible records of history of Landscapes, Layers in Landscapes, Values in Landscapes – Burra, Charter & Layers in Landscapes, Establishing Significance, UNESCO Cultural Landscapes – examples.

Impact of Human activities on Historic Landscapes, Impact of Large scale projects on Landscapes – Dams, Reservoirs, mining and industries etc. Role of communities in Conservation of Landscapes.

Methodology of Landscape Conservation, Documentation process, Documentation techniques, examples.

Introduction to the concept of Landscape Conservation, Relevance of Landscape Conservation in Modern Era, Principles of Landscape Conservation, Historical perspective of Landscape Conservation – Eurocentric and Indian.

Landscape conservation Policies – International, National, State, Regional and Local level.

**Reference books:**

1. Strategies for Sustainable Rural Development –Singh Surat
2. Sustainable Design: Towards New Ethic in Architecture and Town Planning – Contal, Marie-Helene
3. Green Architecture: Guide to Sustainable Design -- Crosbie, Michael J
4. Wetlands, A Threatened Landscape - Michael Williams
5. Architecture in Conservation: Managing Development at Historic Sites - James Strike

**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**  
**Group-6**

**1. 16UDC21: Urban Conservation**

**Objective:**

The course is intended to introduce and to understand the various issues of urban conservation in terms of feasibility, community participation and heritage charters across the country.

**Outline:**

1. Introduction to conservation of historic and inner city areas. Concepts of conservation in India and Understanding INTEGRATED HERITAGE MANAGEMENT for historic cities.
2. Socio-Economic development, Tourism Infrastructure Development, and role of Urban Design in Understanding of CULTURAL LANDSCAPES, SACRED CITIES.
3. Institutional aspects of Conservation- Charters, World heritage legislation and sites, Conservation Acts and legislation and available institutional frame work of conservation in India- New schemes of Government like HRIDAY for heritage cities, SMART CITIES.
4. Conservation area practice, Adaptive Reuse, up gradation programs in old areas, infill design and regeneration of inner city areas.
5. Conservation management, Community Participation, Economic Regeneration, Financing and Implementation of frame work for Redevelopment and Revitalization projects.
6. Case studies in India and abroad to illustrate the above mentioned concepts and approaches-Introduction to World Heritage Sites and Site Management Plans

**Reference Books:**

1. Feildan Bernard, Conservation of Historic Buildings, Butterworth-Heinemann.
  2. Fitch James, Historic Preservation- A Curatorial Approach, University Press of Virginia.
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**Visvesvaraya Technological University, Belagavi.**

**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**2. 16UDE43: Politics of Development**

**Objective:**

To critically discuss the motives and actions of different actors of state and society in driving urban development and distribution of resources in the city.

**Outline:**

The course explores the impact of the intentions, conflicting interests, pressures and policies on the social and morphological dimensions of the city. Various issues pertaining to the role of different actors in shaping urban developmental projects are discussed, using papers and literature on those topics. Topics discussed in this weekly four hour class include public and private developmental project, design commissions, social planning and spatial planning and planning processes in Indian cities.

**Reference Books:**

1. Elizabeth Strom and John Mollenkopf (Eds), The Urban Politics Reader, Routledge Taylor & Francis Group, 2004.
2. Partha Chatterjee, The Politics of the Governed, New York: Columbia University Press, 2004.
3. Nandan Nilekeni: Imagining India, Penguin Press, 2009.
4. Champakalakshmi R, Trade Ideology and Urbanisation in India, Oxford University Press, New Delhi, 1999.

**Visvesvaraya Technological University, Belagavi.**

**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**3. 16UDS23: Urban Design Policy & Implementation**

**Objective:**

This course will emphasize the importance of integrating the urban design agenda into the city planning process. It will focus on impacts of development controls on urban form and space and illustrate methods and tools to address and incorporate urban design in city planning, from the policy level to plan implementation. Cases and examples of design policy and implementation mechanisms from India and abroad will be used.

**Outline:**

1. Role of urban design in city planning; historic overview and case examples of policy; visioning process; urban design plans, policies and developmental strategies.
2. Case studies of impact of development controls and zoning; analysis of urban design issues; current innovations in development regulations; alternative types of zoning.
3. Implementation of urban design plans, policies and concepts - tools and methods; local-level plans; design guidelines; design review and concept of design review boards.
4. Role of Government, private parties and other stakeholders; participatory design.

**Reference books:**

1. Bureau of Indian Standards. *National Building Code*, 2010.
2. Master Plans of Bangalore, New Delhi, Mumbai and other metropolitan Indian cities.
3. Jacob, Alan. *Making City Planning Work*, American Planning Association, 1980. ISBN: 978-0918286123
4. Barnett, Jonathan. *Introduction to Urban Design*, Icon (Harpe); 1st edition, 1982. ISBN: 978-0064303767.
5. Barnett, Jonathan. *Urban Design as Public Policy*, McGraw-Hill Inc.,US, 1974. ISBN: 978-0070037663.
6. Commission for Architecture and the Built Environment. *Design Review, Principles and Practice*, 2009. [www.cabe.org.uk/files/design-review-principles-and-practice.pdf](http://www.cabe.org.uk/files/design-review-principles-and-practice.pdf).
7. Hall, Tony. *Turning a Town Around: A Proactive Approach to Urban Design*. Oxford, United Kingdom: Blackwell Publishing, 2008. ISBN: 978-1405170239.
8. Steve Tiesdell, David Adams. *Urban Design in the Real Estate Development Process*. Wiley-Blackwell, 2011. ISBN: 978-1405192194
9. Lang, Jon. *Urban Design: A Typology of Procedures and Products*. Oxford, United Kingdom: Architectural Press, 2005. ISBN: 978-0750666282.
10. Gerald E. Frug. *City Making: Building Communities without Building Walls*. Princeton University Press, 1999. ISBN: 978-0691007410.

**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**4. 16HDC21: Land Use Structure and Urban Morphology**

**OBJECTIVE:**

To understand various perceptive and cognitive elements in city structure, their role in shaping urban morphology.

**OUTLINE:** Introduction to urban geography - cognition, perception and spatial representation.

Renaissance and the reconfiguration of space. Industrial revolution, Technologies and the 19th century transformation of world views.

Compression of time-space and the birth of suburbia, Idealized space, romanticism and the Garden city movement. Ideal-space diagram and city form.

Astronomy and city structure. VastuShastra and the integrated world view. Sacred geographies, sacred cities, precincts and spaces. Sacred rivers, Ghats, mounds, trees and other totems in urban space. Mapping the sacred.

Cognitive mapping - contemporary and traditional methods.

Rhythms of the city. Modern work rituals and the definition of fragmented zones, time space and lives.

Nightlife and electronic definition of time.

Significance, signs and meaning of structure. Imagined places, collage of time space representations in literature, cinema and the performing arts.

**SUGGESTED SEMINAR TOPICS/ TERM PAPERS**

Urban growth and system of cities; growth of metropolitan and mega cities scale, complexity. Metropolitan growth – Trends, characteristics, problems and socio-economic and political issues in India with reference to Asia.

**Reference books:**

1. Spiro Kostoff -City shaped
2. Sumita Ghosh -Introduction to settlement geography
3. Michael Pacione -Urban Geography: A Global perspective.
4. Paul Knox-Urbanization.

**Visvesvaraya Technological University, Belagavi.**  
**PhD Coursework Courses – 2018 (Architecture) As per 2017 Regulation**

**5. 16HDC32: Housing and Community: Policy, Finance and Public Private Participation**

**OBJECTIVE:**

To understand the role of housing and its importance in Habitat Design. To explore the policy aspects and finance mechanism in housing.

**OUTLINE:**

Housing concepts, definitions and components of housing. Role of housing in socio-economic development of the nation, housing in relation to non-residential components of settlement.

Housing norms and standards. Housing stress diagrams, stressed communities.

Social impacts of planned housing. Role of NGOs and self-help groups.

Sustainability of social and public housing – Planning, Design, Materials, Technology.

The role of government as a developer, financier and policy maker to be critically assessed in the era of privatization in the housing sector.

Housing scenario in India, National Housing Policy, Role of HUDCO, State Housing Boards.

Housing Finance- Role of NHB and other financial Institutions. Mechanisms for housing loans for various income groups & industry. Role of private sector in housing infrastructure development.

Impact of globalization. Effect of global capital participation in housing and urban infrastructure sector.

**Suggested seminar topics/ term papers**

Evaluation of Housing policies of different countries/ states.  
Scope and Role of Various Agencies.

**Reference books:**

1. P K Sarkar -Housing laws in India – Problems and Remedies.
2. Kavita Datta and G.A.Jones - Housing Finance In Developing Countries.
3. Cedric Pugh - Housing and Urbanization.
4. P K Guha -Housing- AN Indian Perspective.
5. K Ranga Rao & M S A Rao -CITIES & SLUMS - A study of squatters'settlement in the city of Vijayawada.
6. Geoffrey Kayne- Urban Housing in the 3rd world.

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**6. 16LA107: Soil Science**

Introduction to soil science. Role of soil in landscape design. Formation of the soil, physical, chemical and biological properties of the soil. Importance of Soil pH value, Soil horizons, soil moisture permeability, Ion exchange capacity. Soil texture and classification. Various classification of soil in India Karnataka and Bangalore.

Mineralogical properties of Soil. Soil erosion, Factors responsible for soil erosion, measures for stabilization, methods adopted for soil conservation.

Soil degradation control, remedial actions and reclamation techniques. Managing difficult soils. Reclamation of problem soils, saline, alkaline and acidic soils, measures to reclaim the soil, deficiency symptoms.

Role of soil organisms, humus and top soil content, green manure, compost, organic/ inorganic fertilizers, Composting, Vermi- Composting, Bio fertilizers.

Soil required for plant growth and preparation of the soil, soil for potted plants and terrace gardens. Soil analysis: Soil survey and field mapping, land capability classification, soil capability study.

**Reference books:**

1. Nature & Properties of Soil -Brady Nylec
  2. Handbook of Agriculture -CSIR Publication
  3. Soil Management for Conservation & Production - R.L.Cook
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**7. 16LA303: Remote Sensing**

Remote sensing - An overview, application of techniques through case studies, sensors, sensor platform, types of camera film, interpretation of satellite imagery.

Image restoration, enhancement, classification, data merging and new sensor systems such as large format camera, solid state linear arrays, the Shuttle Imaging radar systems, the Landsat Thematic Mapper, the SPOT satellite system, NOAA Advanced Very High Resolution Radiometer (AVHRR) Image spectrometry and Lidar systems with extensive illustrations.

Aerial photography - Needs, classification, types, stereoscopy, stereovision, conditions and causes, interpretation, application, photogrammetry.

Classical elements of aerial photographic interpretation; Emphasis on non-photographic sensing systems and the analysis of data using digital image processing procedures.

GIS – Understanding, definition, evolution, concepts, components and software application.

Representing geographic features and other spatial phenomena graphically; Locational information of particular geographic features on earth's surface; Spatial relationship between features; Attribute information of geographic features.

Applications of remote sensing & GIS in landscape Architecture.

**Reference books:**

1. Introduction to G.I.S – Kang Tsung Chang
2. Remote Sensing and Image Interpretation –Thomos M Lillisand,Ralph W
3. Fundamentals of Remote Sensing – George Joseph
4. Principles of G.I.S – Peter A Burrough, Rachael A McDonnel
5. Spatial Analysis and G.I.S – Michael F Goodchild